A framework for Member States to support business in improving its resource efficiency

An Analysis of support measures applied in the EU-28

Annexes

Annexes to the Final Report

A framework for Member States to support business in improving its resource efficiency

Project work on SPECIFIC CONTRACT 070201/2014/694448/ETU/ENV.F1

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Annex I: List of Member State respondents

Table 1: List of Member State respondents

MS	Institution	Respondent	Function/position
AT	Federal Ministry of Agriculture, Forestry, Environment and Water Management	Birgit Horvath Katharina Kowalski	Abteilung I/3, Umweltförderpolitik, Nachhaltigkeit, Biodiversität
AT	Austrian Energy Agency	Stephan Fickl	
BE	Flemish Government, Department of Environment, Nature and Energy	Kristof Rubens (and colleagues incl. Mieke Houwen)	Policy Officer for Green Economy and Environmentally Responsible Consumption
BG	Ministry of Environment and Water	Hristo Stoev	State Expert, Environmental Policies Department
CY	Ministry of Agriculture, Rural Development and Environment	Nasia Dikigoropoulou	Department of Environment, Environment Officer
CZ	Ministry of the Environment	Mr. Martin Racan Daniel Hajek	Officer in the Directorate of Policy of the Environment and International Relations Head of Unit of Voluntary Instruments and Cooperation with NGOs
CZ	Ministry of Industry and Trade	Ms. Kulhankova	Director of Ecology Department
DE	Ministry of the Environment, Nature Conservation, Building and Nuclear Safety	Meike Gierk	Referat WR III 4 Europäische und Internationale Angelegenheiten der Ressourceneffizienz und Rohstoffpolitik
DE	Centre for Resource Efficiency (VDI ZRE)	Sebastian Schmidt	
DK	Environmental Protection Agency	Sune Kirkegaard Rotne Heidi Hilbert	Policy Advisers
EE	Ministry of the Environment	Mihkel Krusberg	Department of Environmental Management, Chief Specialist
EL	Ministry of Environment, Energy & Climate Change	Tsartsou Evangelia	Special Agency for the Coordination of Environmental Projects
EL	Permanent Representation of Greece	Petros Varelidis	
ES	Ministry of Agriculture, Food and Environment	Elisa Rivera Mendoza	State Expert, DG of Quality, Environmental Evaluation and Natural Environment
FI	Ministry of the Environment	Merja Saarnilehto Taina Nikula	Counsellors

MS	Institution	Respondent	Function/position
FR	Ministère de l'Envrironnement et du Développement Durable (MEDDE-MLET) SG/DAEI/SDRE	Bénédicte Gilloz	Chargée de mission politique régionale et suivi du Parlement européen
HR	Ministry of Environmental and Nature Protection	Igor Raguzin	Senior advisor specialist
HR	Croatian Cleaner Production Centre	Goran Romac	
HU	Ministry of Agriculture	Ms Petra Péntek Ms Mariann Nemes Ms Teodóra Kristóf.	Department of Environmental Development, Development Coordination and Strategic Unit
IE	Environmental Protection Agency	Jean Clarke	Department of Environment, Community and Local Government, echnical/Scientific Adviser
IT	Ministry of the Environment, Land and Sea	Benedetta Dell'Anno Paolo Soprano Maria Antonietta Liverani Frederica Fricanoe Maria Claudia Marini Riccardo Rifici	Senior Policy Advisor
LT	Ministry of Environment	Živilė Liberienė Jurgita Gaižiūnienė Justina Aukštinaitienė Marytė Satkevičienė	Head of Economics Division
LT	Lithuanian Environmental Protection Investment Fund	Vytautas Bernadišius	
LT	Ministry of Economy	Karolis Birgiolas	
LT	Ministry of Education and Science	Kristina Valantiniene	
LT	Ministry of Finance	Rasa Stanislovaitienė	
LT	Statistics Lithuania	Vera Bevziuk	
LT	State Tax Inspectorate	Daiva Šiškevičiūtė	
LT	Ministry of Social Security and Labour	Indrė Kumpikevičiūtė	

MS	Institution	Respondent	Function/position
LU	National Agency for Innovation and Research	Marcel Klesen Claude Feiereisen	Head of Environment & Energy Sector, Luxembourg EcoInnovation Cluster Manager Project Officer, Environment & Energy Sector, Luxembourg EcoInnovation Cluster Support
LV	Permanent representation to the EU	Anita Drondina	Environment, climate change and regional policy unit manager, Adviser for Environmental issues
LV	Latvian Pollution Prevention Centre	Jānis Pļavinskis	Director, Editor of the Virums.lv
LV	University of Latvia	Dr. sc.soc. Matiss Neimanis	Director of Innovation Centre; Green Technology Incubator, Director of Project Management
MT	Ministry for Sustainable Development, the Environment and Climate Change	Luke Young	Environment Specialist Directorate for the Environment and Climate Change Office of The Permanent Secretary
NL	Ministry for Infrastructure and the Environment	Mark Overman	Senior Policy Officer
PL	Ministry of the Environment	Daniel Kaminski	Department of Strategy and Communication Strategy Unit, Senior specialist
PT	Ministry of Environment, Spatial Planning and Energy	Susana Escária	Foresight and Planning Director at the General Secretary
RO	Ministry of Environment, Waters and Forests	Andrei Banu	Public manager in sustainable development
SE	Swedish Ministry of the Environment and Energy	Gunilla Blomquist	Deputy Director
SI	Ministry of Agriculture and Environment	Tatjana Orhini-Valjavec	Environment Directorate, Nature Conservation Division
SK	Ministry of the Environment	Martin Darmo (Mr. Darmo left the department in August 2015) Marianna Bendikova	Head of Department of Economic Instruments and Analysis Main State Advisor
UK	Department for Environment, Food and Rural Affairs	Caroline Tuck (Katie Dick, Neil Fourie and other colleagues not identified by name also contributed)	Waste prevention team

Annex II-1: List of examples for support measure 1 Support for Industial Symbiosis

Table 2: List of Member State examples for Support Measure 1

EU Member States	Support for industrial symbiosis
AT	Establishment of a Recycling Network in Styria The project investigated the material and energy flows of 31 companies in Upper Styria and identified possibilities for further intercompany use of these flows. To support the cooperation of companies, an Online "Abfallbörse" (online market place for waste exchange) has been established. The programme was launched in the late 1990ies and is still running. Target sector/beneficiaries: all sectors for 3 major waste streams in Austria. The platform is open for all regions and backed by 7 regions and 2 ministries
BE	"Factory of the Future" instrument (part of the Flemish government's New Industrial Policy) The state subsidises projects which enable industrial transformation through thematically varied project calls (e.g. roadmaps for new industrial policy, clusters for industrial development).The initiative has many interfaces with sustainable material management, e.g. new product-service combinations, closing loops, eco-design, and resource efficiency. 80% of eligible project costs are funded (for selected projects). The maximum amount varies among calls: between 200,000 and 500,000 EUR.
BG	Black Sea Industrial Symbiosis Platform Objective(s): The aim of the project was to promote economic and social development in Black Sea Basin by establishing industrial symbiosis system as a new innovative approach. Launched in 2011 this measure targets manufacturing, logistics, tourism and energy industries in Bulgaria, Turkey, Romania, and Moldova. %10 co-financing by the participants' state in the programme.
CY	operation permit requirements for the siting of treatment plants: extractive industries located near industries which reuse the treated waste
DE	Intercompany Network for Recycling Materials in the Heidelberg-Pfaffengrund Industrial Region, funded by the German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt) for the years 1996 - 1998 in order to support a circular economy through intercompany cooperation, to help SMEs in the search for solutions for their waste management and to establish transparency in the area of residues. Germany also supports the establishment of industrial energy efficiency networks.
DK	National Programme for Green Industrial Symbiosis The programme consists of a Task Force for Green Industrial Symbiosis, providing free advice to businesses that would like to take part in a green industrial symbiosis, and a funding scheme. Offers of the task force to businesses include a free resource check, individual matchmaking, matchmaking events, the drafting of an action plan as well as assistance in applying for subsidy. This support is available nation-wide and for all sectors.
EL	Pilot project e-SYMBIOSIS (supported by the programme LIFE+) developed a knowledge-based service to promote Industrial Symbiosis in the country. e-SYMBIOSIS produced a web based platform providing consolidated practices from the experience in the UK. The information provided supports Industrial Symbiosis communities and especially SME) to develop market–oriented. The platform has the potential to help public administrators (municipalities, regional offices) to implement their policies and to monitor their environmental and economic conse-

	quences by establishing a knowledge base of the material flows
ES	ECOSIND project (INTERREG IIIC, 2003 - 2007) Objective(s): 1) demonstrate the feasibility of applying cooperative environmental management in the industrial sector of southern European regions; 2) develop a methodology for sustainable spatial planning in industrial areas; 3) create and consolidate a network to disseminate the concept of sustainable industrial development; 4) Support the training of professionals for the development and maintenance of industrial eco-systems. Target sector/beneficiaries: Public administrations and SMEs (textile, leather tanning, olive oil, etc.) in Catalonia, Spain
FI	Finish Industrial Symbiosis System Pilot project (2013-2014) testing application of British NISP model to Finland. FISS was developed and put into practice as an operations model which provides a systematic way to help companies and other organisations to create partnerships and new business opportunities through more efficient use of raw materials, technology, services and energy. The launch of FISS was in October 2014. Both the pilot stage and FISS implementation are commonly funded by the Ministry of Employment and Economy, the Ministry of the Environment and SITRA. Regional projects implementing individual symbiosis are funded by the European Regional Development Fund.
FR	The main initiative in this respect is the experimental deployment of the NISP method – which is has been operating in the UK since 2003 and provides a platform to inspire businesses to implement resource optimisation and efficiency practices (see UK country report) – in several French regions.
HR	Developing industrial symbiosis as well as symbiosis between public companies, cities and regions, industrial entities and other players is a topic of interest in Croatia. One example is the UrbanBiogas Project in Zagreb. In order to promote the use of organic urban waste for biogas production, a concept for the creation of an Industrial Symbiosis in Zagreb has been established. An agreement is aspired between a bio-methane production company, the waste management company (ZCH Čistoća), the City Gasworks Company as well as the Urban Public Transport Company for the City of Zagreb
HU	National Industrial Symbiosis Programme The aim of the programme was to provide support for businesses on how to deal with industrial waste through the creation of new business opportunities. The key objective of the programme was to help the EU to reach its climate change targets via the application of industrial sym-biosis principles in the regions of Hungary. The programme was launched in 2010 and was in place until 2012. Target sector/beneficiaries: Producing and processing industry. Waste generators and waste processing companies from across the country could apply to the programme. 'Reprowis Project – Reducing Production Waste by Industrial Symbiosis' Between 2010 and 2011 the cross-border (Hungary and Slovakia) 'Reprowis Project – Reducing Production Waste by Industrial Symbiosis' was run. This was an ERDF funded EU project with the aim of reducing waste generation and promoting innovative techniques of waste man-agement through various methods of cleaner production and industrial ecology. The project also aimed to create action plans for innovative industrial symbiotic actions (waste management) to reduce waste generation by SMEs.
IE	SMILE Resource Exchange SMILE is a free service for companies and aims to encourage resource exchanges between its members in order to save them money, reduce waste going to landfill and to develop new business opportunities. Potential exchanges are identified through regional networking events and

	an online exchange tool. Launched in 2011 on the local level, launched nationally in 2014; open to all sectors. SMILE is now available nationwide; it operates more strongly in some regions of Ireland: Cork, Dublin, Clare, Limerick, Kerry.
IT	Regional initiatives implemented in Sicilia and Emilia-Romagna. Local participation is quite significant as the local initiatives provide connections among several actors in the region. Several projects have been implemented in the field, such as the Green Symbiosis Project, the Eco-Industrial Park Rieti, and also the Eco-Innovation in Sicily Project, with the goal of developing and implementing the first regional industrial symbiosis web-based platform in Italy – the ENEA Industrial Symbiosis Platform.
LT	In 2014, the Lithuanian government launched the Eco-Innovations LT+ measure which aims to promote SME investment in tangible assets (equipment, technologies) that would help reducing the SME's negative environmental impact and promote industrial symbiosis thus supporting cleaner production innovations. The programming period of the project is 2014-2020 and its target group is SMEs. applicable nationwide.
NL	The central government supports the establishment of business networks through its Green Deals policy. Local authorities such as Rotterdam and Harlemmermeer have been supporting technology parks or clusters. The municipality Harlemmermeer, for instance, has developed the program Haarlemmermeer Beyond Sustainability, with amongst others is the first fully cradle-to-cradle business park.
PL	Nature Partnerships Objective(s): To share knowledge and ecological awareness of the business sector active in Natura 2000 protected areas. Specific cooperation between local society, entrepreneurs and investors as a result of "Nature Partnerships" solving local environmental problems, e.g. location of new investments, physical planning, consultations with social partners, local ecological conflicts. Launched: 2012 - ongoing. Target sector/beneficiaries: Entrepreneurs, farmers, craftsmen, business environment institutions, local government units, public administration units dealing with business activity promotion, NGOs.
PT	Mercado Organizado de Resíduos (MOR) Organised Waste Market implemented in 2010, where all companies willing to buy or sell waste can participate (except for hazardous waste). MOR is a voluntary instrument which aims to facilitate and promote waste trading as well as enable its recovery and reintroduction in the economic circle, decreasing the demand for primary raw materials and promoting industrial symbiosis. It consists in the establishment of electronic negotiation platforms that support non-hazardous waste trading, promoting the interaction between supply and demand of waste. Portuguese Environment Agency (APA) is entitled to provide a set of financial and administrative incentives both to potential management entities (of the waste market) and to the producers themselves/holders of waste and waste recovery entities. Specifically, APA can provide support to the launch of trading platforms (funding from the revenues of the Waste Management Fee - TGR), registration fee reductions in SIRAPA (the Portuguese Environment Agency`s Integrated Registration System) up to 50%, and potential exemption from licensing of recovery of non-hazardous waste operations, in order to stimulate the creation of trading platforms and foster adherence to these
RO	ECOREG project, launched by the Ministry of Environment and Forests as a pilot project in order to test the applicability of industrial symbiosis in Romania. The initiative is part of LIFE+ EU-Programme, which supports it financially. The idea behind the project is to help operators identify innovative methods to re-use waste resulting from other industries. The first target is to reduce the consumption of natural resources by 2 to 5% for all involved partners; also to reduce the waste production by 5 to 20% for each partner and increase recycling into secondary materials. Other targets involve: economic efficiency, cost reduction, increase in employment, increase of the touristic potential of the region, improvement of public image. When the measure was launched: The programme was implemented between 2009 and 2011 in Suceava county, focused on the Industrial sec-

	tor.
SE	State support for local initiatives. For example, the industrial symbiosis network in Norrköping (Handelö region) is strongly facilitated by the municipality. The objectives of the Norrköping network encompass the reduction of greenhouse gas emissions, waste landfilling, fossil-resource dependence and costs for businesses. The energy sector, agricultural sector, waste management sector, paper industry and chemical industry are involved.
SK	Project REPROWIS – Reducing waste through industrial symbiosis in Slovakia Objective(s): Investigate opportunities and interest of companies in actions aiming to reduce generation of waste through cooperation among businesses: the project included a survey of companies' views on the potential of reducing waste from industrial symbiosis. Project realised between 2010 and 2011. In Slovakia, companies from south of Slovakia (Bratislava, Trnava and Nitra regions) were targeted and involved. Very limited application (temporary project, geographically limited, and only included survey and training).
UK	National Industrial Symbiosis Programme NISP Launched in 2005, the NISP aims to help businesses improve profitability, commercial competitiveness and environmental performance. Target sector/beneficiaries: all interested. The NISP was national, and now operates regional services in the UK, and globally supports regional and national programmes in over 20 countries.

Annex II-2: List of examples for support measure 2 Incentivising external audits to support resource efficiency

Table 3: List of Member State examples for Support Measure 2

EU Member States	Incentivising external audits to support resource efficiency
AT	Regional Consultancy Programmes in Styria Objectives: Decrease the operating costs in the areas waste avoidance, waste management, saving of energy and climate protection; Lower the pressures on the environment. In 1998 Ökobusinessplan started, federal subsidies for this kind of programmes are provided since 2001. Target sector/beneficiaries: all sectors. Available for companies, the regional programmes cover the respective region.
BE	Materials Scan (Materialenscan) The Materials Scan (Materialenscan) is an audit that encourages companies to pursue a more sustainable materials management. The scan report identifies the opportunities for the business to achieve a sustainable materials management. It identifies possible partners and funding instruments. The instrument targets manufacturing companies with up to 500 employees.
BG	Action Plan for Green Public Procurement 2012-2014 Objective(s): The National Action Plan for Green Public Procurement 2012-2014 sets out series of measures: increasing the use of the EMAS scheme, knowledge sharing, exchange of good practices, trainings etc. According to the plan, the EMAS scheme as well as European ecolabelling sheme will be included in the list of measures, which can be funded under the Operational Program "Development of the Competitiveness of Bulgarian Economy 2007-2013". Launched: 2012; Target sector/beneficiaries: targeted at all sectors; available: nation-wide
CY	Resource efficiency auditing through the implementation of environmental management system EMAS Objective(s): Improve the environmental performance and resource efficiency of organisations through the implementation of verified environmental management systems and the annual auditing of their performance Launched: 2004; available: Nationally
CZ	State or regional financial aid for EMAS scheme implementation The governmental support to companies to install an EMAS Eco-Management and Audit scheme is one of the oldest and the most important support measures to improve resource efficiency in business in the Czech Republic. The support takes either the form of a financial aid from the State environmental fund or from the regional support funds. All companies nationwide can benefit from these support measures. In addition, companies have been incentivised to undergo the certification through inclusion of EMAS-related criteria in legislations relating to public tenders, environmental inspections as well as environmental insurance. As of 3rd July 2015, 26 companies were registered in the national EMAS database.

DE	PIUS-Checks by the Effizienz-Agentur North Rhine-Westphalia (EFA) By analysing relevant material flows and the current level of production technology, the EFA aims to give recommendations on how to optimise production in SMEs, primarily by implementing new production equipment or by organisational changes. Launched: in 2000 (ongoing); Target sector/beneficiaries: All sectors. The measure has been particularly successful in the metal processing, metal finishing and food processing industries. Conducting an audit costs between 10,000 and 15,000 EUR. Up to 70% of these costs can be covered by national funding programs.
EE	In the context of the Multiannual Financial Framework 2014-2020, Estonia will support resource audits. Financial support schemes are under development (scheduled in late 2015/early 2016). In 2015, Estonia will perform preparatory activities - raise awareness of companies and train resource specialists/auditors, who are capable of making resource audits. Also methodology for resource audits will be developed in Estonia.
FI	Material Auditing for companies Objectives: • identifying potential resource (material and energy) savings in production processes; • generate well focused action plans for the companies; • save costs and quantify environmental product performance (based on ISO 14051); • promote a widely accepted and used audit model for all industrial sectors; • establish a subsidised programme in which authorised auditors perform the auditing using the audit model Launched: Started 2009 with piloting; available: nation-wide
FR	French Environment and Energy Management Agency (ADEME) provides financial and technical help to companies willing to integrate the principles of eco-design in their business. This support has been deployed in several French regions. In the Bourgogne Region, the ADEME and the Conseil regional de Bourgogne have been supporting companies since 2006, with all industrial sectors of the region being part of the target (engineering, plastics processing, stone processing, etc.). A similar example exists in the Lorraine region.
HR	Since 2000, the Croatian Centre for Cleaner Production (Cro-CPC) offers consultations and aid in the implementation of cleaner production and Environmental Management Systems (EMS) in industrial companies. Objectives of the measure are a more efficient use of raw materials and energy, savings in water and energy as well as a reduction in the emissions of pollutants and waste at source. Cro-CPC was jointly founded by the Croatian Government and UNIDO in the year 2000. Cro-CPC is a regular member of UNIDO/UNEP RECP network. Although the services of Cro-CPC are in principle available for all sectors and nation-wide, at present there is no clear strategy to systematically establish the activities on the national level.
IE	Green Business Programme Objectives: (1) using less water, energy and raw materials to manufacture a product or provide a service; (2) reducing costs for the participating companies When the measure was launched: Current iteration of the programme is in place since 2011. Target sector/beneficiaries: All business areas are invited to participate in Green Business. There currently is a particular emphasis on the Food & Drink sector. How widely/where the support measure is available: nation-wide

IT	Remade in Italy Objective(s): Remade is the first accredited certification scheme in Italy and in Europe specifically aimed at the verification of recycled content in a product. Remade in Italy certification satisfies the Minimum Environmental Criteria (MEC) for Green Public Procurement adopted by the Italian Ministry for the Environment Land and Sea. Remade certification attests traceability of production within the same production chain, starting from the verification of origin of incoming raw materials, to finished product, making it a model for verification of the quality and sustainability of recycling. Launched: 2013; The beneficiaries are manufacturers of recycled good; available: National level
SK	Slovak public authorities have also the possibility to require from tenderers in the context of public procurement procedures to provide environmental certifications. In the field of green public procurement (GPP), under the public procurement law 25/2006, the procuring authority can require environmental management certification (Standard ISO 14001), or registration in EMAS scheme or relevant means of proof from the supplier of goods, services and construction works.
UK	ENWORKS resource efficiency assessments Objective(s): (1) to improve the competitiveness and productivity of companies in North West England by reducing their exposure to environmental risk; (2) to reduce CO2 emissions, water and material usage and divert waste from landfill These goals are to be achieved through direct working with companies, including the supply of resource efficiency assessments, and targeted information. Launched in 2001, the measure targets all interested companies, although support was prioritised to areas thought to have the greatest effect.

Annex II-3: List of examples for support measure 3 Improving Financing

Table 4: List of Member State examples for Support Measure 3

EU Member States	Improving Financing
AT	Umweltförderung im Inland (UFI) for the area resource management The programme supports investments in resource efficiency measures. For investments in production processes, up to 30% of the investment costs can be covered and for investments in innovative services, up to 20% of overall costs (e.g. Chemical Leasing). Objective(s): • Improve resource efficiency; • Support the voluntary implementation of resource efficiency measures; • Switch to biobased resources and materials. Launched in 2010, targeting all sectors and available nation-wide
BE	Flemish Government'y Ecologiepremie plus (EP-PLUS) (Ecology premium plus) support programme Financial contributions are given to companies in the Flemish Region that will undertake ecological investments, i.e. investments related to the environment or energy, and more specifically investments in environmental technologies, energy saving technologies, or combined heat and power (CHP) and renewable energy. In this way the EP-PLUS measure aims to encourage Flemish enterprises to make their production processes more environmentally friendly and more energy efficient. EP-PLUS is open to all companies located in the Flemish Region in a wide range of sectors, including extraction, manufacturing, textiles, repairs, renting and leasing of equipment, construction, wholesale and retail.
BG	National Innovation Fund The overall goal of the National Innovation Fund is to support research and development activities, technology innovations for increasing the economic efficiency of the SMEs. The promoting of resource efficiency in SMEs (e.g. development of new technology for metal recycling, construction of biogas plants for organic waste recycling) is among its objectives. National Innovation Fund was established in 2005. All sectors are targeted, with nation-wide application.
CY	Establishment of an Energy Saving Fund and scheme for the funding of energy saving investments Objective(s): Promote energy efficient technology and products; launched: 2002; Target sector/beneficiaries: Business and industry; the building sector; available: Nationally
DE	The KfW Bank (German government-owned development bank) set up a Green-Bond-Portfolio in 2015. The KfW plans to purchase green bonds in the amount of 1 billion € with the aim to help financing suitable projects in the fields of resource efficiency, renewable energies, waste management, (waste) water management, biodiversity and non-polluting transport systems. A further aim of the measure is to contribute to the development of the Green Bond market. These measures have a nation-wide scope and are applicable for all sectors. In addition, through the Environmental Innovation Programme, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety funds industrial-scale pilot projects in key environmental sectors – one being resource efficiency. The programme was initiated in 1979 and focuses on the implementation of innovative technologies. The German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt) supports innovative research, development and innovation

	projects in the SME sector with focus on increasing the efficiency of use of resources, materials and energy.
DK	Fund for Green Business Development Objectives: • Promoting circular economy, resource efficiency and green business development in Danish firms and thus prepare them for a resource scarce future; • The fund invests in the development of new green business models, innovative green products and services in the circular economy. Launched in 2013, targeting all sectors; available nation-wide
EL	The Special Secretariat for Public-Private Partnerships (SSPPPs) supports the development of waste treatment infrastructure in the country. In all cases, the private partner undertakes the design, construction, maintenance, technical management and operation of the facility for a predefined number of years. SSPPs is a governmental body which holds the responsibility to develop the general policy for PPPs and to approve projects that are submitted under the PPP framework. The initiative is co-financed through the Joint European Support for Sustainable Investment in City Areas (JESSICA). In 2014, with regard to the number of transactions closed, Greece ranked 1st (together with Germany and France) with 7 deals. It is not known whether these specific PPPs concerned resource efficiency.
ES	Plan de Impulso al Medio Ambiente (PIMA) Grants – example: PIMA Residuos Objective(s): PIMAs are a series of grants impulsed by the MAGRAMA with the joint objective to protect the environment and boost the economy. In the case of PIMA Residuos (PIMA Waste) the proposed measures aim at promoting source separation of bio-waste and improve the environmental performance of landfills through projects that reduce associated emissions. PIMA Residuos is currently in process of public information. Target sector/beneficiaries: Local authorities that promote separate waste collection, initiate or expand separate bio-waste collection services to an area of higher population, or carry out actions that involve substantial improvement in the quantity and quality of collected bio-waste. How widely/where the support measure is available: Nationwide (proposed)
FI	The Finnish Funding Agency for Innovation TEKES offers grants and loans to companies for the realisation of resource efficiency projects, especially through the "Green Growth Programme". The type of funding depends on the goals and the content of the project: A grant is meant for companies' research-oriented projects, and the loan for development work and piloting. The loan has a low rate of interest and is without collaterals. The Green Growth Programme pursues, inter alia, the following target: • Increase energy and material efficiency of production and service chains over the entire life span of products Grants and innovation loans only cover a certain percentage of the overall project costs. The nation-wide measure promotes the uptake of cleantech, circular economy initiatives and bio-economy.
FR	Green bonds by the Ile-de-France regional council Objective(s): The "environmentally and socially responsible bond" issued by the Île-de-France région in 2012 was allocated 50% to funds for financing environmental projects and 50% to economic, social and solidarity development projects. The April 2014 issue intends to finance a mix of green investments. First launch in March 2012; second launch in April 2014. Target sector/beneficiaries: Environmental projects and economic/social and solidarity development projects. This is a regional initiative.

HR	Ministry of Entrepreneurship and Crafts (MEC) aims to support technological innovation in the small and medium-sized enterprises (SME) sector. Through an "Entrepreneurial Impulse" support programme, the ministry and the Croatian Agency for SMEs, Innovations and Investments (HAMAG BICRO) make grants available to projects in the manufacturing, environmental protection and information technology sectors, which can include eco-innovation projects. The instruments/measures stimulating the eco-innovations are not directly focused on specific technological area. Environment Protection and Energy Efficiency Fund (EPEEF) invests in the preparation, implementation and development of programmes, projects and similar activities in the field of environmental and nature protection, energy efficiency and use of renewable energy sources.
IE	"Green Enterprise" grants by the Environmental Protection Agency (EPA) A key objective of the measure is to provide co-funding for projects aiming to "green" enterprises. The measure was launched in 2001 (it was called the Cleaner Green Production Programme until 2013). In 2013, the measure was broadened from industrial production to services and institutional sectors. The grants are available nation-wide.
LV	Green Technology Incubator The immediate objectives of financial support are: • Creation of new knowledge-intensive businesses via the 'incubation mechanism' and support to green industry growth; • Stimulation and management of knowledge exchange between universities, research organisations and green industry companies; • Facilitation of international business and institutional cooperation within green technology sector, particularly with Norwegian partners. Implementation period: 07.07.2014 - 30.04.2016. available: Nationwide
MT	ERDF Innovation Actions Grant Scheme (Environment) Objective(s): The objective was to help SMEs to invest in eco-innovation solutions in support of long-term competitiveness and environmentally sustainable business activities, by the provision of cash grants for 50% co-financing of activities in particular related to: water and air quality (e.g. emission reductions); waste streams (e.g. reduction of waste through reduced use and material reuse/recycling); and resource use (e.g. better use of water resources, substitution of toxic and poorly degradable substances). Grants could be used for plant, machinery, equipment and costs related to the attainment of environmental certification. The Grant Scheme ran until February 2014, beneficiaries are SMEs. Currently, the aid Scheme for the period 2014-2020 is still being discussed.
PL	E-KUMULATOR Objective(s): To create a complex financial tool and support investors who want to improve resource efficiency in their industrial activities. Some specific objectives are: to reduce the consumption of primary raw materials in industry by 1 million tonnes every year; to reduce air pollution (strongly related to the IED standards). When the measure was launched: 2014 (original measure) 2015 - 2023 (continuation) Target sector/beneficiaries: Industry business sector Allocated budget/resources: 250 million EUR How widely/where the support measure is available: Polish territory

PT	Portugal Ventures – result of the merger of 3 state-backed Venture Capital and Private Equity firms AICEP Capital Global, S.A, InovCapital and Turismo Capital Objective(s): Provides venture capital support to companies (mainly SMEs) whose activity has a relevant international dimension namely through the exports of goods and services and/or the implementation of direct investment operations in foreign markets. Funding also available for KI-SME for structural technological innovation and knowledge projects in emerging or traditional sectors of the Portuguese economy. When the measure was launched: 2007 Target sector/beneficiaries: SMEs How widely/where the support measure is available: Nationwide
SE	The Environment-driven Business Development programme by the Swedish Agency for Economic and Regional Growth (NUTEK, today renamed to Tillväxtverket) aimed to stimulate product and business development from sustainability perspectives. It particularly focused on the competitiveness of domestic small and medium-sized enterprises (SMEs). The measure was launched in 2001 and ended in 2004. In total, NUTEK co-financed SEK 28 million (approx. 2.8 million €) for a wide range of projects, while the participating companies invested approx. SEK 50 million (approx. 5 million €) in terms of time and money. 390 SMEs participated in the programme.
SI	Eko sklad – the Slovenian Eco Fund Objective(s): (1) to promote development in the field of environmental protection; (2) to provide financial support for environmental projects (see above). Launched in 1993(and still ongoing), no specific sectors are targeted. General environmental criteria, such as the principles of sustainable development, a priority environmental objectives and effectiveness of environmental management: the highest, the appropriateness of technological solutions, the level of vulnerability of the environment (protected areas, reduce emissions into the environment, reducing the consumption of natural resources and energy, environmental remediation). How widely/where the support measure is available: nation-wide
UK	WRAP has in the past operated several financial support schemes of relevance, including: • eQuip – a residual value guarantee scheme, which helped those setting up recycling businesses to lease capital equipment rather than having to buy it outright. • capital grants – WRAP has provided capital grants to particular businesses (subject to State Aid clearance) that assisted them to make investments that transformed the UK's recycling infrastructure. • loan funds – WRAP has provided loans to particular businesses to help them invest in infrastructure. Examples include the Mixed Plastics Loan Fund, Anaerobic Digestion Loan Fund. The Government (BIS) also funds Innovate UK (previously named the Technology Strategy Board (TSB)), an organisation that funds, supports and connects innovative businesses to accelerate sustainable economic growth. Innovate UK provides funding via a variety of mechanisms, from the always open Smart programme which funds proof of market, proof of concept and development of prototype projects to specific, challenge-led funding competitions.

Annex II-4: List of examples for support measure 4 Supporting Voluntary Initiatives

Table 5: List of Member State examples for Support Measure 4

EU Member States	Supporting Voluntary Initiatives
AT	Voluntary initiative klima**aktiv** klimaaktiv is the initiative for active climate protection launched in the year 2004 by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management and is part of the Austrian climate strategy. The program fosters a competitive low-carbon economy based on efficient and sustainable use of resources, the protection of the environment and the establishment of innovative green technologies and production practises in high quality. klimaaktiv follows an innovative governance idea for a market transformation towards green markets, with the aim to raise the share of renewables and of energy efficient products and services. Resource efficiency is directly addressed in the klimaaktiv program Nawaro Markt. In the other programs energy efficient and sustainable products and services are the main focus.
BG	Black Sea Industrial Symbiosis Platform Objective(s): The aim of the project was to promote economic and social development in Black Sea Basin by establishing industrial symbiosis system as a new innovative approach. Launched in 2011 this measure targets manufacturing, logistics, tourism and energy industries in Bulgaria, Turkey, Romania, and Moldova. EU grant under ENPI and IPA funds and %10 co-financing by the participants' state in the programme.
CY	In 2015, a scheme to encourage the creation of clusters and business partnerships in green and advanced technology investments was launched. The aim of this scheme is to promote technologies and processes that will enhance resource efficiency, reduce pollution and waste, and contribute to appropriate waste management and recycling. The duration of the application of this measure is 5 years and it is targeting all industrial and business entities, and particularly SMEs, in Cyprus.
DE	Voluntary product label “Blauer Engel” (Blue Angel), sub-category “Conserves resources” (**also covered unter measure 8 development of non-legal standards**). Objective(s): • help consumers select resource-conserving products; • increase awareness for resource use and related environmental pressures. Launched: 2008 for the category “conserves resources”, available nation-wide
DK	Agreement on Recycling of transport packaging between the Danish Minister for Environment and Energy and the Danish Confederation of Industries, acceded to by Plastindustrien (Plastic Industry Federation) and Emballageindustrien (Paper and Board Federation). Objective(s): • 80% of the volume of transport packaging should be collected and recycled, either through direct re-use or material recovery by the year 2000; • staged targets for the different types of materials for 1996, 1997 and 1998 Launched: in 1994, limited to 2011; arget sector/beneficiaries: producers, importers, manufacturers, converters, packers and fillers, users, retailers and recyclers; wide range of industries
EE	Nationwide support of voluntary agreements (VA) for implementing Environmental protection by making resource use more efficient was

	launched in 1999. The specific context of VAs in Estonia consists of a contract between public administration and industry in which the signatory firm agrees to achieve a certain environmental objective. The agreements are bilateral – between one firm (or group of firms) and the Ministry of the Environment. VAs have not included any subsidies or other financial elements from the state. Within the VA, the company usually commits to reducing its polluting emissions to the environment by implementing appropriate environmental management systems, adopting best available technology, and sustainable production and consumption techniques. The Ministry takes over responsibility to provide the other side with information related to its activity and involve the company in the process of developing relevant legislation.
EL	EMAS is the only voluntary instrument that supports resource efficiency in Greece. EMAS include the following elements: • Design and implementation of environmental management system; • Active participation of the staff of enterprises in environmental management; • Compilation and publication of an environmental statement containing verified information on all environmental issues concerning with the corporate operation such as: enterprise's performance regarding energy efficiency, efficient use of materials, water, waste, biodiversity and CO2 emissions; • Verified environmental statement.
ES	Voluntary Agreement between the Spanish Association of Pulp, Paper and Cardboard Manufacturers (ASPAPEL) and the late Ministry for the Environment, Rural and Marine Affairs (MARM) Objective(s): The voluntary compromise of the pulp and paper industries aims to achieve highly demanding emission limit values. The first agreement was signed in 2000 and it was renovated in 2005. Target sectors are businesses in the paper, pulp and cardboard production industry who release process waters into the public waterways.
FI	Voluntary Energy Efficiency Agreements (1997 – 2007; 2008 – 2016) Objectives: • Decrease energy consumption and greenhouse gas emissions; • Promote the adoption of best energy-efficient technologies and services; • Networking and dissemination of energy-efficient innovations Launched in the early 1990s, the measure targets energy intensive industries, energy sector and energy services, private services, transport sector, municipalities, building sector, transport sector and farms. The energy efficiency agreements cover all the above-mentioned sectors.
FR	Along with other initiatives such as ARPEGE (Atelier de reflexion prospective sur l'écologie industrielle), the Institut de l'Economie Circulaire is a key player in France for fostering voluntary collaboration among business stakeholders in the field of resource efficiency. Its aim is to promote the concept of a circular economy. The Institute was founded in February 2013. Among its founding members, there are NGOs such as the Fondation Nicolas Hulot, companies such as La poste, Gaz réseau distribution France, and business associations such as the French federation of recycling industries and the French Cement Association (SFIC). Many business stakeholders/ eco-organisms/ business associations have become Members, among which Coca-Cola Entreprise, ECOFOLIO, Ecologic France, GrDF, Greenflex, La Poste, Le Relais, Nexity, Paprec group, etc.
IT	The Italian Environmental Footprint Programme Objective(s): development of a diagnostic tool based on the LCA (Life Cycle Assessment) methodology that helps companies to identify 'carbon management' procedures and low-carbon technologies to improve resource efficiency of the production processes. Launched in 2012, this measure targets all business sectors, leading companies in their sector, SMEs.

LU	Luxembourg EcoInnovation Cluster Objective(s): to promote the development of clean energy and technologies and to foster sustainability and innovation in Luxembourg. The Cluster focuses on the following topics: Circular Economy, Mobility, Sustainable Cities and Smart Technologies. The Luxembourg EcoInnovation Cluster is a network that supports the various actors of the Clean Technologies sector with the goal of creating and developing new and sustainable business opportunities, mainly through collaborative R&D and innovation projects. Launched in 2011; membership is open to companies, public research institutes and organisations that are active in the field of eco-innovation technologies.
NL	Green Deals Policy Objective(s): Green Deals are agreements between the Dutch government and other parties. These parties may be companies, civil society organisations and other public authorities. In a Green Deal the central government helps to remove bottlenecks for green plans, mostly with a view to remove non-financial barriers such as regulation and permits. The Green Deals also cover themes such as climate, water, raw materials, biodiversity, mobility, bio-based economy, construction and food. Launched in 2011 and still ongoing; first Green Deals have been concluded in 2011. Target sector/beneficiaries: Enterprises, civil society organisations and local public authorities.
PL	The Polish Cleaner Production Programme Objective(s): To promote clean production among the business sector through voluntary environmental agreements and a public register of entities committed to clean production and responsible entrepreneurship Launched in 2002 (ongoing), targeting the business sector and local government units; available for the entire Polish territory
PT	'Menu Dose Certa Menu Dose Certa (Right Serving Menu) is a pilot project tested in the city of Espinho (part of greater Porto) among 2 restaurants in 2008 and expanded to 3 in 2011. The project was supported by the Intermunicipal Waste Management Association of the greater Porto area (LIPOR) and consists a partnership between LIPOR, the Association of Portuguese Nutritionists, the local authorities of Espinho and local restaurants. The project aimed at reducing the production of food waste and, through awareness of the change of habits related to the problem, focusing on economic, environmental and associated health issues related to food waste.
RO	Voluntary Agreement with regard to packaging waste prevention and to improve the collection and recycling systems Voluntary agreement between the Ministry of Environment and Forests and its Partners (distribution and recycling) and businesses in order to develop tools for packaging waste prevention and improving recycling. The goal is to increase by 25% the volume of packaging collected. As part of the agreement, a new service was implemented for facilitating re-use and recycling of household. The service is called "Sigurec" and has developed a few recycling solutions. Launched in 2013, targeted at Distribution and recycling companie. The initiative was implemented in a few cities (Buzau and Bucuresti) and is expected to spread all over Romania (in Carrefour supermarkets at least).
SE	Voluntary agreement between the government and the paper industry on the waste management for office paper including books, forms, copy paper, labels, envelopes, and posters, initiated in 1996 and renewed in 2001. The costs of the scheme are covered by the value of waste paper collected and sold as secondary raw material.
UK	The Courtauld Commitment Objective(s): ambitious targets to reduce food and packaging waste in the food and drink (grocery) supply chain. Launched by WRAP in 2005

	and has operated in three phases to date. Phase 1 ran from 2005 to 2009, and had three targets: to stop the growth in packaging waste by 2008, to cut packaging waste by 2010, and to identify ways to tackle food waste. Phase 2 ran from 2010 to 2012 and began the move from weight-based targets to new metrics which considered wider environmental impacts. This phase had three targets: to cut the carbon impact of grocery packaging by 10%, to cut household food and drink waste by 4% and to cut supply chain waste by 5%. Phase 3 started in 2013 and runs until the end of 2015. It has three targets: to cut household food and drink waste by 5%, to cut grocery supply chain waste by 3%, and to ensure there is no increase in the carbon impact of grocery packaging. A fourth phase taking the measure to 2025 is under development.

Annex II-5: List of examples for support measure 5 Providing targeted resource efficiency advice

Table 6: List of Member State examples for Support Measure 5

EU Member States	Providing targeted resource efficiency advice
AT	ÖKOPROFIT programme Objectives: • Implementation of environmental measures in companies; • Reduce industrial emissions (waste water, exhaust air, noise and waste); • Decrease the operating costs for companies; • Strengthen the partnerships between public agencies, companies and experts Launched: in 1991 (ongoing), targeting all sectors. The measure was initiated in Graz. By now, ÖKOPROFIT has been transferred to other cities and regions in Austria, e.g. Vorarlberg, Vienna, Carinthia and Styria.
BE	SMEs find VITO! Programme, financially supported by the Flemish Government Providing Flemish SMEs with low threshold support in relation to sustainable innovation. The programme is financially supported by the Flemish government (and the EU EFRD). Through it, SMEs can receive financial contributions to support feasibility studies, laboratory-scale testing, pilot tests or in-house company trials related to the environment or energy. The support programme includes projects for individual SMEs, for consortia of companies and for municipalities and business parks. The financial contribution from the Flemish government (and EFRD) may cover up to 66% of research costs, on average 20,000 to 25,000 EUR per project.
CY	Provision of targeted information on resource efficiency to the tourism industry The tourism sector constitutes one of the most important economic activities of this island country and therefore improving the resource efficiency in tourism services is of high importance in the context of the sustainable development objectives of Cyprus. There have been concentrated efforts in improving waste management from hospitality units along with other efficiency measures targeting natural resources, e.g. water. Objective(s): Encourage tourist establishments to implement measures to increase their resource efficiency and waste management. Launched in 2014, targeted at the Tourism industry, applicable at national level
DE	VDI Centre for Resource Efficiency (VDI ZRE) Particular focus on SME - the VDI Centre for Resource Efficiency (VDI ZRE) develops a range of instruments for the identification of resource efficiency potentials and offers specific advice how to realise these potentials. Instruments include for example sector specific guidance on how to conduct resource checks (by the companies themselves, without external consultants), practice examples and training courses. These activities are funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.
DK	"Green21.dk" Online Platform featuring 11 green tools to help especially SMEs with their voluntary strategic environmental initiatives. The portal offers enterprises advice and guidance with regard to designing greener products and gives inspiration to strengthen enterprises' green competitiveness. Objectives: • to help especially small and medium-sized enterprises with their voluntary strategic environmental activities; • offer enterprises advice and guidance with regard to designing greener products, eco-labelling, calculating total costs of purchases and strengthening of

	enterprises' green competitiveness. Launched: 2012, targeting all sectors and available: nation-wide.
EE	For the programming period 2014-2020, the support measure 4.3.3 – Energy and resource management, awareness-raising (4.3.3 Energia- ja ressursijuhtimise alase teadlikkuse tõstmine), for assistance for information concerning resource efficiency in businesses was launched nationwide. The measure is targeted for all business sectors and provides EU assistance up to 79,800 EUR.
EL	In Greece, targeted resource efficiency information and advice to businesses is provided through the web-portal EnviroHelp for Business. The portal provides information on the following areas: • Identification of and compliance with relevant legislation; • Application of best practices and approaches for cost reduction; • Identification of third-party support; • Development of tailor-made educational material and practices.
ES	Creation of EMAS Clubs in a) Catalonia and b) Murcia to improve the environmental performance of businesses in these Autonomous Communities. Objective(s): a) improve the environmental performance of Catalonian businesses and develop activities of common interest to EMAS-registered organisations. Contribute towards increasing the number of EMAS-registered organisations and to maintaining Catalonia's leading position in business environmental management. b) bring together EMAS registered organisations from different sectors to guide and advise other companies, to inform the public on the environmental performance of these organisations, and to promote the region of Murcia in the implementation of EMAS. Launched: a) 2006-ongoing; b) 2009-ongoing, targeting EMAS-registered organisations within the two mentioned Autonomous Communities
FI	National Material Efficiency Centre Established in 2008, the centre aims to provide information (data and knowledge) in the field of material efficiency, to develop tools and services to promote material efficiency of businesses and the public sector, and to initiate and coordinate interactive networks among material efficiency professionals. The National Material Efficiency Centre is funded by the Ministry of Employment and Economy with 500,000 EUR per year. It is incorporated in Motiva Ltd. and operates nation-wide. Its offers to businesses since 2008 encompass • an information portal on material efficiency under the Motiva web-pages, • a Consultancy Service for Public Environmental Technology Procurement, • the development and promotion of material efficiency audit tools for companies, • the development and implementation of the Finnish Industrial Symbiosis System FISS, and • the TUORE Expert Network (www.tuoreverkosto.fi) promoting the building of resource efficiency related skills.
FR	French Environment and Energy Management Agency (ADEME) provides technical and financial support to companies on all aspects of resource efficiency. Among the numerous information materials and tools on circular economy and resource efficiency provided by the ADEME, the document called 'Efficience économique & utilisation efficiente des ressources: 10 méthodologies d'actions pour les entreprises' is destined specifically for businesses that aim to improve their economic and resource efficiency and want to understand the methodologies that are available and which one would best suit their own needs. The document is a benchmark that explains the basis, pros and cons of 10 methodologies developed globally or in specific countries for reducing environmental impacts (i.e. waste) while at the same time reducing costs and/or increasing revenues.
HR	Croatian Cleaner Production Centre The Croatian Cleaner Production Centre offers consultation on cleaner production and resource efficiency. Key thematic areas and industrial sectors are inter alia: • Low carbon/climate resilient production; • Sound chemicals management

	Objective(s): to demonstrate for the Companies in each of the thematic and industrial sectors selected (sustainable tourism, low carbon production and sound chemicals management) demonstrate the benefits of applying RECP options on the environment and on their overall competitiveness. Launched in 2013 and still ongoing all sectors are targeted.
HU	'Money Thrown Out the Window' initiative (Ablakon Bedobott Pénz) Objective(s): The objective is to promote resource efficiency measures in the industry sector which result in financial savings. The companies that apply for this initiative receive a list of suggested measures to achieve environmental savings. The list is based on a site visit, a discussion with the employees of the company and the examination of documents. The initiative was launched in 2002, targeted sectors include fisheries and forestry, mining and quarrying, manufacturing, electricity and water supply, construction, the commercial sector, hotels and restaurants, transport logistics and real estate. The support measure is available for a wide range of organisations and companies.
IE	Green Business Programme Providing targeted resource efficiency information and advice to businesses. In particular, Green Business provides online information which is relevant to companies in specific sectors all over Ireland, in formats which they find useful. Various information that covers many different sectors has been produced since 1995, with a series of 133 documents now available online dating from 2002 onwards. In 2014, Green Business published two good practice guides on resource efficiency: Resource Efficiency for the Retail Sector and Resource Efficiency for the Print & Packaging Sector. Both of these guides were developed in collaboration with industry and business sector organisations.
IT	PRESOURCE project Launched in Italy in November 2014, providing several instruments and tools to help promoting the resource efficiency in Central European SMEs. Project funded by the EU Regional Development Fund and co-funded by the Italian government. 1. The "EDIT Value tool", a need-driven holistic tool that enables to identify the most effective opportunities for improving RE in SMEs across all business levels and with a life cycle approach. The tool is available in 6 different languages; 2. An advanced "Cost Benefit Analysis" method to better communicate the positive effects of resource efficiency in monetary terms to investment decision-makers and a "Financial Guide for SMEs" providing a comprehensive overview of relevant actors and instruments to finance resource-efficient measures, 3. The "European RE platform" a on line platform and one-stop shop for policy makers, intermediaries, SMEs and financial actors in Central Europe.
LT	In 2014, the Eco-Consultant LT was launched and its objective is to provide consultation for SMEs on issues related to more efficient use of resources, protection of natural resources, eco-technologies and others. SMEs, using checks issued by INVEGA (support administration agency), which correspond to a fix amount of money (fee) to be paid for consultancy services, may apply to the National consultants register and obtain related services. This project has been put into practice nationwide in 2014 and will run until 2020. Its target audience is SMEs.
LU	Activities conducted by the Luxembourg EcoInnovation Cluster. One of them is the "ECO-CONCEPTION: Passez à l'acte!" project, an Eco-design project launched by the Luxembourg EcoInnovation Cluster and Resource Centre for Environmental Technologies (CRTE) of the Public Research Centre Henri Tudor. The objectives of this project, which has been running since 2010, are to introduce and disseminate good practice in eco-design amongst companies in Luxembourg and has resulted in the development of a specific software tool: ECOPACT.
LV	The web portal 'VIRUMS – Environment, Industry, We - the first Latvian industrial environmental protection Internet Portal' (VIRUMS -

	Vide, Rūpniecība, Mēs ir Latvijā pirmais rūpnieciskās vides aizsardzības interneta vortāls) aims at disseminating environmental information, building understanding, and involving interested parties in improving their knowledge on various environmental issues, including resource efficiency in production. The portal was created between 2004 and 2006, with EU funding, and is maintained by the NGO - association 'Latvian Pollution Prevention Centre'. The level of use of this instrument is quite limited.
MT	'Investing in Water' project Helping businesses and hotels reduce their water consumption. This is done through the provision of expert advice on water saving opportunities and how to achieve them. Enterprises can also receive individual consultations to identify the most relevant solutions for their individual circumstances. The measure operated from October 2011 to March 2014. In early 2012, the Investing in Water project concluded water audits with around 40 enterprises from various sectors, identifying water saving opportunities and potential solutions.
NL	REBus project Launched mid-2013, this project enables businesses and other organisations to develop resource efficient business models (REBMs) using the project's technical expertise. The focus is on textiles and electrical projects and the most popular business models to date relate to incentivised return and hire/lease. The project aims to deliver 30 REBMs with a range of large and small company pilots, achieving 15% resource savings over the project's lifetime. It also aims to encourage the replication and scaling up of more resource efficient business practice.
PL	Service of the National System of Services (KSU) in the field of environmental protection Objective(s): Fulfil the market lack of services of a similar nature in the field of environmental protection and support SMEs to adjust to environmental requirements. The measure covered: audit of compliance with environmental law, advisory services on implementing recommendations resulting from the audit and training on free calculators to calculate the fees for using the environment. Pilot scheme – since March 2011 to October 2012; systemic scheme – since June 2013 to September 2014. Target sector/beneficiaries: SMEs Pilot services received 100% public financing, whilst the systemic scheme offered max. 70% public financing. Available for the Polish territory.
PT	In 2001, the National Plan for Preventing Industrial Waste included 21 Sectoral Technical Guides which presented practical solutions and provided technical tools to companies for improving their resource efficiency and reduce waste. The guidelines stressed that quality manufacturing should also be in line with resource optimisation, waste prevention, low environmental impact throughout the life cycle of products. Additionally, eco-design and recyclability aspects of products should be also taken into account in manufacturing processes.
SE	Establishment of the Centre for Efficient Resource Utilisation in Sweden (CERISE) Forum for exchanges of information and good examples with a range of prominent Swedish enterprises; Objective(s): • contribute to greater resource efficiency; • strengthen the Swedish business and entrepreneurship; • introducing more and new resource-efficient solutions; • creating more contact between entrepreneurs; • increase the exchange of knowledge about resource efficiency and environmental technology; When the measure was launched: When was the measure launched? Target sector/beneficiaries: all sectors, available: nation-wide

SI	STENG National Cleaner Production Centre Ltd. Established by the University of Maribor, the company Spirax Sarco – and initially by the Slovenian Ministry of Science and Technology in 1997. Since the early 2000s, STENG is not supported by the state anymore, but a fully private company active on an open market. STENG Ltd. offers nation-wide consulting to companies (targeting all sectors, with a past focus on the food sector and the textile industry) and carries out cleaner production projects aiming to transfer knowledge from universities and research institutes to the industry.
UK	Sector guides provided by WRAP Through these WRAP supports businesses in improving resource efficiency in various sectors of business. WRAP provides a wide range of tools and publications online to help businesses use resources more efficiently, reduce waste and save money. These include, for instance, an interactive tour of typical business premises (called Green Town) that highlights opportunities for resource efficiency in the workplace; a free online training course for small and medium-sized enterprises/organisations (SMEs), and a Waste Hierarchy Tool where businesses can generate their own tailored publication designed to help them understand the waste hierarchy. In addition, advice by telephone was provided on request, until recently when budgets were reduced.

Annex II-6: List of examples for support measure 6 Building resource efficiency related skills

Table 7: List of Member State examples for Support Measure 6

EU Member States	Building resource efficiency related skills
AT	EMAS Implementation Workshops The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) offers workshops for members of companies, associations and public administration interested in the introduction of an Eco-Management and Audit Scheme (EMAS) in their establishment. The workshops are conducted by experienced environmental consultants, who give targeted instructions for a stepwise and systematic introduction of EMAS.
BG	Capacity building through the Bulgarian Small and Medium Enterprises Promotion Agency (BSMEPA) The government institution BSMPA provides consulting and information services, and trainings for SMEs. They cover, among other topics, the following issues: quality improvement of the products, environmental protection and innovation. Human Resources Development Operational Programme 2014-2020 The Programme invests in the human resources of those enterprises, which contribute to the sustainable environmental development and reducing the negative impacts on the environment. The Programme will fund the acquisition of adequate knowledge and skills in order to preserve the jobs and occupation of the new ones and to ensure qualified human resources for the „green" jobs and for those related to the new production technologies.
CZ	Under its Secondary Raw Materials Policy of 2014, the Czech Republic defined a fourth strategic goal focusing on initiation of educational support for businesses to ensure qualification of staff working in the field of use of secondary raw materials in order to support the employing companies' competitiveness. As part of the program, the Czech Ministry of Industry and Trade prepared training and examination documents which can be used for internal and external training courses by all actors.
DE	**Qualification of employees and consultants by the VDI Centre for Resource Efficiency (VDI ZRE)** The offered qualification courses give basic technological insights to saving materials and energy in processes and convey methods for efficiency increases. The VDI ZRE also offers seminars at different universities in order to integrate resource efficiency aspects in existing courses.
DK	Training program in resource efficiency The program aims to increase resource-efficient production in manufacturing industries in Denmark. Launched in 2015, it operates nationwide and is targeted at employees and managers of small and medium-sized companies primarily in the manufacturing sector, with an identified skills needs and a high readiness towards resource efficiency. The measure is co-financed through the European Social Fund.

EE	For the programming period 2014-2020 the support measure 4.3.2 – Implementation of resource management-related trainings (4.3.2 Ressursi-juhtimise alaste koolituste läbiviimine), for assistance to the implementation of resource management-related trainings in businesses, was launched nationwide. The measure is targeted for all business sectors and provides EU assistance up to 400,000 EUR.
EL	National Strategic Reference Forum 2014-2020 The Reference Forum provides financial support on the development of green skills. It constitutes the reference document for the programming of European Union Funds in Greece. Specifically, support on the development of environmental vocational and lifelong training is provided on the following areas: 1) Competitiveness, Entrepreneurship and Innovation, 2) Transport Infrastructure, Environment and Sustainable Development, and 3) Human Resources Development, Education and lifelong Learning. Beneficiaries include existing and new businesses as well as consortia that plan to develop R&D activities on waste prevention and management, pollution control and environmental footprinting.
ES	Spanish Green Jobs Programme (*Empleaverde*) The programme offers trainings for employees with the aim to reduce the environmental impacts of activities in their respective sectors. It ran nation-wide and was operated by the Fundación Biodiversidad (a foundation within the Spanish Ministry of Environment). A budget of 17,100,000 EUR was allocated to the measure (12,700,000 EUR were contribution from the European Social Fund).
FI	TUORE Expert Network The network enhances resource efficiency related skills in businesses through active communication, face-to-face meetings, a LinkedIn forum, and newsletters. Launched in 2011 and run by the National Material Efficiency Centre, its aim is to promote the implementation of practical life-cycle thinking in the design of products and operations. The TUORE website's information is available for everyone, not only for members (www.tuoreverkosto.fi).
FR	In France, some initiatives have been implemented at regional level to support the development of green skills within companies. One example is the Aquitaine Region, which provides support to training on topics related to circular economy (i.e. financing of the online University for Environment and Sustainable Development – Université Virtuelle de l'Environnement et du Développement Durable, creation of a Chair on Ecodesign). The region has also raised awareness on environmental issues among businesses with the help of the local Chamber of Commerce and Industry (CCI des Landes).
HR	Support for trainings through the 'Secondary Raw Materials Policy' of the Czech Republic Strategic Goal 4 of the policy calls for the initiation of educational support to ensure qualified staff in the field of secondary raw materials in order to support the competitiveness of businesses. The Ministry of Industry and Trade prepared supporting documents for trainings and exams which can be used for internal and external training courses by all subjects. Furthermore, The Czech Association of the Secondary Raw Materials Industry carried out the pilot project of the special training for the workers in the secondary raw materials industry to increase the staff skills on material separation, identification of harmful substances, resource efficiency principles etc. Also, new defined standards for working positions (worker for recycling, technician for recycling) were included into the National list of Qualification.

HU	Business Council for Sustainable Development in Hungary (BCSDH) and Hungarian Business Leaders Forum (HBLF) The two business platforms promote sustainable development and resource efficiency skills and aim to integrate corporate social responsibility within Hungarian companies. The BCSDH targets business, civil and governmental organizations, while the HBLF's target sectors are local and international companies, small and medium-sized enterprises (SMEs), non-profit organisations and individuals. The HBLF has close to 100 members today, while BCSDH has 65 corporate and 3 individual members. Presource Network The network is a resource efficiency platform for Hungary and 6 other Central and Eastern European Member States, funded by the EU. As part of the project's output, the EDIT Value Tool was developed, which aims to enable SMEs in the production sector to identify and exploit within their own organisation potentials for increasing the resource efficiency of production processes and products.
IE	Trainings offered by Repak related to Packaging Prevention Repak, an industry funded organization whose aim it is to facilitate and grow packaging recycling, offers trainings in the form of presentations and workshops to companies. The Repak technologists also work with other interested parties such as the Irish Packaging Society and the Institute of Materials Minerals and Mining (IOM3) to deliver training courses on packaging. Launched in 2009 and targeted at the packaging sector, the trainings are only available to Repak members.
IT	Green skills development by ERGO In 2006, the first spin off company of the Sant'Anna School of Advanced Studies of Pisa– ERGO – was launched with the goal of offering consultancy services focused on environment and sustainability management and covering all the main issues related to Companies, Products, Administration, Cluster and Territories ("IMPACT focus"). Since 2006, green skills developed via this measure focus on extensive topics, inter alia: support for achieving environmental certification of product and processes; green marketing plans; training for managers and employees; support for greenhouse gas emission management; support for policy and environmental impact assessment procedures; support to local authorities' environmental services subject to planning and regulation.
LT	'Formation of qualifications and development of modular VET system' project The ESF project has been launched in 2010. The objective of this measure is to design ten sectorial qualification standards and sixty modular Vocational Education and Training (VET) programmes for different sectors during 2010-2015. 'Green skills' are integrated into standards and VET programmes. In addition, a VET training programme for environment protection specialists has been designed. It consists of separate modules that later may be used also for training of employees from different kind of companies. The allocated budget for the project is
NL	'Achievement of Acceleration towards a Circular Economy' Programme The programme explicitly focuses on capitalizing the benefits of a circular economy. The Ministry of Infrastructure and the Environment (I&M) has entered into a coalition with knowledge institutions and industry to set up the programme in autumn 2014. Within the programme, not only technical aspects (such as circular design and energy neutral recycling) are addressed, but the necessary social and systemic innovation is also tackled. It also focuses on the development of educational programmes and joint communication and knowledge building.
PL	Eco-friendly business, (*Ekologiczny Biznes*) – e-learning Launched in 2012, this measure aims to increase environmental awareness and to help Polish entrepreneurs, employees and people planning to start-up companies in getting closer to sustainable development. An E-learning course was published on www.akademiaparp.gov.pl. The measure is funded by the European Social Fund.

PT	PreResi Project The project was initiated by two state agencies, the National Institute of Engineering, Technology and Innovation (INETI) and the Waste Institute (INR) and targeted seven selected sectors: Metallurgy and Metalwork; Electrical and Electronic Equipment; Tanneries; Dyes and Coatings; Textiles; Wood and Furniture; Printing. The main objective of PreResi was to create favourable conditions for the prevention of industrial residues in the selected sectors above. It provided training in industries for the prevention of process residues as well as information workshops and the publication of manuals for each specific industrial sector.
RO	Trainings by the Romanian Chamber of Commerce and Industry and the National Research Institute In 2010, training was provided to managers and employees in order to improve their knowledge on environmental requirements deriving from the various EU Directives, including resource related Directives and Roadmaps (e.g. Waste Framework Directive 98/2008 etc.). The project also focused on personalised strategies for mitigating environmental pollution.Around 24 firms whose activities are causing environmental impacts participated in the seminar.
SI	Promotion of green skills by the STENG National Cleaner Production Centre Ltd Established in 1997 by the University of Maribor, the company Spirax Sarco and initially by the Slovenian Ministry of Science and Technology, the STENG National Cleaner Production Centre Ltd. aims to transfer knowledge from universities and institutes to the industry. Experts of the Spirax Sarco company as well as of the University of Maribor take part in the activities of the centre when needed.
UK	Training by the 'Halving Waste to Landfill' programme The training was one of several measures of the 'Halving Waste to Landfill' programme, a voluntary agreement allowing businesses to make a public commitment towards reducing the amount of construction, demolition and excavation waste sent to landfill. Launched in 2008, the training aimed at providing Continuing Professional Development (CPD) in-house training (one-hour seminars) to SME architectural practices to design buildings so that they would produce less waste for landfill on demolition.

Annex II-7: List of examples for support measure 7 Improving company accounting and reporting practices

Table 8: List of Member State examples for Support Measure 7

EU Member States	Improving company accounting and reporting practices
AT	National Accounting Matrix including Environmental Accounting (NAMEA) The integrated NAMEA includes data from two different systems (environment and economy) with a standard classification. Air emissions or waste generation for example are linked to gross value added. NAMEA is a satellite account whose purpose is to extend the System of National Accounts (SNA) by including environmental data. It provides a comprehensive overview of economic and environmental aspects at economic sector level, and of private households, in a standardised framework.
DK	Support for Corporate Natural Capital Accounting The state supports Danish companies in carrying out Environmental Profit and Loss (EP&L) reporting – also referred to as Corporate Natural Capital Accounting (NCA) (see case box below). For example, the Danish Ministry of Environment sponsored an EP&L for the pharmaceutical company Novo Nordisk A/S. Incorporation of CSR reporting on the environment in the Danish Financial Statements Act In 2015 the Danish parliament adopted amendments to the Financial Statements Act introducing environment as a specific parameter which companies have to report on. The requirements entail that large companies must either disclose their CSR policies, how they implement them, and what they have achieved or state explicitly that they do not have CSR policies.
DE	German Sustainability Code (*Deutscher Nachhaltigkeitskodex - DNK*) The 20 criteria of the Sustainability Code describe ecological, social and governance aspects of businesses. The measure's objective is integrated reporting. It can be used nation-wide by all companies regardless of their size or legal structure. A database was established where the information is made public.
FI	Sustainability Reporting Award Finland The Award offers Finnish businesses and other organizations an opportunity to enhance their reputation as one of the Corporate Responsibility leaders in the country. Representatives of independent experts audit companies (Deloitte, Ernst & Young, KPMG and PwC) evaluate all the reports in competition, and the top 10 reports, of which the organizers choose the winner. There are three competition categories: general, SMEs and the public sector.

Annex II-8: List of examples for support measure 8 Development of non-legal standards

Table 9: List of Member State examples for Support Measure 8

EU Member States	Development of non-legal standards
AT	The Austrian Eco-Label The label encompasses several criteria for enhancing resource efficiency of products and services. It is the widest known environmental quality mark amongst Austrian consumers. The initiative 'Bewusst Kaufen" ("Buy Aware") The goal is to raise consumer awareness and thus to enhance the sale of sustainable and resource efficient products, in co-operation with retailers. With information on over 250 labels, about 60 shopping guides and over 3.000 sustainable products, the platform provides consumers with a wide range of information.
BG	Operational Programme "Innovation and Competitiveness 2014-2020" (OPIC) The program is targeted at SMEs and aims to develop and strengthen management capacity. With the aim to increase the competitiveness (and as a result - the export potential) of Bulgarian SMEs, the program promotes the development, implementation and certification of quality management, environmental protection, eco label, energy management, information security and other international, European and national standards.
CZ	Eco-Label 'Environmentally friendly product' ('Ekologicky setrny vyrobek', ESV) Prior to the introduction of the EU Ecolabel, the Czech Republic had put in placein 1994 a national ecolabelling program with an official registered label 'Environmentally friendly product' ('Ekologicky setrny vyrobek', ESV). The programme is administered by the Czech Environmental Information Agency (CENIA) and since 2004, it targets both product producers and services providers.
DE	Voluntary product label "Blue Angel" (*Blauer Engel*) The label features the sub-category "conserves resources". It aims to help consumers select resource-conserving products and to increase awareness for resource use and related environmental pressures. Standards on Resource Efficiency by the Association of German Engineers (VDI) Aim of the standards is to provide a basis for the methodology and implementation of resource efficiency measures in companies.
DK	Nordic Ecolabel, "the Swan". The Nordic Swan is available in Denmark, Sweden, Norway, Finland and Iceland and was introduced in 1989 (in Denmark 1997). The Swan is well-known in Denmark, with nearly 90% of the population recognising this label.

ES	Green Public Procurement Plan The plan promotes the implementation of environmentally-friendly public procurement practices in the country. It aims to achieve levels of Green Public Procurement between 25% and 100% depending on the product group and implementation phase. The plan includes targets for 8 product groups (construction and maintenance, energy, transport, office equipment, paper and publications, furniture, cleaning products and services, events) based on the priority groups of the EU Commission.
FI	National focal point for green and eco-innovative Public Procurement Established in 2012, the measure is targeted at public procurement entities and suppliers. Its aim is to facilitate the uptake of Green Public Procurement and procurement of clean tech by developing product group specific environmental criteria and guidance in co-creation with businesses and procurement entities, providing a Help Desk for public procurement entities, facilitating market dialogue through supply-demand seminars, and providing information on best practices.
FR	National experimentation for the environmental display on products The measure aimed at improving the information that is available to consumers regarding the environmental impacts of the goods they purchase. This experimentation relied on a call for volunteers, which was open to all kinds of companies, trade associations, etc. in order to create a sample group as broad and varied as possible. The aim was both to push consumers to be better informed when making their purchase decisions, and to allow producers to develop eco-design approaches when designing their products.
HR	Public call for co-financing of different voluntary environmental instruments This instrument aims to encourage the private sector to certify the environmental performance of products, services and management in order to reduce the environmental footprint and stimulate green business. Launched in 2015, the measure was particularly targeted on studies on the conformity of products with the criteria for the EU Ecolabel, implementation of EMAS, implementation of ISO 14001.
HU	'Hungarian National Ecolabel' *(Környezetbarát Termék Ökocímke)* The Ecolabel is a certification that helps consumers to identify products and services with proven reduced environmental impact throughout their whole life cycle. The Ecolabel schemes are voluntary.
IE	"Green Hospitality" The Green Hospitality Programme (GHP) promotes increases in resource efficiency by providing Environmental Certification for any hospitality business with a range of available Eco-labels, in particular the Green Hospitality Award certification. "Green Origin" Launched in 2012. The measure focuses on the food and drink sector, from farms to fork and all across the supply chain. Its ultimate aim is the creation of a significant point of differentiation around the area of sustainability for the Irish food and drinks industry in international markets. Consumers in key markets can then recognise that by buying Irish, they are choosing to value and respect the natural environment.
IT	Green Public Procurement (GPP) programme "Minimum Environmental Criteria (MEC)" The programme boosts prevention, recycling and reuse. For example, the GPP MEC for 'municipal waste management services' stimulates recovery of quality compost, while the GPP MEC for 'Service gardens' promotes the use of compost produced from municipal waste, as fertilizer in the management of public parks.

LT	Eco-Innovations LT The project supports SMEs in implementing processes and organisational eco-innovation which encourages the rational use of resources, ensures the prevention of pollution, as well as applies eco-design measures in production.
MT	ECO-Certification for hotels The certification presents a national standard for ensuring the environmental, socioeconomic, and cultural sustainability of hotels on the Maltese Islands. The scheme was launched by the Malta Tourism Authority in 2002.
PL	Eco-labelling programme EKO (*przyznawania oznakowania ekologicznego EKO*) Initiated in 1998, the program aims to promote products which have a reduced impact on the environment and are resource efficient in the whole product lifecycle.
RO	European Ecolabel programme Several communication actions were led to raise awareness among different sectors about this measure including seminars, media, and brochures.
SE	Good Environmental Choice label (*Bra Miljöval*) The label can also be found in Denmark, Finland and Norway and is not only applied to products, but also to utilities and services, currently marking about 700 products and services. *Miljönär* label by the Swedish waste management and recycling association (*Avfall Sverige*), The label is thought to be the first eco-label promoting reuse and repair. In contrast to other labels, it is not carried by the products, but awarded to businesses.
SK	National ecolabel "Environmentalne vhodny product (EVP)" – "Environmentally-friendly product" Introduced in 1997, the label is awarded to both producers of products and providers of services. In December 2014, 105 products had the right to use the national eco-label.
UK	Better Appliances project Targeted at electrical and electronic products, aim of the project is to provide product design specifications and buying guidelines to address common failures and extend durability. Information covers critical components leading to the main failure points of products, and how these failures can be addressed. This includes both the cost implications and suggestions for how to test for performance.

Annex II-9: List of examples for support measure 9 Measures Supporting EPR Schemes

Table 10: List of Member State examples for Support Measure 9

EU Member States	Measures Supporting EPR Schemes
AT	Battery EPR scheme The scheme was launched in Austria already in 1990 as a voluntary system and being turned into a mandatory system in 2005, transposing the Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators into national law. The system involves 4 competing EPR organisations and a governmental monitoring institution. It covers portable consumer, industrial, and automotive batteries. The system has high cost efficiency. Austria achieved the third highest collection rate for portable batteries among EU-countries in 2014.
BE	Belgian high quality recycled granulates policy Launched in 2010, the policy aims to increase the quality of recycled construction and demolition (C&D) waste in order to promote its reuse, in particular the stony fraction of this waste. It was introduced by the regional government in Flanders and encompasses unified rules for the management of construction and demolition waste, a legal framework to ensure the quality of recycled aggregates to which certification procedures have to oblige, and more recently the introduction of a mandatory demolition inventory for commercial buildings with a surface area bigger than 1,000 m³. The policy targets the C&D industry in Flanders (as supplier of the materials) and the (road) construction industry (as user of the recycled granulates).
BG	In Bulgaria the "Extended producer responsibility" (EPR) principle has been introduced for 6 groups of specific waste streams – packaging waste, end-of-life vehicles (ELV), waste electrical and electronic equipment (WEEE), waste batteries and accumulators, waste oils, waste tires. The last two of these go beyond the requirements of EU-legislation. The Ministry of Environment and Water is also working on the development and introduction of non-legislative measures which could contribute for improving the effectiveness of the implementation of the EPR principle. For example, projects are supported for the development, production and marketing of products that are suitable for multiple use, that are technically durable and that are, after having become waste, suitable for proper and safe recovery and environmentally compatible disposal.
CZ	EPR for packaging waste Objective of the EPR scheme is to finance the selective collection of waste with contributions from producers. Launched in 2001, the measure targets producers and importers of packaging material. Packaging producers pay fees to the system from which the system is financed. There is no state budget support to the scheme.
CY	Extended producer responsibility is implemented both in terms of legislation and through the operation of individual and collective systems for packaging waste, WEEE and batteries. Beyond EU-legislation requirements, there are measures for other waste streams such as plastic, glass and paper other than packaging as well as tyres. Aiming at extending the responsibility of producers to the end-of-life phase of a product and promoting the production and import of products which take into account environmental considerations and final disposal, this measure targets consumers, government and municipalities handling waste nation-wide.

DE	German packaging waste scheme The regulation obliges producers to take back and care for the treatment of packaging that ends up in private households. Businesses are obliged to participate in one of several authorized waste management and recycling systems ('dual system'), i.e. they pay a Producer Responsibility Organisation for the collection, sorting and treatment of their packaging.
DK	Danish Producer Responsibility System for batteries, Waste Electrical and Electronic Equipment (WEEE) and end-of-life vehicles (ELV) The system was implemented due to EU-directives on these matters. It pursues the following objectives: • establish and operate a producer register, • design and administer a simple and non-distortive producer responsibility scheme for the affected players in the market, • avoid waste, • encourage producers to produce environment-friendly products, and • increase reuse, recycling, and other forms of recovery.
EL	In **Greece**, in addition to the EPR schemes which are promoted by EU legislation through the provision of targets (i.e. packaging and packaging waste, end-of-life-vehicles, waste from electronic and electrical equipment and batteries), the Hellenic Recycling Agency has also developed schemes that cover the following waste streams: • Waste Lubrication Oils (WLO) • Used Vehicle Tires (UVT) • Construction Demolition and Excavation Wastes (CDEW) Respectively for WLO, UVT and CDEW the schemes were launched in 2004, 2004 and 2010.
ES	WEEE scheme In Spain, new legislation has been passed to comply with the Directive 2012/19/EU of 4 July of the European Parliament and the Council on waste electrical and electronic equipment (WEEE). Furthermore, the opportunity was taken to improve certain functional aspects of the WEEE management model that were inadequately developed under the earlier legislation (Royal Decree 208/2005 of 25 February, on electrical and electronic equipment and waste management). The new legislation aims to promote EPR for products and clarify its role and function on the management of waste more effectively.
FI	EPR system for waste paper (newspapers, magazines, office paper and other similar paper products) This EPR system goes beyong the requirements of EU-legislation. Its objective is to ensure collection and recycling of waste paper. Launched in 1999, the measure targets manufacturers or importers of paper used for manufacture of paper products and importers of printed paper products.
FR	In France, EPR mechanisms have been put in place as early as in 1992 for household packaging waste and since then, many more schemes (14 in total) have become operational, mainly in the 2000s. Some of them stem from EU directives – sometimes EPR is directly required by the directives (WEEE, batteries, ELV), and sometimes France decided to set up EPR schemes where EU directives did not explicitly ask for it (such as tires, graphic paper). There is also a variety of purely domestic schemes – including tyres, graphic papers, and textiles. Most recent schemes concern items such as furniture, infectious healthcare waste, dispersed hazardous waste.
HR	Extended producer responsibility schemes in the area of waste management

	There are policies in place for end-of-life vehicles (ELV), batteries, waste electrical and electronic equipment, tyres, oils, packaging, as well as for medical waste. The three first mentioned ones are based on the respective EU directives (Directive 2000/53/EC on end-of life vehicles, Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, Directive 2012/19/EU on waste electrical and electronic equipment), while tyres, oils and medical waste go beyond EU legislation.
HU	In Hungary, two instruments are widely used on waste management. One of the regulations is the so-called WEEE coupon, which is used when consumers (households) take back their e-waste to an EEE selling point. The consumers then get a coupon which can be used when the next piece of EEE is purchased. The legal base of the coupon is the Gov. Decree No. 197/2014 (VIII. 1.), which came into force in 2015. The other tool is the environmental product fee, which is applied to a wide range of products including batteries, packaging materials, EEE, tyres, plastic bags, plastics and office paper (see case box below). The taxable entity depends on the product in question, but it can include users, buyers, distributors and manufacturers. The fee is currently regulated by the LXXXV. Act of 2011.
IE	"Prevent and Save" initiative by Repak The measure is led by Repak, an industry funded organization whose aim it is to facilitate and increase packaging recycling. Launched in 2007, the initiative provides free packaging surveys to Repak member companies: A typical survey is conducted by a Packaging Technologist and takes approximately 2-4 hours to complete, depending upon the amount of packaging being used; a confidential report is then compiled and submitted to the member company with recommendations outlining the main target areas for Packaging Optimisation.
IT	CONAI System The national organisation CONAI is the consortium consisting of packaging producers and users managing the recycling of packaging waste in Italy. CONAI was established by the Ronchi Decree in 1997 (Legislative Decree n. 22 of 5 February 1997). Companies who register to the CONAI system are paying a registration fee and are also participating to the "contributo ambientale" (environmental contribution) which varies from 4 to 140 euros per tonne depending on the material and allows to split the cost of the differentiated waste collection among packaging producers, packaging users and municipalities. The main objectives are: • ensuring environmental protection via cooperation between all participants involved in waste management, • applying the 'polluter pays' and 'shared responsibility' principles, • reaching recycling and recovery targets for waste packaging.
LT	The Product or Packaging Waste Management Programme (Gaminių ar pakuotės atliekų tvarkymo programa) The programme was launched in 2004 and it subsidises the development and operation of waste management systems for electrical and electronic equipment, taxable products and packaging waste. It is designed to assist private entities and municipalities nationwide. Financial support derives from the Lithuanian Environmental Investment Fund.
LU	National initiative SuperDrecksKëscht® The initiative started as early as in 1985. The main objective of the SuperDrecksKëscht® is to use and implement the latest know-how, in order to realise the most effective sustainable resources management in the ecological and economic sense. All relevant stakeholders are targeted: administrations and in particular municipalities, the private sector, the general public (consumers, children, schools etc.)
LV	Exemption from payment of natural resources tax for environmentally hazardous goods, vehicles, and packaging This measure is quite unique in its application, as it uses tax exemption incentives in order to promote extended responsibility of produc-

	ers/importers. Companies engaged in the manufacture, import or trade, receive exemption from payment of natural resources tax (NRT) on vehicles, on packaging, disposable tableware and accessories, as well as on environmentally hazardous goods, including electrical appliances. The system's advantage lies in the fact that the waste manager upon receiving an exemption from payment of the natural resources tax has the obligation to collect and recover a certain amount of environmentally hazardous products, vehicles and packaging put on the market after their use. The objective of this measure is to promote the efficient and economic use of natural resources, limit environmental pollution as well as promote new and environmentally friendly technologies in order to support sustainable economic development and to ensure financial sustainability of environmental protection measures.
RO	Eco-Rom Ambalaje Eco-Rom Ambalaje is a pioneer organization established by the industry in order to develop an Integrated Management System in order to implement and monitor the objectives of Romanian packaging waste legislation. Two possibilities were given to Romanian companies who place household packaging on the market: be part of the Integrated Management System or have their own waste management system. Launched in 2003, the organization pursues the following objectives: • Establish an interface between public interest and industry in observing the commitments to reach packaging waste recovery and recycling objectives, • Increase awareness of the importance of separate collection of waste packaging among the population, • Implement and develop a system of separate collection of waste packaging that concern both economic agents and population, and • Contribute to the Romanian waste market by facilitating a mix of effective solutions, to moderate dialogues between its clients.
SE	Ordinances on producer responsibility are in place in Sweden for the waste management of cars, batteries, electrical and electronic products, packaging, paper and tyres. The three first mentioned ones are based on the respective EU directives (Directive 2000/53/EC on end-of life vehicles, Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, Directive 2012/19/EU on waste electrical and electronic equipment). As Sweden is leading in the EU on Waste Electrical and Electronic Equipment (WEEE) collection and treatment, its corresponding EPR scheme is of particular interest and presented in the case box below.
SI	LIFE + project "Slovenia WEEE campaign – Raising awareness of the importance of environmentally sound management of WEEE among identified target groups in Slovenia" (LIFE10 INF/SI/000139) This project ran from October 2011 to September 2013 and was co-financed by the Ministry of the Environment and Spatial Planning with 116.793 EUR. It can be identified partly as an indirect non-regulatory measure co-financing LIFE+ projects linked with EPR. According to project information provided on the website (see URL http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4022), through the various project activities such as • awareness campaigns in schools, in Slovenian municipalities and on the Internet • didactic material produced with the assistance of WEEE experts for schools and local communities about proper WEEE management • open door days at local and regional level, held in cooperation with actors responsible for collection and treatment of e-waste (e.g. local authorities, producers of EEE, major retailers and public bodies) more than 1,000 tons of WEEE have been collected, and recycled or properly disposed of and the collection rates increased annually by more than 10% during project duration (increase of 8.5% in the first and 11.7% for the second year were recorded).

SK	Slovakia introduced EPR schemes notably for packaging materials in 2002. There is also EPR systems in place for waste electrical and electronic equipment (WEEE) (2004), end-of-life vehicles (2002), batteries and accumulators (BaA) (2014).

Annex II-10: List of examples for support measure 10 Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Table 11: List of Member State examples for Support Measure 10

EU Member States	Any other non-legislative support measures promoting a Circular Economy and resource efficiency
CZ	Support for projects for waste management and for increasing the use of secondary resources The Czech Republic co-funds European funding provided under the Cohesion Fund's and the European Regional Development Fund's Operational Programme Environment 2007-2013 and 2014-2020 to support projects in waste management and increase the use of secondary resources. Under the priority axis 4 of the Operational Programme Environment 2007-2013, 612,000,000 EUR were used to fund measures to reduce production of waste, waste collection and separation and higher use of secondary resources. A total of 1,776 projects on waste management were supported by the Programme.
DE	WIRD project on Re-use and repair centres in Germany (*Wiederverwendungs-und Reparaturzentren in Deutschland*) Objective of the project is the development of an umbrella brand for the re-use and repair centres in Germany. A further aim is to create cooperation networks including other actors, in particular the municipalities. The project is available nation-wide, was launched in April 2015 and ends in March 2017 and.
DK	"Ready to use" inspection campaign material on waste prevention for environmental inspection officers As part of their environmental inspection activities, Danish environmental authorities carry out two inspection campaigns per year in their respective municipalities. It is up to the authorities to choose the environmental theme of the campaign. By providing the necessary material for a campaign on waste prevention focused on SMEs, authorities can learn more about the subject, save some campaign-planning time, and finally by carrying out the campaign, initiate awareness on waste prevention, inspire and encourage companies to take initiatives towards waste prevention and resource optimization. Cross-institutional Task Force for Increased Resource Efficiency The task force has been established between the Ministry of the Environment and the Ministry of Business and Growth and aims to identify and overcome regulatory barriers for enterprises to increasing their resource-efficiency. Moreover, the Task Force is to promote more efficient and up-to-date regulation and propose simplification of rules and regulations. The work will be based on studies of the experiences of companies, which will look into material flows, value-chains and regulatory regimes. For each identified barrier, a solution team will be established to find the most effective way it can be overcome. The Task Force was established in 2014 and will be active until the end of 2017.
EE	Relevant additional measures related to resource efficiency in business mainly refer to the European Union Structural Assistance to Estonia and the Programming period 2014-2020. They include: • 4.3.1 Investment in the best possible resource-efficient technologies; resource management systems and supporting IT applications supporting

	• 4.3.5 Support for waste recycling • 4.3.6 Support of preparation for re-use of waste
ES	Spanish Green Growth Group The Spanish Green Growth Group is a solid platform for public-private partnerships to advance together to pave the way towards a low carbon and circular economy. This platform aims to increase the participation of companies, share information, improve collaboration between business and government against climate change, create growths and employment opportunities, and support the Spanish presence at international summits. More than 30 large companies are members of the Spanish Green Growth Group.
FI	National concept 'Society's Commitment to Sustainability' The concept is included in Finland's national strategy for sustainable development "Towards sustainable choices - A nationally and globally sustainable Finland". Through the commitment, the government and the administration, in collaboration with various actors and stakeholders, pledge to promote sustainable development in all their work and operations. The commitment includes eight objectives, which aim at making the vision on sustainable Finland 2050 a reality. One of the objectives is "An economy that is resource-wise". Altogether 81 organizations have made concrete commitments which aim at improving resource-efficiency, as well as create business models that boost the productivity of natural resources.
FR	'Waste funds' The 'Waste Funds' are is managed by the ADEME and aim to to support Circular Economy in France by promoting studies, waste diagnosis, and improving resource efficiency. The funds can provide 140 million euros each year – 40% of which being earmarked for companies.
IE	Free online reuse service 'Free Trade Ireland' The free online service allows its users to pass on unwanted items for free – ranging from beds and furniture, through electronic goods, to garden equipment and more. Its aim is to facilitate the reuse of household and business items throughout Ireland, and in doing so, to promote reuse and waste prevention. The service is free to use and delivers real financial savings to all its users, as well as providing benefits to the environment and contributing to the national re-use economy. After four successful years' operating in Dublin, FreeTradeIreland.ie was launched nationally in July 2010.
LT	The 'Green Industry Innovation' measure Launched nationwide in 2012, the measure fosters international cooperation and bilateral matchmaking of companies for knowledge transfer and implementation in Lithuania and Norway. Its objectives are to increase the competitiveness of environmental friendly companies, by including green solutions into existing traditional manufacturing enterprises, through green innovation and entrepreneurship. Supported activities include for example new environmental technology creation, development or introduction into the market, improvement of existing processes and innovative environmental technology acquisition and deployment.
LU	Study on Circular Economy in Luxembourg The Ministry of Economy of Luxembourg supported an in-depth study in the context of a Circular Economy, showing the potential for Luxembourg as a knowledge capital and testing ground for circular economy. The study was presented by the Ministry of Economy in February 2015. Among other components, the study presents the current situation of the Circular Economy in Luxembourg, and estimates that circularity:

	• already supports 7,000 – 15,000 jobs • is worth 1 billion EUR annually in Luxembourg • involves large manufacturers such as ArcelorMittal, Eurofoil, Guardian Industries, Norsk, Tarkett, Tontarelli • is already concretely implemented in building developments like Ecoparc Windhof, by retailers such as Oikopolis, Pall Center and Cactus • and that Luxembourg leads Europe in automotive leasing, uses building equipment leasing and is starting car sharing. The study proposes an organisational framework for helping public authorities in Luxembourg and the already existing EcoInnovation Cluster to further harness the potential of circular economy in Luxembourg.
PL	Polish Product of the Future (Polski Produkt Przyszłości) The project consists of annual award competitions and aims at promotion and dissemination of innovative products, with a special focus on their environmental impact and energy performance. It was launched in 1997 and is still active; in 2015 the 17th edition of 'Polish product of the future' has been organised. Authors of the winning products are supported in their innovation promotion and are granted additional points in the selection procedure for EU funding under the operational programme 'Innovative Economy'.The measure targets research units, the business sector, and their consortia. The measure is organised by the Polish Agency for Enterprise Development, and has nationwide outreach.
RO	'QUIB' project Within the 'QUIB' project, workshops are designed and orchestrated that bring together designers and small producers in order to assist them in the development of products that promote the circular design of products and the use of innovative materials. The first 'cradle-to-cradle' workshop was held in 2015. The project is conducted by an association promoting CSR among companies, financed by the Romanian Government and the European Social Fund.
UK	Resource Efficiency Clubs Resource Efficiency Clubs were developed in the mid-1990s (when they were known as Waste Minimisation Clubs), involving small groups of companies in a specific geographical area. Companies were encouraged to develop programmes to improve resource efficiency, primarily through training, often utilizing an external expert over a one to two year period. Generally clubs targeted either a geographical location with a central meeting point, or a specific sector within a larger geographical area. Each company member would receive resource efficiency advice through club meetings, networking opportunities and events, in addition to more tailored, one-to-one advice with the club's leader or technical advisor.

Annex III: Country reports for each Member State

Country Report Austria

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Austria, two support measures are widely used (providing targeted resource efficiency advice to companies via the ÖKOPROFIT programme; measures supporting EPR for batteries), seven support measures are used a little (ranging from support for industrial symbiosis through establishment of a Recycling Network in Styria, to improving financing via the Umweltförderung im Inland (UFI) for the area resource management, to the voluntary business initiative klimaaktiv, to non-legal standards on the business platform Efficient Consumer Response (ECR Austria)), and for one support measure there is no national policy in place (see Figure 1 below).

For brevity, in the following only selected support measures and examples are presented.

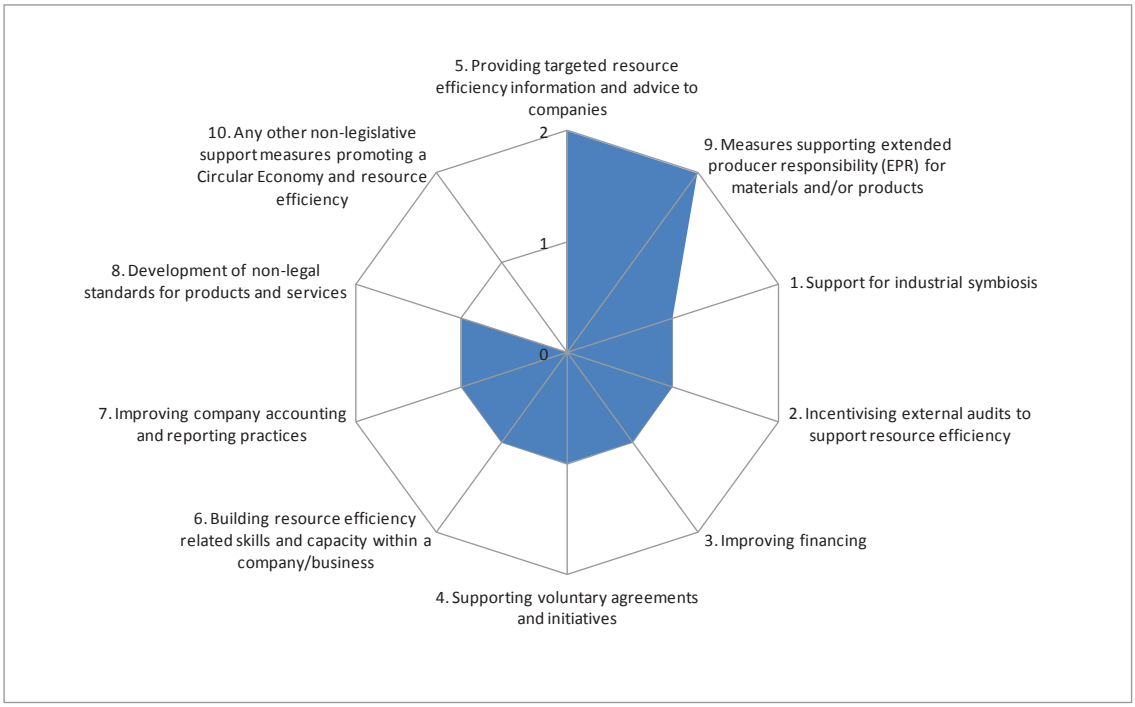

Figure 1: Level of application of Resource Efficiency measures in Austria
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is a wide use of this instrument in Austria, with the ÖKOPROFIT programme being the most prominent example (see case box below).

Case box 1: ÖKOPROFIT programme

Good practice example: ÖKOPROFIT programme

Objective(s):

- Implementation of environmental measures in companies
- Reduce industrial emissions (waste water, exhaust air, noise and waste)
- Decrease the operating costs for companies
- Strengthen the partnerships between public agencies, companies and experts

When the measure was launched: in 1991 (ongoing)

Target sector/beneficiaries: all sectors

How widely/where the support measure is available: The measure was initiated in Graz. By now, ÖKOPROFIT has been transferred to other cities and regions in Austria, e.g. Vorarlberg, Vienna, Carinthia and Styria.

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

By 2011, 150 companies participated in the city of Graz and implemented 6,600 environmental measures (Umwelt GRAZ 2011).

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

By 2011, 177,331 tons of waste could be saved in Graz (Umwelt GRAZ 2011).

The ÖKOPROFIT concept was successfully transferred to other countries, e.g. Germany, China and Uganda.

Lessons from application of the tool

Success factors identified for the successful application of this support measure encompass:

- The programme being a cooperation between the regional industry, public administration and external experts;
- A number of companies (10-15) participating in common workshops, which include expert presentations, practical examples, interactive work and exchange of experiences.
- Individual consultation by experts supporting the companies in the implementation phase;
- Company specific measures being formulated and saving targets being controlled via (environmental) performance indicators.

Companies who successfully participate receive the label "ÖKOPROFIT company" at the end of the programme and join the "ÖKOPROFIT Club", a network of companies to continue improving their energy and resource efficiency. ÖKOPROFIT serves well as preparation for the EMAS certification.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

This measure is widely used in Austria. One relevant example is the battery EPR scheme, launched in Austria already in 1990 as a voluntary system and being turned into a mandatory system in 2005,

transposing the Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators into national law.

The system applies nation-wide and involves 4 competing EPR organisations and a governmental monitoring institution. The system covers portable consumer, industrial, and automotive batteries. The system has high cost efficiency.

Austria achieved the third highest collection rate for portable batteries among EU-countries in 2014.

Lessons from application of the tool

The long history of the battery collection scheme, which started in 1990 as a voluntary system helped setting up appropriate collection systems and routines. Additionally, the battery scheme and the WEEE EPR scheme are strongly interlinked so that the collection of waste batteries and accumulators from WEEE is improved.

Support for industrial symbiosis

Level of use of the instrument

There is a little use measures supporting industrial symbiosis in Austria. The establishment of a Recycling Network in Styria serves as one key example (see case box below). The project investigated the material and energy flows of 31 companies in Upper Styria and identified possibilities for further intercompany use of these flows. To support the cooperation of companies, an Online "Abfallbörse" (online market place for waste exchange) has been established. The programme was launched in the late 1990ies and is still running, but has been modified (see under lessons from application of the tool below).

Case box 2: Establishment of a Recycling Network in Styria

Good practice example: Recycling Network in Styria	
	Objective(s): • Reduction of wastes and establishment of a circular economy • Give incentives to companies for a better waste management • Increase cooperation between regional companies and find new recycling solutions *When the measure was launched:* 1996 – ongoing *Target sector/beneficiaries:* all sectors for 3 major waste streams in Austria *How widely/where the support measure is available:* The platform is open for all regions and backed by 7 regions and 2 ministries
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): 150 companies participate in the Resource and Energy Efficiency Network of Upper Austria

Lessons from application of the tool

Among the success factors identified are an initial analysis of residues of individual companies that allow for improved match-making between supply and demand of waste as (secondary) input material. The establishment of an online waste exchange ("Abfallbörse") was seen as a crucial factor for the success. The online marketplace has split up into the waste streams: glass, rubber and plastics, and construction waste. The construction waste platform is the most successful and is financed by 7 regions and 2 ministries as well as of the chamber of commerce.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is a little use of this support measure in Austria through Regional Consultancy Programmes (see case box below). To leverage the idea of resource efficiency an own consultancy programme was

started by the ministry of environment. Specially trained consultants offer these 3 days audits in the framework of the regional consultancy programmes. These programmes are subsidised by regions and federal ministry. These regional programmes have different appearance but contain in substance the same elements. The first of these programmes was the Ökobusinessplan Wien[1]. For each sector and company size tailored cleaner production auditing is provided. The offer encompasses professional, financially supported consultation, assistance with the implementation of measures, legal security, networking and public relations work.

Case box 3: Regional Consultancy Programmes in Styria

Good practice example: Regional Consultancy Programmes

Objective(s):

- Decrease the operating costs in the areas waste avoidance, waste management, saving of energy and climate protection
- Lower the pressures on the environment

When the measure was launched: in 1998 Ökobusinessplan started, federal subsidies for this kind of programmes are provided since 2001

Target sector/beneficiaries: *all sectors*

How widely/where the support measure is available: available for companies, the regional programmes cover the respective region

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): in 2014 the regional programmes provided subsidised audits to 1.943 enterprises. The federal contribution was more than 1 million EUR, the total value of the consultancies approximately 4.5 million EUR.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

After the audits real investee measures were implemented and these measures led to a reduction of 84,358 t CO_2 annually in the enterprises

Lessons from application of the tool

The regional consultancy programmes are offering best practise stories of the different programmes, which are easily available online[2]. Concerning ÖKOPROFIT: The program encompasses offers for different company sizes and sectors, e.g. module "ÖkoBonus" is targeted at companies with high need for energy and resources and with up to 50 employees; the module "ÖKOPROFIT" is targeted at companies with 80 to 120 employees. This allows interested business to quickly find and make use of relevant stories and tailor-made advice.

Improving financing

Level of use of the instrument

Improving financing of companies to improve resource efficiency is used a little as support measure in Austria. The main example is the Umweltförderung im Inland (UFI) for the area resource management (see case box below).

[1] Wien AT (n.d). Der ÖkoBusinessPlan Wien. URL: https://www.wien.gv.at/umweltschutz/oekobusiness/, accessed 14 September, 2015

[2] Available at http://www.publicconsulting.at/uploads/regionalprogramme_digitaleversion_060313.pdf.

Case box 4: Umweltförderung im Inland (UFI) for the area resource management

Good practice example: Umweltförderung im Inland (UFI) for the area resource management

The programme supports investments in resource efficiency measures. For investments in production processes, up to 30% of the investment costs can be covered and for investments in innovative services, up to 20% of overall costs (e.g. Chemical Leasing).

Objective(s):

- Improve resource efficiency
- Support the voluntary implementation of resource efficiency measures
- Switch to biobased resources and materials

When the measure was launched: *2010*

Target sector/beneficiaries: all sectors

Allocated budget/resources: maximum subsidy of 500.000 EUR per project

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

In 2014 investments in resource efficiency were financed by the environmental ministry with 2 million EUR in 7 enterprises and leveraged investments of 12 million EUR. Besides this material resource projects also energy efficiency is part of this funding instrument. In 2014 more than 1,200 projects were subsidized with approximately 30 million EUR and investments of 304 million EUR.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

According to an external evaluation in the years 2011-2013 20 projects were realized. They had a big variety of measures and effects so the measured effects are summarized as 27,600 t CO_2 and 113,590 t material reduction. For these 20 projects subsidies of 2.7 million EUR leveraged investments in the enterprises of 16.1 million EUR.

Lessons from application of the tool

- The programme supports investments in measures which significantly reduce resource use within existing production processes while maintaining the functionality of the product.
- The programme sets an incentive for the voluntary implementation of environment protection measures which do not pay off within reasonable periods of time

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is a little use of this support measure in Austria, the most prominent examples being the voluntary initiative klima**aktiv** (see case box below).

Case box 5: voluntary initiative klimaaktiv

Good practice example: voluntary initiative klimaaktiv

Objective(s): klima**aktiv** is the initiative for active climate protection launched in the year 2004 by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. klima**aktiv** is part of the Austrian climate strategy. The program fosters a competitive low-carbon economy based on efficient and sustainable use of resources, the protection of the environment and the establishment of innovative green technologies and production practises in high quality. klima**aktiv** follows an innovative governance idea for a market transformation towards green markets, with the aim to raise the share of renewables and of energy efficient products and services. Essential for the market transformation approach is an active and comprehensive inclusion of all relevant market players and stakeholders.

The 5 core activities of klima**aktiv** are:

1. Training of klima:aktiv professionals
2. Setting standards and safeguarding quality
3. Providing information and raising awareness
4. Providing advice and support
5. Activating stakeholder and networking with partners

klima**aktiv** uses its extensive networks to promote the building of social capital for change in the direction of a sustainable society. Within the four thematic fields (1) building&renovation, (2) energy saving, (3) renewable energies and (4) mobility klima**aktiv** helps clarify new solutions, establishes standards of quality, deepens the knowledge and competence of the key players and advises companies, local authorities and private households.

Resource efficiency is directly addressed in the klima**aktiv** program Nawaro Markt. In the other programs energy efficient and sustainable products and services are the main focus.

When the measure was launched: 2004

Target sector/beneficiaries: companies, local authorities and private households.

How widely/where the support measure is available: *nation-wide*

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

*190 Austrian companies and organisations support klima**aktiv** by being signed klimaaktiv partners*

11 large-scale enterprises are signed klimaaktiv pakt2020 partners, who have committed themselves to reach the 2020-goals in their own company.

1.6 Mio website hits in 2014

*35,000 persons subscribed various klima**aktiv** newsletters.*

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

*klima**aktiv** has the main goal to reduce CO_2-emissions. Resource efficiency is not the main focus.*

Lessons from application of the tool

The initiative is a long term program: over the last eleven years, klima**aktiv** has continuously built a large network of active people and companies: 12,000 people attended further education, 12,500 companies have implemented measures to mitigate CO_2 advised by klima**aktiv**.

Furthermore, klima**aktiv** strengthens and complements existing initiatives, it has established standardized tools and trainings based on high quality standards and the klima**aktiv** standards are used to improve the effectiveness of various issued grants.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this support measure in Austria. There are several examples:

1. The **Austrian Eco-Label** encompasses several criteria for enhancing resource efficiency of products and services. It is the widest known environmental quality mark amongst Austrian consumers. Currently, the Austrian Ecolabel has 900 licensees and 5.5 Mio. website hits per year.

2. The **initiative 'Bewusst Kaufen" ("Buy Aware")** was launched in 2010: the goal is to raise consumer awareness and thus to enhance the sale of sustainable and resource – efficient products, in cooperation with retailers. With information on over 250 labels, about 60 shopping guides and over 3.000 sustainable products, the platform provides consumers with a wide range of information. The online database is a resource that enables participating retailers and manufacturers to present a selection of sustainable products. The website provides extensive information about each product as well as exact details about its sustainable added value. An online database with detailed descriptions of over 250 labels helps consumers to identify the sustainable products that can be bought in Austria. A checklist clearly explains which sustainability criteria each label meets. With the latest sustainability topics, shopping guides and online databases for labels and products, the online platform offers a variety of tools that assist in eco-social shopping.

3. klima**aktiv** topprodukte. **topprodukte.at** is a neutral and vendor independent consumer information service by klima**aktiv**, the climate protection initiative from the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. The web-based service informs consumers and procurers about the most energy efficient products available on the Austrian market. topprodukte.at covers more than 3,000 products in over 30 product categories including lighting, household appliances, consumer electronics, IT, heating and air-conditioning. The products presented are chosen on the basis of manufacturer's product data declared according to EU regulations and standards.

The web-based information service is supplemented by additional consumer information tools including for example energy and cost calculators, brochures with purchasing guidelines and an app-based purchasing guide. Topprodukte.at cooperates with major retailers from the consumer electronics sector including Mediamarkt and Expert and is partner of an international network of similar information services (Euro-Top Ten). klima**aktiv** topprodukte has 750,000 website hits per year.

4. In 2009, a set of sustainability indicators for the business platform **Efficient Consumer Response (ECR Austria)** was launched.

Lessons from application of the tool

In a two-year process, ECR Austria developed 5 indicators, which encompass climate gas emissions, water use, land use and the use of renewable as well as non-renewable resources. The indicators are meant to serve as product labels for all Austrian products. The Ministry of Agriculture, Forestry, Environment and Water Management supported the presentation of the indicators at an international workshop in Vienna.

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Country Report Belgium

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Belgium (Flemish Region), one support measure (measures supporting extended producer responsibility (EPR) for materials and/or products) is widely used, four of the ten support measures are used a little (ranging from the industrial symbiosis programme "Factory of the Future" to support for external audits through Materials Scan (Materialenscan) and providing targeted resource efficiency information and advice to companies through the programme "SMEs find VITO!"), and for the remaining support measures there is no national policy in place (see Figure 2 below).

For brevity, in the following only selected support measures and examples are presented.

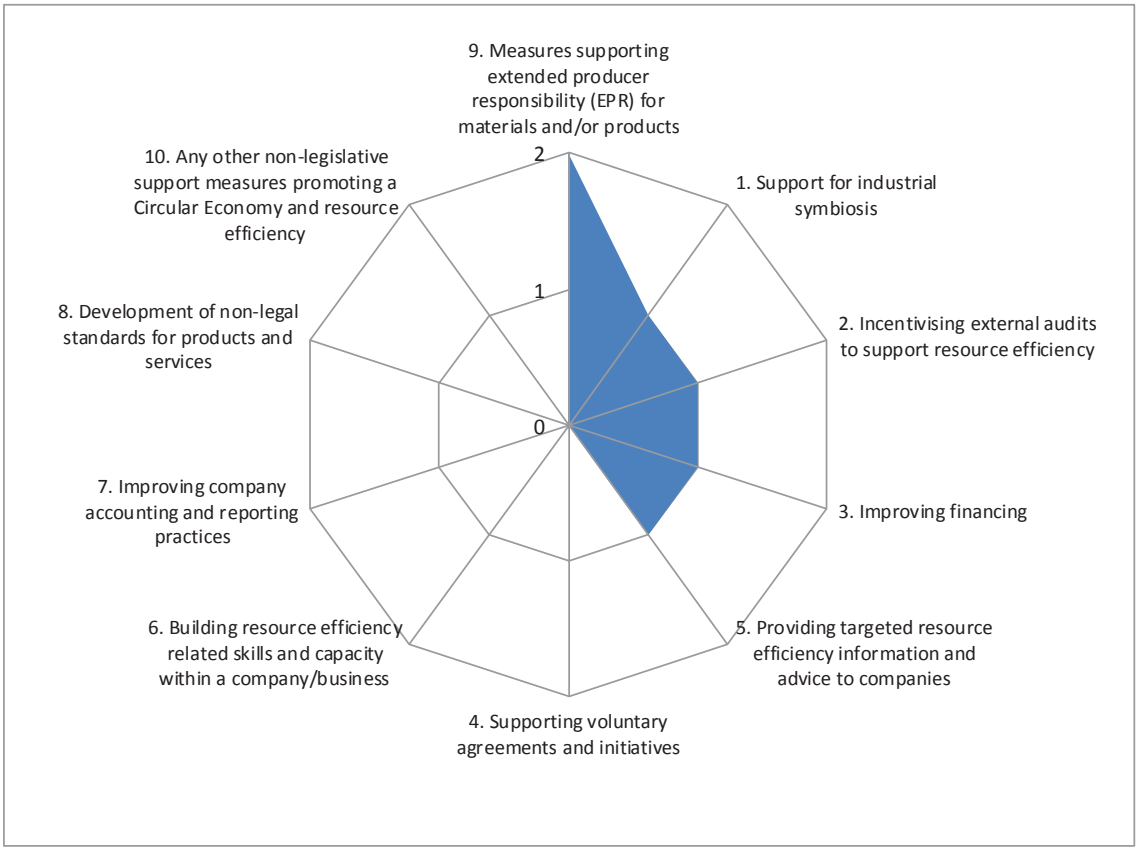

Figure 2: Level of application of Resource Efficiency measures in Belgium (Flemish Region)
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

The high quality recycled granulates policy of the Flemish government aims for high quality recycling and reusing of construction and demolition waste, in particular the stony fraction of this waste. On 20

April 2015 a new plan was launched with a view to further increase the recycling and reuse of the stony fraction, to significantly increase the recycling and reuse of non-stony fractions such as plaster and roof bitumen, and to decrease the environmental and materials impact of construction.

Some elements of this policy have already existed for about 25 years. In the 1990s certificates for recycled granulates were introduced. In the following years the Flemish waste management agency (OVAM) outlined the framework and the objectives of the policy through successive implementation plans for the management of construction and demolition (C&D) waste. In recent years diverse initiatives have been taken to guarantee the quality of the recycled granulates, such as the introduction of unified rules for the management, recycling and testing of recycled granulates or the introduction of a mandatory demolition inventory for commercial buildings with a surface bigger than 1,000 m^3.

Already in the first year (2011) a total of 12.6 million tonnes of recycled aggregates was certified according to the regulation (De Groene Zaak. 2015). Currently, 95% of the stony fraction of this type waste is being recycled and reused as granulates in the road construction industry or for new applications in the construction industry. Almost 14 million tonnes of recycled and certified granulates originating from this waste have been produced in Flanders in 2013 and have been reintroduced in the materials cycle. The target sector/beneficiaries of the measure are the C&D industry in Flanders (as supplier of the materials) and the (road) construction industry (as user of the recycled granulates).

Lessons from application of the tool

The approach in Flanders was very effective because it was combined with another governmental action: the creation of a market for recycled materials through product specifications, standards and regulation. In addition, the government introduced economic incentives, such as higher rates for dumping debris at landfills and imposed several restrictions on the dumping of unsorted construction and demolition waste. These measures are all focused on optimising recycling rates in order to lower the pressure on natural resources, while the management system and regulations ensure high quality recycled materials.

Support for industrial symbiosis

Level of use of the instrument

Within the instrument “Factory of the Future”, which fits within the Flemish government’s New Industrial Policy, the government subsidises projects which enable industrial transformation (Agentschap Ondernemen 2013). Thematically varied project calls are being launched within this measure (e.g. roadmaps for new industrial policy, clusters for industrial development). For example, a 2014 project call specifically aimed to encourage consortia of companies, with the support of industry federations and knowledge centres, to establish industrial clusters around common industrial opportunities, with the ultimate aim of creating new industrial activities.

The initiative has many interfaces with sustainable material management, e.g. new product-service combinations, closing loops, eco-design, and resource efficiency. Since mid-2012, the Factory of the Future initiative has supported the set-up of 52 projects in the areas of manufacturing, chemicals, construction/building, textiles and wood, nutrition, and cross-sectoral projects.

80% of eligible project costs are funded (for selected projects). The maximum amount varies among calls: between 200,000 and 500,000 EUR. The Flemish government has for instance provided 1.5 million EUR in 2014 for an open project call in relation to clusters for industrial development (Vlaamse Regering 2014).

Lessons from application of the tool

No specific lessons from the application of the tool were identified or highlighted by the contacted experts.

Incentivising external audits to support resource efficiency

Level of use of the instrument

The Materials Scan (Materialenscan)[3] is an audit that encourages companies to pursue a more sustainable materials management. The scan report identifies the opportunities for the business to achieve a sustainable materials management. It identifies possible partners and funding instruments. The instrument targets manufacturing companies with up to 500 employees.

Lessons from application of the tool

No specific lessons from the application of the tool were identified or highlighted by the contacted experts.

Improving financing

Level of use of the instrument

There is some use of instruments to improve financing in the Flemish Region.

One interesting example identified by the Department of Environment, Nature and Energy of the Flemish Government is the Ecologiepremie plus (EP-PLUS) (Ecology premium plus) measure. Under this measure, financial contributions are given to companies in the Flemish Region that will undertake ecological investments, i.e. investments related to the environment or energy, and more specifically investments in environmental technologies, energy saving technologies, or combined heat and power (CHP) and renewable energy. In this way the EP-PLUS measure aims to encourage Flemish enterprises to make their production processes more environmentally friendly and more energy efficient.

EP-PLUS is open to all companies located in the Flemish Region in a wide range of sectors, including extraction, manufacturing, textiles, repairs, renting and leasing of equipment, construction, wholesale and retail. Companies with one or more large energy-intensive operations may only obtain EP-PLUS support if the sites where the ecological investment will be carried have joined – and compy with – a Flemish energy policy agreement (primary energy consumption ≥ 0.1 PJ).

Until February 2011, the programme was run through a system of calls, to which companies would apply. Since then, a company that meets the criteria (including budgetary capacity), can apply for financial support directly through a dedicated website (www.agentschapondernemen.be/themas/ecologiepremie).

The EP-PLUS financing is awarded in the form of a grant, with the amount determined by various factors including the ecological 'rating' of the technology in question (i.e. more efficient technologies enjoy a higher subsidy rate), the company size, and the additional cost of the technology in question and its essential components. The subsidy can be supplemented by a 'subsidy bonus' of between 3-10% of the subsidy value, for enterprises that undergo an energy, environmental or eco-efficiency audit or have a valid environmental certificate or environmental management system. The total grant awarded to a company may not exceed 1 million EUR over a period of three years. The financing is provided in three instalments, at the start, during, and at the end of the investment.

In addition to the EP-PLUS scheme, the Strategische Ecologiesteun (STRES) (Strategic Ecological Support) programme was launched on 20 December 2012. This offers finance for larger company-specific investment projects in the fields of environment and energy.

Lessons from application of the tool

No specific lessons from the application of the tool were identified or highlighted by the contacted experts.

[3] www.materialen.scan

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

VITO[4] has a special programme, called "SMEs find VITO!"[5], that provides Flemish SMEs with low threshold support in relation to sustainable innovation. The programme is financially supported by the Flemish government (and the EU EFRD). Through it, SMEs can receive financial contributions to support feasibility studies, laboratory-scale testing, pilot tests or in-house company trials related to the environment or energy. The support programme includes projects for individual SMEs, for consortia of companies and for municipalities and business parks.

The financial contribution from the Flemish government (and EFRD) may cover up to 66% of research costs, on average 20,000 to 25,000 EUR per project.

In 2014 VITO as a research partner supported 77 SMEs in their sustainable innovation plans. In total, VITO offered support to 89 projects concerning innovative and sustainable products and processes.[6] Despite the financial contribution from the Flemish government, the instrument appears to still be relatively unknown among SMEs.

In addition, the "Factory of the Future" instrument outlined in section 3 above acts in some cases as a support measure for providing targeted resource efficiency information and advice to companies, e.g. the "Sustech" project was funded through this measure. This project, which ran from February 2013 until January 2015, aimed at supporting companies from the textile, wood and furniture industry to achieve a closed circular production model.

Lessons from application of the tool

A success factor is that administrative affairs are taken care by VITO and not by the SME. It is VITO that applies for the financial contribution from the Flemish government, which helps to cut the administrative burden on SMEs.

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[5] In May 2015, Plan C, the Flemish transition network for sustainable materials management, organised a master class on circular business. This can be considered as another support measure.[7]

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Country Report Bulgaria

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Bulgaria, three of the ten support measures are widely used (improving financing, buildes resource efficiency related skills, measures supporting EPR), four are used a little (ranging from support for industrial symbiosis to incentivising external audits, supporting voluntary agreements and the development of non-legal standards), and for four support measures there is no national policy in place (see Figure 3 below).

There are national policies at place (National Action Plan for Green Public Procurement 2012-2014, National Strategy for small and medium enterprises for the period 2014-2020, Energy Efficiency Act, Public Procurement Act) and they set out series of measures for resource efficiency, but the implementation of those measures is widely funded / co funded by the European Structural Funds, and the Competitiveness and Innovation Framework Programme (CIP). Only 15% of the overall budget is provided by the state. This is a clear indicator that Bulgaria needs EU funding in order to initiate activities in this sector.

For brevity, in the following only selected support measures and examples are presented.

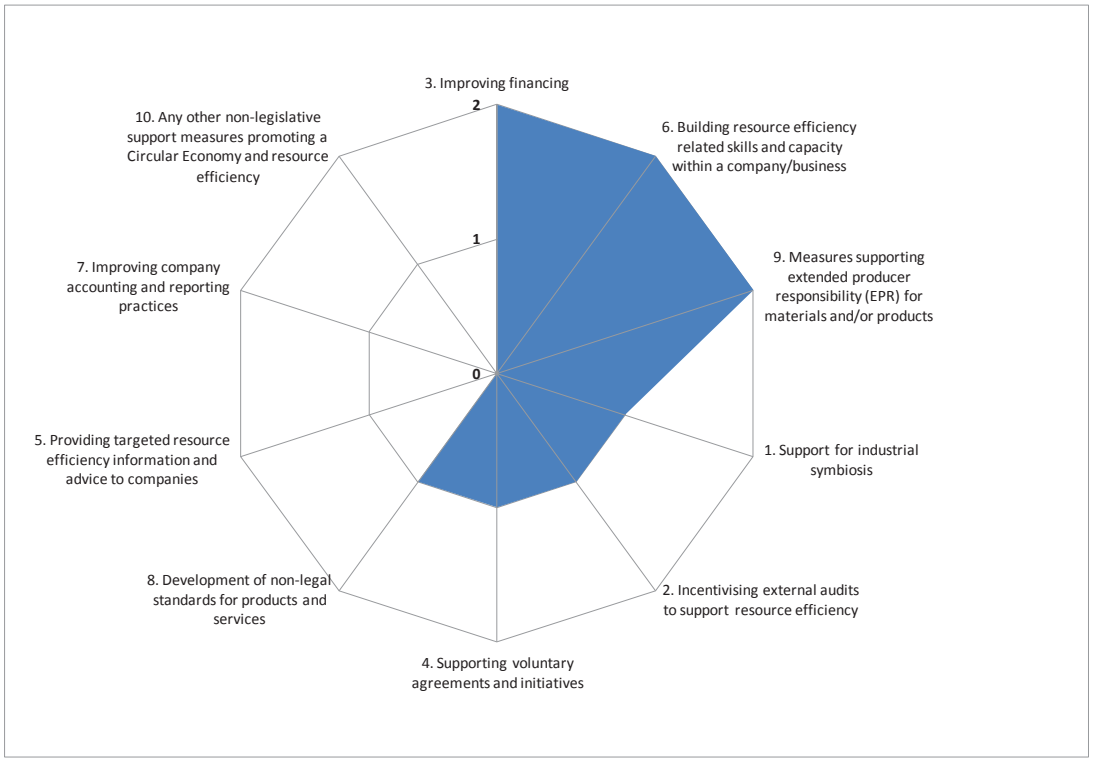

Figure 3: Level of application of Resource Efficiency measures in Bulgaria
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving financing

Level of use of the instrument

There is wide use of this support measure in Bulgaria, a prominent example being the National Innovation Fund (see case box below).

Case box 6: National Innovation Fund

Good practice example: National Innovation Fund	
	Objective(s): The overall goal of the National Innovation Fund is to support research and development activities, technology innovations for increasing the economic efficiency of the SMEs. The promoting of resource efficiency in SMEs (e.g. development of new technology for metal recycling, construction of biogas plants for organic waste recycling) is among its objectives.[1] *When the measure was launched:* The Council of Ministers has adopted the Innovation Strategy of the Republic of Bulgaria by Decision No 723 of 8 September 2004 and therefore, and the National Innovation Fund was established in 2005. *Target sector/beneficiaries:* Targeted at all sectors. *Allocated budget/resources:* The budget is adjusted annually. The sum of the annual budgets for the period: 2005 – 2012 was 27,098,470 EUR.[2] The overall budget for the National Innovation Fund for 2014 amounts 10,000,000 BGN (5,112,997 EUR)[7], of which 99% have already been granted to SMEs in Bulgaria.[3] *How widely/where the support measure is available:* nation-wide
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In 2014, 52 projects have been approved.[4]

Lessons from application of the tool

According to the Executive Agency for Promotion of Small and Medium Enterprises the absorption of the National Innovation Fund (NIF) funds in 2013 has increased. Overall 82% of the budget that has been approved is already used, which is above the average of the previous sessions, where only about half of the funds were absorbed.[5] Just for comparison, Bulgarian EU fund absorption is still very low: According to statistics published by the European Commission's Directorate General for Regional Policy on the 2007-2013 programming period, the country ranks 23rd by EU funds absorption among the EU-28.[6]

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is wide use of this support measure in Bulgaria, in particular through the Government institution Bulgarian Small and Medium Enterprises Promotion Agency (BSMEPA) and through the Human Resources Development Operational Programme 2014-2020[8] (see case box below).

[7] Fixed Exchange Rate: EUR 1 = BGN 1.9558, https://www.ecb.europa.eu/stats/exchange/eurofxref/html/eurofxref-graph-bgn.en.html, accessed on 13 August 2015.

[8] European Commission (2015). Operational Programme Human Resources Development. Accessed 6 August 2015, http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/bulgaria/2014bg05m9op001

Case box 7: Capacity building through BSMEPA and Human Resources Development Operational Programme

Good practice example: Capacity building through BSMEPA and Human Resources Development Operational Programme

Objective(s): BSMPA provides consulting and information services, and trainings for SMEs. They cover, among other topics, the following issues: quality improvement of the products, environmental protection and innovation.[7] The Agency is focused on the implementation of the Bulgarian Government's policy for small and medium enterprises. (e.g. the innovation policy of the Bulgarian government) and monitor/coordinate initiatives and programmes such as the National Innovation Fund, EUREKA, the joint programme Eurostars.

When the measure was launched: In 2004

Target sector/beneficiaries: targeted at all sectors

How widely/where the support measure is available: nation-wide

Objective(s): The Human Resources Development Operational Programme 2014-2020 (part of the implementation of European Structural and Investment Funds in Bulgaria), already adopted by the European Commission, will invest in the human resources of those enterprises, which contribute to the sustainable environmental development and reducing the negative impacts on the environment. The rapid development of new technologies, including green technologies, gives rise to the question of the ability of the companies and their employees to meet the anticipating changes. To meet the rapidly changing requirements to the workforce employed in such enterprises, the Operational Programme will fund the acquisition of adequate knowledge and skills in order to preserve the jobs and occupation of the new ones and to ensure qualified human resources for the „green" jobs and for those related to the new production technologies. More specifically, support is envisaged for:

- practices aimed at adapting the knowledge and skills of the employed persons to the real needs of the labour market and enterprises, including to the introduction of new "green" and resource-efficient technologies;
- practices which introduce innovative, more productive and more "green" work organisation models in the enterprises, including practices which ensure health and safety at work and which improve the professional and health status of the workers and employees and the social climate.

Target sector/beneficiaries: The Programme will target the improvement of existing skills of employed people at enterprises in line with the new trends in environmental protection, and will led assistance to adapting new jobs in response to rapid changes and the requirements on the labour market. To meet the business's new needs for qualified workforce predefined by operations in green sectors such as energy efficiency, renewable energy, waste treatment, water treatment, etc. The programme will finance relevant training events and will be adapted to the demand for skills in the context of the transition to low-carbon economy.

Support will be provided for the creation of "green" jobs and for acquisition of new skills for them in line with the new developments in the fields of sustainable development. The provision of internships and apprenticeships in "green" enterprises to unemployed youth will be encouraged. Incentives for employers to introduce innovative, more productive and "greener" models for work arrangements in enterprises, including for ensuring health and safety at work and for improving the social climate in enterprises will be provided.

Lessons from application of the tool

No specific information on lessons learned could be identified.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is wide use of this support measure in Bulgaria, in particular through the National Waste Management Plan 2014-2020[8].

Case box 8: EPR in Bulgaria

Good practice example: EPR in Bulgaria

Objective(s): The principle is aimed at supporting the design and production of goods which take into full account and facilitate the efficient use of resources during their whole life-cycle including their repair, re-use, disassembly and recycling without compromising the free circulation of goods on the internal market.

How widely/where the support measure is available:

Through legislative measures, the Ministry of Environment and Water has ensured that legal persons who develop, manufacture, process, treat, sell or import products (producers of the products) bear extended producer responsibility and apply related measures, e.g.: acceptance of the returned products and of the waste that remains after those products have been used; organization of the subsequent management of the waste and its financing; provision of publicly available information as to the extent to which the product is re-usable and recyclable.

In Bulgaria the "Extended producer responsibility" (EPR) principle has been introduced for 6 groups of specific products resp. waste streams – packaging waste, end-of-life vehicles (ELV), waste electrical and electronic equipment (WEEE), waste oils, waste batteries and accumulators, waste tires.

In 2012, the legal persons, to whom the EPR principle applied and who executed their responsibilities through participation in collective systems, were approximately 10 000 and the legal persons, to whom the EPR principle applied and who performed individually their responsibilities, were 19 for six types of specific waste streams.

The Ministry of Environment and Water is also working on the development and introduction of non-legislative measures which could contribute for improving the effectiveness of the implementation of the EPR principle such as:

- Support projects for development, production and marketing of products that are suitable for multiple use, that are technically durable and that are, after having become waste, suitable for proper and safe recovery and environmentally compatible disposal.
- Support projects for development of new product design and technology, extending the useful life of products - for example through easy and inexpensive replacement of fast-wearing components.
- Support projects for accreditation and other procedures for "end of waste" criteria under the Waste Framework Directive (WFD) for widespread waste.

Support industry/employers' organizations projects for development of national "end of waste" criteria for waste streams that have not been adopted and developed by European regulations.

Lessons from application of the tool

No specific information on lessons learned could be identified.

Support for industrial symbiosis

Level of use of the instrument

There is a little use of this instrument in Bulgaria, with the Black Sea Industrial Symbiosis Platform serving as the key example.

Case box 9: Black Sea Industrial Symbiosis Platform

Good practice example: Black Sea Industrial Symbiosis Platform	*Objective(s):* The aim of the project was to promote economic and social development in Black Sea Basin by establishing industrial symbiosis system as a new innovative approach. *Launched in* 2011 this measure *targets* manufacturing, logistics, tourism and energy industries in Bulgaria, Turkey, Romania, and Moldova. *Allocated budget/resources:* 745,214.34 EUR (670,692.91 EUR of total EU grant under ENPI and IPA funds and %10 co-financing by the participants' state in the programme.(the budget refers to the four participant countries) *How widely/where the support measure is available:* only for the Black Sea Region

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2) ERAWATCH (2012). Support - Measure National Innovation Fund, URL http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/bg/supportmeasure/support_0043, accessed on 13 August 2015.

3) Bulgarian Small and Medium Enterprises Promotion Agency (BSMEPA), http://www.sme.government.bg/?p=19605, accessed on 18 may 2015. [In Bulgarian]

4) Order No RD 1651 of 9 July 2014 by the Bulgarian Small and Medium Enterprises Promotion Agency, URL: http://www.sme.government.bg/uploads/2014/07/RD-16-51_nif7.pdf, accessed on 18 May 2015. [In Bulgarian]

5) Capital Newspaper: http://www.capital.bg/biznes/kompanii/2014/01/30/2231685_nad_80_ot_subsidiite_za_inovacii_sa_usvoeni/, accessed on 20 July 2015. [In Bulgarian]

6) Novinite News Agency, http://www.novinite.com/articles/166719/Bulgaria+23rd+in+EU+by+EU+Funds+Absorption#sthash.Z3QVRFMi.dpuf, accessed on 13 August 2015.

7) BSMEPA, http://www.sme.government.bg/en/, accessed on 13 August 2015.

8) Bulgarian Ministry of the Environment and Water (2014). National Waste Management Plan 2014-2020. Sofia.

Acknowledgements

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Country Report Cyprus

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Cyprus, there are few support measures related to resource efficiency in business, while the majority of the measures have been applied only recently and their impact is not yet possible to assess. One of the ten support measures (supporting EPR) is widely used, four are used a little, and for five support measures there is no national policy in place (see Figure 4 below).

There is a focus on the tourism and extractive economic sectors, as they play a significant role in the Cypriot economy. However, the list of measures presented in this short report is not exhaustive and there might be further measures not accounted for here.

For brevity, in the following only selected support measures and examples are presented.

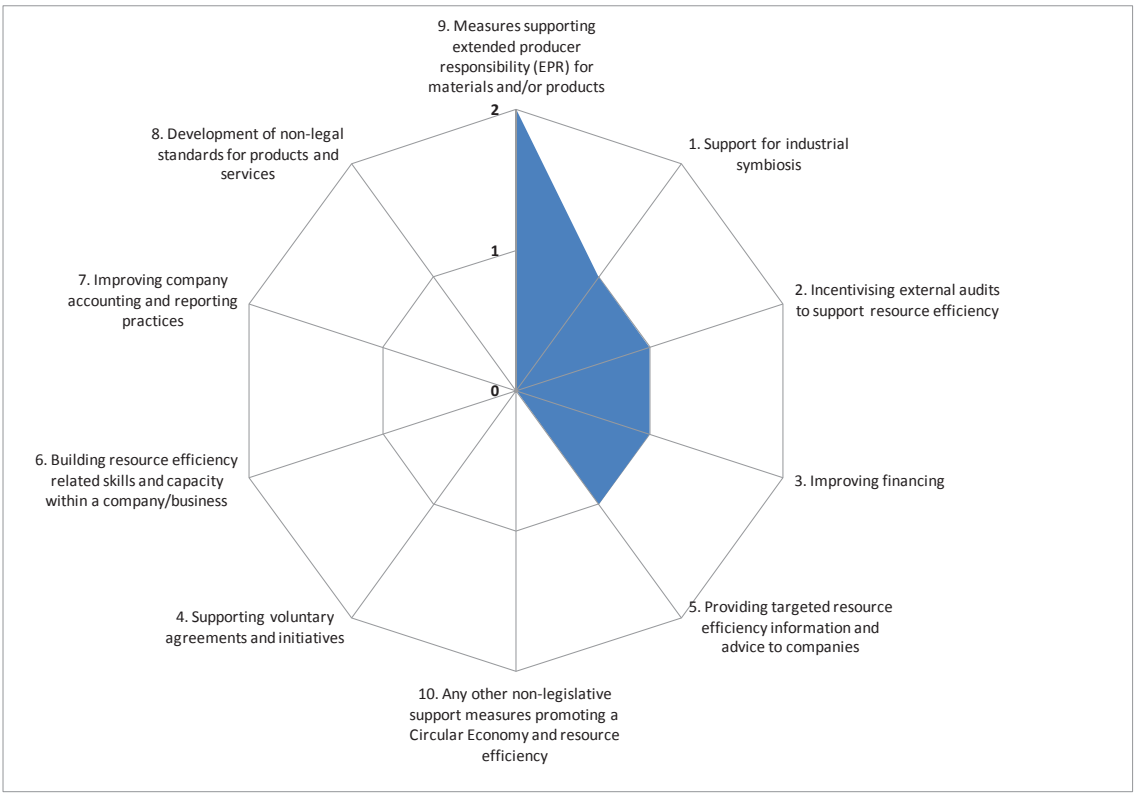

Figure 4: Level of application of Resource Efficiency measures in Cyprus
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is wide use of this support measure in Cyprus. Extended producer responsibility is implemented both in terms of legislation and through the operation of individual and collective systems for packag-

ing waste, WEEE, batteries and tires. There are measures for its application for other waste streams such as plastic, glass and paper other than packaging. Aiming at extending the responsibility of producers to the end-of-life phase of a product and promoting the production and import of products which take into account environmental considerations and final disposal, this measure targets consumers, government and municipalities handling waste nation-wide-

Lessons from application of the tool

No lessons learnt could be identified.

Support for industrial symbiosis

Level of use of the instrument

There is little use of this support measure in Cyprus. There are certain planning procedures in place which are aiming at initiating and enhancing interactions between waste treatment facilities and industry. Appropriate planning measures are required for the siting of treatment plants for waste from the extractive industries, so that these will be located near industries which reuse the treated waste.

The planning measures are included in the operation permit requirements for the specific treatment plants receiving waste from extractive industries. The permitting requirements for waste treatment facilities are issued by the Ministry of Interior affairs of Cyprus. The measure was launched in 2015.

Lessons from application of the tool

The support measure was launched very recently and therefore it is not yet possible to extract any useful lessons from its application.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is little use of this support measure in Cyprus. Resource efficiency auditing is promoted through the implementation of environmental management systems, including EMAS. External audits aim at improving the environmental performance and resource efficiency of organisations through the verification of implemented environmental management systems through the annual auditing of their performance. EMAS was established in Cyprus in 2004 and is targeting business and organisations nationwide. The number of companies registered under EMAS has been steadily increasing. Currently there are 75 organisations in the EMAS register of Cyprus.

Lessons from application of the tool

The requirements of external auditing, embedded in Environmental Management Systems, contribute to the uptake of auditing services. Also the benefits of management and auditing schemes are highlighted within EMAS, compared to any initial investments, engaging business and organisations. The annual external auditing of the system allows companies to record and improve their resource efficiency and minimise resource costs.

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is little use of this support measure in Cyprus. In 2015, a scheme to encourage the creation of clusters and business partnerships in green and advanced technology investments was launched. The aim of this scheme is to promote technologies and processes that will enhance resource efficiency, reduce pollution and waste, and contribute to appropriate waste management and recycling. The duration of the application of this measure is 5 years and it is targeting all industrial and business entities, and particularly SMEs, in Cyprus.

Lessons from application of the tool

The support measure was launched very recently and therefore it is not possible to extract any useful lessons from its application. However, a strong point that was already highlighted by stakeholders involved is the provision of appropriate information to industry and business on the possibilities available for the creation of partnerships and clusters and the benefits of advanced technology, overcoming the current economic climate in Cyprus.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is little use of this support measure in Cyprus. The tourism sector constitutes one of the most important economic activities of this island country and therefore improving the resource efficiency in tourism services is of high importance in the context of the sustainable development objectives of Cyprus. There have been concentrated efforts in improving waste management from hospitality units along with other efficiency measures targeting natural resources, e.g. water.

Case box 10: Provision of targeted information on resource efficiency to the tourism industry

Good practice example: Provision of targeted information on re-	
	Objective(s): Encourage tourist establishments to implement measures to increase their resource efficiency and waste management. *When the measure was launched:* 2014 *Target sector/beneficiaries:* Tourism industry *How widely/where the support measure is available:* National level
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Hotels implementing resource efficiency measures particularly through voluntary schemes such as the ECOLABEL and EMAS received targeted information in improving their resource efficiency and report a decrease in the use of water, energy, paper and packaging products, chemicals, etc.

Lessons from application of the tool

The support measure was launched very recently and therefore it is not possible to extract any useful lessons from its application. However, a strong point that is already demonstrated by the application of the measure is the high stakeholder engagement, particularly given the the costs of any initial investments in establishing tourism facilities and environmental managements systems.

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Ministry of Environment, Eco-Management and Audit Scheme (EMAS), available at: http://www.moa.gov.cy/moa/environment/environment.nsf/All/188C69472BA6BD36C22578CE003B7143?OpenDocument

Acknowledgements

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Country Report Czech Republic

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

The Czech Republic has put in place a few measures supporting resource efficiency in business. Two of the ten support measures are widely used, three are used a little, and for five support measures there is no national policy in place (see Figure 5 below).

The Czech government provides financial aid to companies wishing to undergo environmental audits. The country has also several EPR schemes for management of waste and, in particular, a very efficient scheme for recycling of household packaging waste. The Czech Republic has also a national ecolabelling scheme in addition to the EU ecolabel scheme. Recently, the government has launched a training program aiming at providing educational support to companies in the field of secondary raw materials.

For brevity, in the following only selected support measures and examples are presented.

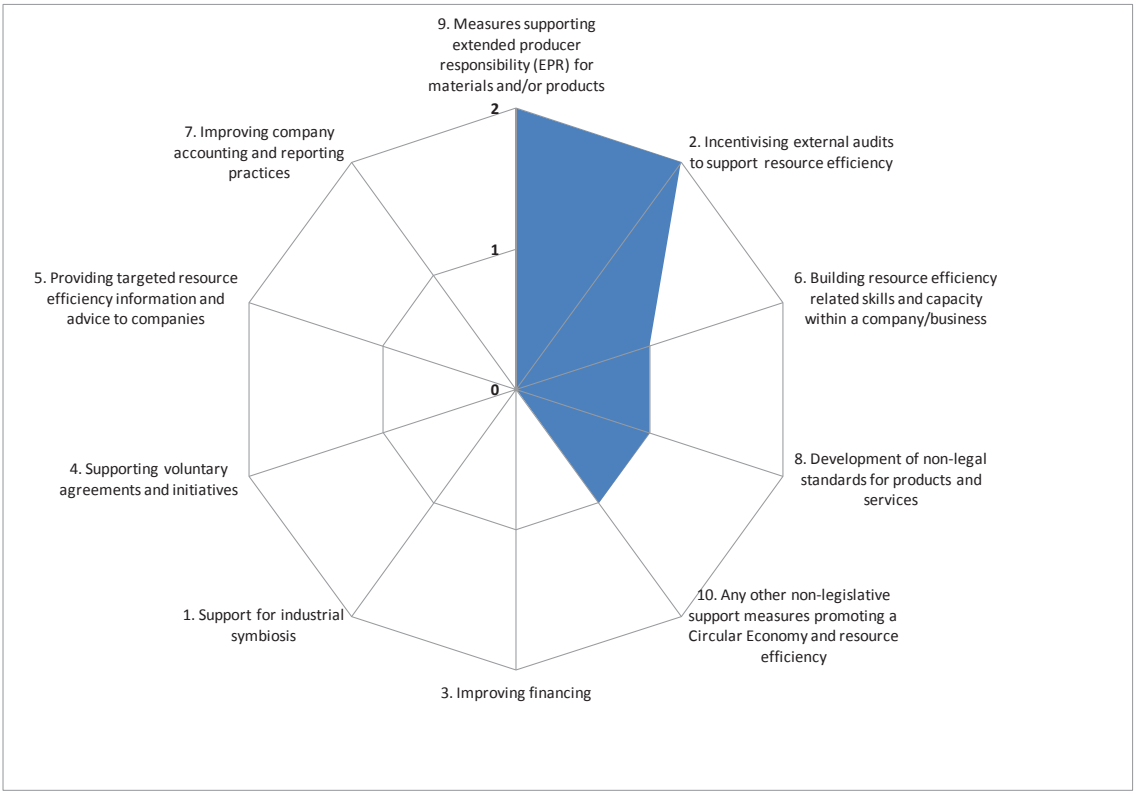

Figure 5: Level of application of Resource Efficiency measures in the Czech Republic
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Incentivising external audits to support resource efficiency

Level of use of the instrument

The governmental support to companies to install an EMAS Eco-Management and Audit scheme is one of the oldest and the most important support measures to improve resource efficiency in business in the Czech Republic. The support takes either the form of a financial aid from the State environ-

mental fund or from the regional support funds. All companies nationwide can benefit from these support measures.

In addition to the financial support, companies have been incentivised to undergo the certification through inclusion of EMAS-related criteria in legislations relating to public tenders, environmental inspections as well as environmental insurance.

As of 3rd July 2015, 26 companies were registered in the national EMAS database.

Lessons from application of the tool

Consideration of EMAS (EMS) certification in public tenders was identified as the most attractive incentive for companies to participate in the scheme.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

Under its Secondary Raw Materials Policy of 2014, the Czech Republic defined a fourth strategic goal focusing on initiation of educational support for businesses to ensure qualification of staff working in the field of use of secondary raw materials in order to support the employing companies' competitiveness.

As part of the program, the Czech Ministry of Industry and Trade prepared a training and examination documents which can be used for internal and external training courses by all actors.

Case box 11: Secondary Raw Materials Policy of the Czech Republic

Good practice example: Secondary Raw Materials Policy of the Czech Republic	*Objective(s):* Strategic Goal 4 – Initiation of educational support to ensure qualified staff in the field of secondary raw materials in order to support the competitiveness. *When the measure was launched:* 2014 *Target sector/beneficiaries:* Entrepreneurs *How widely/where the support measure is available:* Ministry of industry and trade prepared training and exams supporting documents which can be used for internal and external training courses by all subjects.

Lessons from application of the tool

The measure is recent. It is expected that more trainings will be provided, using the support documentation developed by the Ministry of Industry and Trade.

Development of non-legal standards for products and services

Level of use of the instrument

Prior to the introduction of the EU Ecolabel, the Czech Republic had put in place a national ecolabelling program with an official registered label 'Environmentally friendly product' ('Ekologicky setrny vyrobek', ESV). The programme was launched in 1994 and is administered by the Czech Environmental Information Agency (CENIA).

Since 2004, the programme targets both product producers and services providers. As of July 2015, the Czech ecolabel can be acquired by 41 categories of products and two categories of services.

The producers of products or providers of services must apply for the label and also pay a registration fee. Collected fees are used for covering criteria development, various analysis and studies, promotion, etc. Smaller companies pay lower fees but there is no support from the public budget to the scheme.

Lessons from application of the tool

For the moment, the use of the label is quite limited. There are currently 92 licences issued under the ESV, which represent around 1,770 products and services. According to the Ministry of the Environ-

ment, promotional campaigns are generally seen as the most effective way how to support ecolabelling. However, due to limited public budget, there are very limited sources allocated to the campaigns. A small campaign is planned later in the year 2015.

Any other non-legislative support measures for a Circular Economy and resource efficiency

In September 2014, the Czech government approved the Secondary Raw Material Policy of the Czech Republic as a contribution to the EU policies on circular economy.

In June 2015, and in order to implement the above Policy, the government prepared an Action plan for the support of increased independence of the Czech Republic in raw material resources by substituting primary resources with secondary raw materials.

The Czech Republic co-funds European funding provided under the Cohesion Fund's and the European Regional Development Fund's operational programme Environment 2007-2013 and 2014-2020 to support projects in waste management and increase the use of secondary resources.

Level of use of the instrument

Under the priority axis 4 of the Operational Programme Environment 2007-2013, 612 million EUR were used to fund measures to reduce production of waste, waste collection and separation and higher use of secondary resources. A total of 1 776 projects on waste management were supported by the Programme.

Priority axis 7 focuses on support of general environmental education and edification and information support - building infrastructure for advice services for public and businesses. Till the end of 2014 around 70 projects for environmental education were funded.

Lessons from the application of the tool

The programme supports programmes in waste collection but does not focus specifically on resource efficiency in business.

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Ecolabelling in the Czech Republic, available at: http://www-1.sysnet.cz/projects/env.web/zamest.nsf/defc72941c223d62c12564b30064fdcc/be18d2dc70b2bea1c125696e002af2c6!OpenDocument

Ecolabels in the Czech Republic; available at: http://www.veronica.cz/?id=506

Presentation of EMAS Ecomanagement and Audit Scheme in the Czech Republic; available at: http://eko-net.cir.cz/emas-eco-management-and-audit-scheme- ; http://www.ekospotreba.unep.cz/index.php?sekce=emsemas

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Country Report Germany

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Germany, all of the ten support measures are applied. Four of the measures are widely used (including PIUS resource efficiency audits and financing through the Environmental Innovation Programme) and six are used a little (ranging from the Blue Angel eco-label, through the establishment of a Competence Centre for Resource Efficiency in companies, to qualification courses for employees of companies) (see Figure 6 below).

For brevity, in the following only selected support measures and examples are presented.

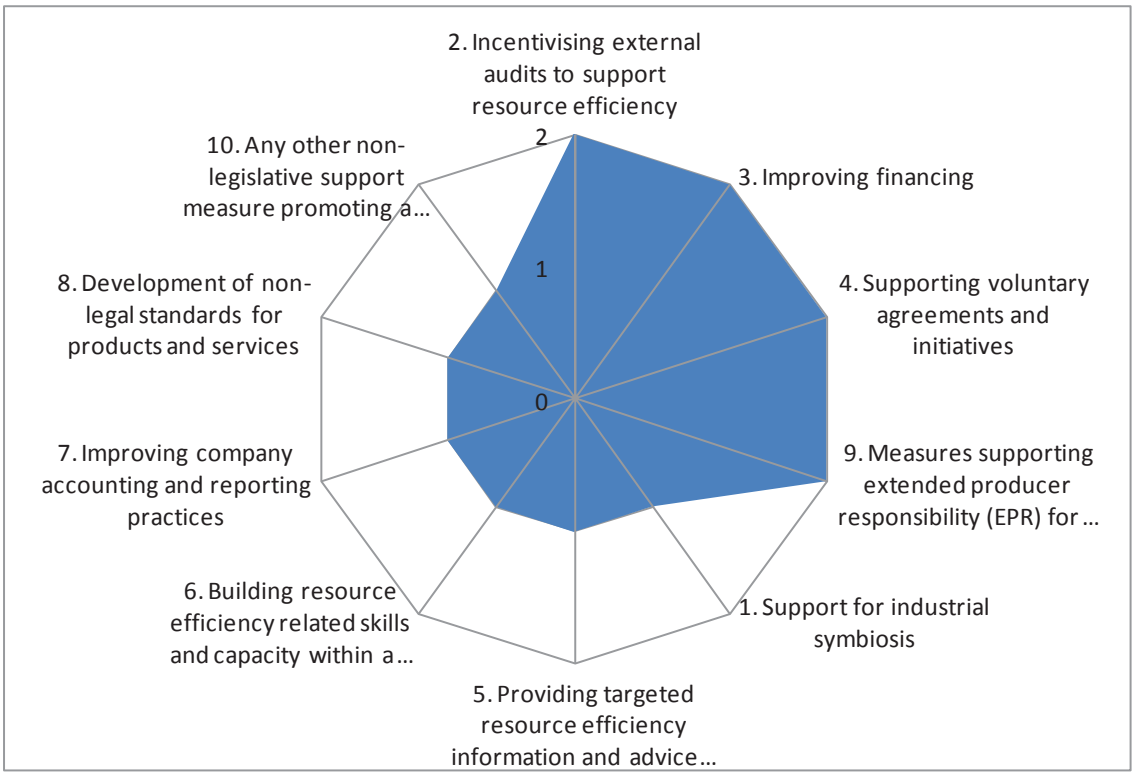

Figure 6: Level of application of Resource Efficiency measures in Germany
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Incentivising external audits to support resource efficiency

Level of use of the instrument

Financial support for external audits is a widely used support measure in Germany. A very successful example is the state support for PIUS-checks, which were initiated in 2000 in the federal state of North Rhine-Westphalia. This measure has a high take-up by businesses and has proven to be effective (see text box below). Other federal states started copying the concept, e.g. Baden-Württemberg, Hesse, Rhineland-Palatinate. On the national level, the Ministry for Economy and Energy grants audit and advice vouchers through the programme "BMWi Innovation Bonus (go-Inno)" since 2011. Having one focus on resource efficiency (module "go-efficient"), the programme facilitates expert advice on

improving resource and material efficiency in form of a subsidy (50% of costs or up to 80,000 EUR per voucher) for external consultation by selected consultants. The programme aims to decrease the raw material and overall material use of small and medium-sized enterprises (SMEs) and is available for all sectors. Moreover, businesses in Germany that want to introduce EMAS are supported by sector guidelines since 1995 and SMEs can receive financial support. Since 2009, material efficiency is a core indicator under EMAS. The various guidelines and the EMAS procedure, including internal and external audits, help organisations to identify their resource efficiency potential.

Case box 12: PIUS-Checks by the Effizienz-Agentur North Rhine-Westphalia (EFA)

Good practice example: PIUS-Checks

Objective(s): By analysing relevant material flows and the current level of production technology, the EFA aims to give recommendations on how to optimise production in SMEs, primarily by implementing new production equipment or by organisational changes.

When the measure was launched: in 2000 (ongoing)

Target sector/beneficiaries: All sectors. The measure has been particularly successful in the metal processing, metal finishing and food processing industries.

Allocated budget/resources: Conducting an audit costs between 10,000 and 15,000 EUR. Up to 70% of these costs can be covered by national funding programs. The EFA handles the application for funding for the audit costs as well as for the implementation of the proposed measures.

How widely/where the support measure is available: In North Rhine-Westphalia. Other federal states started copying the concept, e.g. Baden-Württemberg, Hesse, Rhineland-Palatinate.

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

More than 550 PIUS consultations in businesses have been conducted by the EFA since the launch of the PIUS-checks in 2000.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

The average investment induced by the PIUS checks amounts to 82,000 EUR, while average annual costs savings of around 50,000 EUR resulted from the investments into resource efficiency improvements – hence, the payback time of these investments is lower than two years (Engelmann, Liedke & Rohn 2013). The associated resource savings encompassed on average 5,020 of m^3 water, 260 MWh ofenergy and 46 tonnes of CO_2 (Jahns 2012, p. 14). By 2010, investments of approximately 36 million EUR were induced by the PIUS-checks, while annually approximately 10.4 million EUR could be saved through the improved production processes (i.e. material savings).[9] Other federal states started copying the concept, e.g. Baden-Württemberg, Hesse, Rhineland-Palatinate.

Other relevant features/information: The concept of PIUS-Checks has been successfully implemented in other federal states of Germany:

- In Rhineland-Palatinate, up to 30 SMEs p.a. get the chance to have their production processes checked by a consulting company to find potentials to save material, energy and water costs (project "EffCheck-PIUS Analysen in Rheinland-Pfalz"). The state of Rhineland-Palatinate covers a maximum of 70% of the consultancy costs up to a maximum of 4,800 EUR for each check. Larger companies can also participate in the program, but without financial support.
- Hessen-PIUS is a support program for small and medium-sized enterprises in Hesse. The aim is to achieve efficient use of resources such as energy, water, air, raw materials and supplies by optimising internal processes and thus reduce costs. Central component is a financially sponsored consultancy program for SMEs.

[9] European Commission (n.d). PIUS-Check. URL: http://ec.europa.eu/environment/archives/sme/cases/piuscheck_en.htm, accessed 31 August, 2015.

Lessons from application of the tool

Interestingly, the PIUS-checks in North Rhine-Westphalia are more widely used by businesses than the "go-INNO"-vouchers in all of Germany. One success factor of the PIUS programme is its regional implementing organisations, which is widely known and trusted by the regional industry. The implementation of the concept in other federal states shows its potential to be replicated. In general, the incentives for audits in Germany are well-targeted to the needs of SMEs (e.g. by offering assistance for the application process or advice on financing options).

Improving Financing

Level of use of the instrument

Several financing programmes to improve resource efficiency in businesses are in place in Germany. Through the Environmental Innovation Programme, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety funds industrial-scale pilot projects in key environmental sectors – one being resource efficiency. The programme was initiated in 1979 and focuses on the implementation of innovative technologies. The German Federal Environmental Foundation (*Deutsche Bundesstiftung Umwelt*) supports innovative research, development and innovation projects in the SME sector with focus on increasing the efficiency of use of resources, materials and energy. In addition, the KfW Bank (German government-owned development bank) set up a Green-Bond-Portfolio in 2015. The KfW plans to purchase green bonds in the amount of 1 billion EUR with the aim to help financing suitable projects in the fields of resource efficiency, renewable energies, waste management, (waste) water management, biodiversity and non-polluting transport systems. A further aim of the measure is to contribute to the development of the Green Bond market. These measures have a nation-wide scope and are applicable for all sectors.

Lessons from application of the tool

There is a variety of measures to improve financing established in Germany. The Environmental Innovation Programme in particular has been used by businesses to finance the implementation of measures developed through PIUS-checks.

Development of non-legal standards for products and services

Level of use of the instrument

There is a wide use of this support measure in Germany through the voluntary product label "Blue Angel" (*Blauer Engel*), which features the sub-category "conserves resources". The label aims to help consumers select resource-conserving products and to increase awareness for resource use and related environmental pressures. The category "conserves resources" was launched in 2008 and is applicable to all sectors, nation-wide. More than 12,000 products and services of approx. 1,400 companies are labelled with the Blue Angel.

Apart from that, the Association of German Engineers (VDI) develops Standards on Resource Efficiency. Aim of the standards is to provide a basis for the methodology and implementation of resource efficiency measures in companies. They are developed since 2010 and are available nation-wide. At the moment, four different standards are developed. The series on resource efficiency standards is part of the work of VDI's technical divisions, which produce approximately 200 standards per year, based on the latest technical developments. That way the VDI has systematically built up a set of technical regulations, which today contain more than 2,000 valid VDI Standards extensively covering the broad field of technology.

Lessons from application of the tool

The Federal Environment Agency develops specific standards for products and services and continuously adapts them to the latest technological state of the art. This is achieved with the help of environmental and consumer organisations as well as producers. This dynamic development under the involvement of relevant stakeholders can be seen as one strength of the Blue Angel label.

The series on resource efficiency standards is designed to enable indicator application and calculation for all resource groups in order to conduct a resource efficiency analysis.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is a wide use of this support measure in Germany. One successful example is the German packaging waste scheme (see case box below). The regulation obliges producers to take back and care for the treatment of packaging that ends up in private households. Businesses are obliged to participate in one of several authorized waste management and recycling systems ('dual system'), i.e. they pay a Producer Responsibility Organisation for the collection, sorting and treatment of their packaging

Case box 13: German Packaging Waste Scheme

Good practice example: German Packaging Waste Scheme	
	Objective(s): (1) recover and recycle metals, glass, paper and plastics; (2) reduce waste; (3) keep packaging as long as possible in the reusable material cycle *When the measure was launched:* early 1990s (ongoing) *Target sector/beneficiaries:* all companies, that place packaging on the market *How widely/where the support measure is available:* nation-wide
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): • Packaging waste recycling rate of 72.7% (2010) • Total recovery rates of 97% (2011) • Sinking costs for the collection and treatment of packaging waste due to investments in innovative waste sorting and recycling technologies

Lessons from application of the tool

To make the producers pay for collection, sorting and treatment of their packaging gives companies an incentive to reduce their packaging material. In the German system, a reduction of costs was achieved through competitive tendering. A success factor for the system is the high degree of separation of waste by the consumers, which was promoted by information campaigns.

Support for industrial symbiosis

Level of use of the instrument

There is a little use of this support measure in Germany. For example, from 1996 to 1998 the German Federal Environmental Foundation (*Deutsche Bundesstiftung Umwelt*) financed the development of an Intercompany Network for Recycling Materials in the Heidelberg-Pfaffengrund Industrial Region. Objectives of the project were to support a circular economy by means of intercompany cooperation, to help SMEs in the search for solutions for their waste management and to establish transparency in the area of residues. 14 companies participated. Achievements of the network included company specific cost reductions up to 50% within 2 years and a circulation system for waste wood (DBU 1997). Furthermore, Germany supports the establishment of industrial energy efficiency networks.

Lessons from application of the tool

One factor of success of the Intercompany Network Heidelberg-Pfaffengrund was the establishment of the "Working group Pfaffengrund", which functioned as contact point for the participating companies and facilitated communication. In order to establish trust and security in the network, a contract containing a confidentiality clause was concluded between the participating companies and an independent scientific institute located in Heidelberg.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is a little use of this support measure in Germany. One interesting example is the establishment of a Competence Centre for Resource Efficiency in companies with a particular focus on SME - the VDI[10] Centre for Resource Efficiency (VDI ZRE). It develops a range of instruments for the identification of resource efficiency potentials and offers specific advice how to realise these potentials. Instruments include for example sector specific guidance on how to conduct resource checks (by the companies themselves, without external consultants), practice examples and training courses. These activities are funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

Lessons from application of the tool

In order to overcome the reluctance of many companies to employ external consultants, the offers of the VDI ZRE encourage the self-empowerment of companies in regard to resource efficiency measures. Information materials range from movies, through guidance for resource self-checks, to data bases with good practice examples.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is a little use of this support measure in Germany through qualification of employees and consultants by the VDI ZRE. The offered qualification courses give basic technological insights to saving materials and energy in processes and convey methods for efficiency increases. The VDI ZRE also offers seminars at different universities in order to integrate resource efficiency aspects in existing courses.

Case box 14: Qualification of employees and consultants by the VDI ZRE

Good practice example: Qualification courses by VDI ZRE

Objectives:

- increase number of qualified resource efficiency consultants
- increase of qualified employees responsible for resource efficiency as well as managers
- increase capability of companies to realize resource efficiency projects

When the measure was launched: 2010

Target sector/beneficiaries: There are general courses for all sectors as well as specified offers for certain sectors (e.g. plastic processing industry) [11]

How widely/where the support measure is available: nation-wide

[10] VDI stands for *Verein Deutscher Ingenieure*, the Association of German Engineers

[11] VDI (n.d.). Qualifizierung Ressourceneffizienz. Accessed 6 September 2015, http://www.ressource-deutschland.de/qualifizierung-re/

Other relevant features/information:

- The offer of seminars at universities include a generic 'Resource Efficiency' teaching module as well as tailored seminars such as a 'Sustainable Manufacturing' Summer School or a 'Sustainability and Quality Management' course[12]
- For universities, the VDI ZRE also offers support in setting up study courses on resource efficiency, e.g. for a master course on climate and resource-friendly design and construction at the Technical University of Braunschweig

Lessons from application of the tool

The qualification courses for employees are carried out by experienced practitioners who have already successfully implemented resource efficiency projects in SMEs

Improving accounting rules at the company level

Level of use of the instrument

In Germany, there is a little use of this support measure. Accounting rules at the company level are improved by the *German Sustainability Code* (*Deutscher Nachhaltigkeitskodex - DNK*) of the Council for Sustainable Development. The 20 criteria of the Sustainability Code describe ecological, social and governance aspects of businesses. A database was established where the information is made public. The measure was launched in 2011 and updated in 2015. Its objective is integrated reporting and it can be used nation-wide by all organizations and enterprises regardless of their size or legal structure. By 2012, 38 compliance statements have been made. Currently, 87 compliance statements are listed in the database.

Lessons from application of the tool

The Sustainability Code enhances transparency and comparability. A guide was developed to specifically support SMEs in the application of the Code.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this instrument in Germany through the Standards on Resource Efficiency of the Association of German Engineers (VDI). Aim of the standards is to provide a basis for the methodology and implementation of resource efficiency measures in companies. They are developed since 2010 and are available nation-wide. At the moment, four different standards are developed.

The series on resource efficiency standards is part of the work of VDI's technical divisions, which produce approximately 200 standards per year, based on the latest technical developments. That way the VDI has systematically built up a set of technical regulations, which today contain more than 2,000 valid VDI Standards extensively covering the broad field of technology.

Lessons from application of the tool

The series on resource efficiency standards is designed to enable indicator application and calculation for all resource groups in order to conduct a resource efficiency analysis.

[12] VDI (n.d.). Bildung und Weiterbildung. Accessed 10 August 2015, http://www.ressource-deutschland.de/instrumente/bildung-und-weiterbildung/

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Level of use of the instrument

There is a little use of this support measure through the project WIRD (*Wiederverwendungs-und Reparaturzentren in Deutschland*) on Re-use and repair centres in Germany. Objective of the project is the development of an umbrella brand for the re-use and repair centres in Germany. A further aim is to create cooperation networks including other actors, in particular the municipalities. The project was launched in April 2015 and ends in March 2017 and is available nation-wide.

Lessons from application of the tool

This measure is specifically targeted on re-use and repair centres and is part of the German promotion of associations (*Verbändeförderung*).

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Country Report Denmark

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Denmark, five support measures are widely used – ranging from Corporate Natural Capital Accounting, through a Fund for Green Business Development, to the Nordic Ecolabel. Four of the ten support measures are used a little (e.g. the Green21 portal, which provides targeted information to SMEs on resource efficiency and waste reduction), and for one support measure there is no national policy in place (see Figure 7 below). For brevity, in the following only selected support measures and examples are presented.

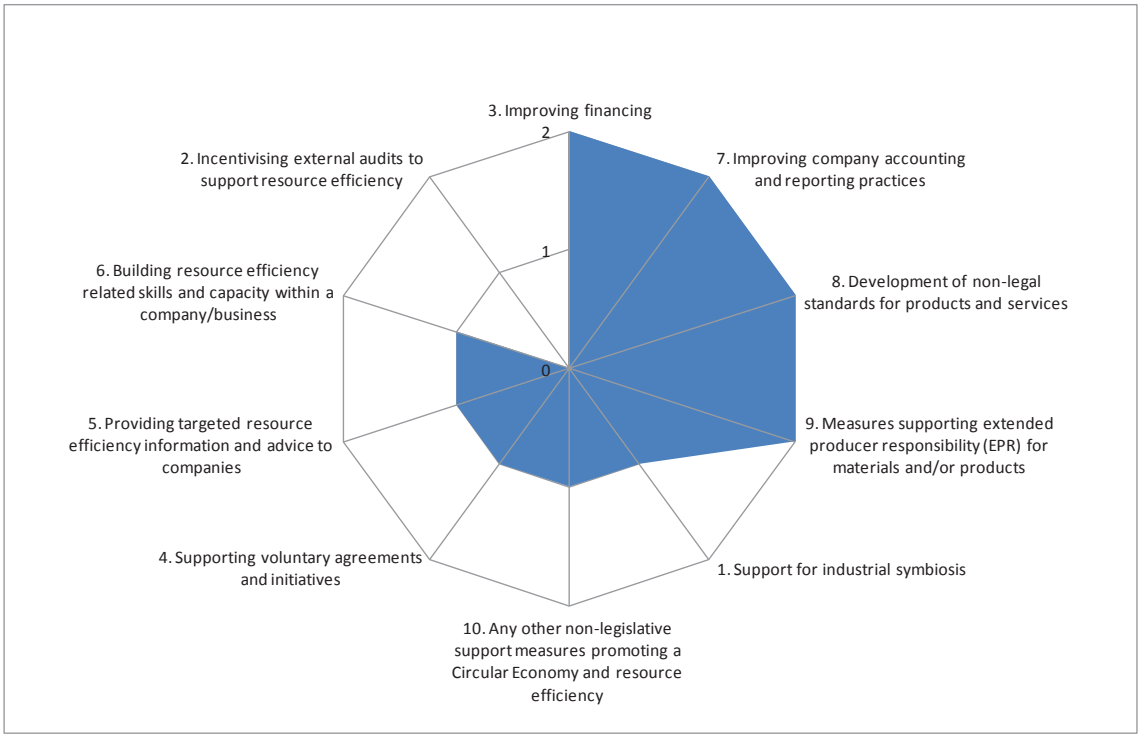

Figure 7: Level of application of Resource Efficiency measures in Denmark
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving Financing

Level of use of the instrument

Financing instruments are a widely used support measure in Denmark. The Fund for Green Business Development (see case box below) gives grants to selected firms for the implementation of projects that promote the circular economy, resource efficiency and green business development. The fund is managed by the Danish Business Authority, which tenders specific project themes (e.g. promotion of sustainable materials in product design). A second financing mechanism in place is the Green Investment Fund, which provides loans on reasonable terms for investments in energy savings, renewable energy, and resource efficiency in companies. Both Funds are available nation-wide and for all sectors. The Danish government has also agreed to establish a green investment pool directed at supporting

SMEs that work with green technologies, the so-called "green innovation pool". The pool will help innovation and development of solutions in water, climate adaption, as well as resource efficiency. In addition, the Danish Eco-innovation Program of the Danish Ministry of the Environment, which ran from 2008 to 2014, funded 357 development and demonstration projects in the areas of water, climate-change adaptation, air pollution, waste and resources, chemicals and noise. The total budget for these projects was 117 million EUR; the Danish Ministry of the Environment funded 48 million EUR.

Case box 15: Fund for Green Business Development

Good practice example: Fund for Green Business Development

Objectives:

- Promoting circular economy, resource efficiency and green business development in Danish firms and thus prepare them for a resource scarce future.
- The fund invests in the development of new green business models, innovative green products and services in the circular economy.

When the measure was launched: in 2013

Target sector/beneficiaries: all sectors

Allocated budget/resources:

- In 2013 – 2014, the fund has given almost 8 million EUR in grants to 117 innovative projects
- 2015-2018 the fund has 16 million EUR in capital for grants to Danish firms and partnerships

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses: In 2015 there has been approximately an 85% increase in applicants for the fund

Effectiveness: The first estimates of the effectiveness of the funds indicate that current projects, which have received co-financing from the fund, will generate about 1,280 jobs and about 300 million EUR in increased turnover within the next 5 years. This indicates that 0.13 million EUR given in co-financing from the fund is expected to create 21 jobs and approximately 5 million EUR in increased revenue within the next 5 years.

Lessons from application of the tool

The Fund for Green Business Development appears to be a popular (co-)financing option for businesses in Denmark. In 2015, there has been an increase in applicants for the fund by 85%. The requirements and selection process of funded projects ensure a high degree of novelty – which in turn increases the potential of the projects to create growth and new green jobs. The project grants are complemented by low-interest loans of the Green Investment Fund, both incentivising innovative thinking in businesses.

Improving company accounting and reporting practices

Level of use of the instrument

This measure is widely used in Denmark. The state supports Danish companies in carrying out Environmental Profit and Loss (EP&L) reporting – also referred to as Corporate Natural Capital Accounting (NCA) (see case box below). For example, the Danish Ministry of Environment sponsored an EP&L for the pharmaceutical company Novo Nordisk A/S. The results were published by the Danish Environmental Protection Agency in 2014. Currently, two more EP&L reports are commissioned by the Danish Ministry of Environment and Food: one for the dairy company Arla Foods and one for Maersk Drilling.

Furthermore, CSR reporting was incorporated in the Danish Financial Statements Act in 2008. In 2015 the Danish parliament adopted amendments to the Financial Statements Act introducing environment

as a specific parameter which companies have to report on. The requirements entail that companies must either disclose their CSR policies, how they implement them, and what they have achieved or state explicitly that they do not have CSR policies. Approximately 1,100 of the largest companies in Denmark have to report in accordance to the Danish Financial Statements Act. An evaluation of the CSR-reporting legislation made in 2014 showed that about 96 % of the companies, who made a CSR-report, reported that they had a policy specifically concerning environmental protection issues, although this was not a requirement by law. The initiative provided a basis for the EU Directive 2014/95/EU on disclosure of non-financial and diversity information by certain large undertakings and groups.

Case box 16: Support for Corporate Natural Capital Accounting

Good practice example: Corporate Natural Capital Accounting

Objectives:

- Increase the awareness of and the expertise with corporate Natural Capital Accounting (NCA) within Danish businesses and amongst the general public
- Contribute to the methodological developments of NCA applied in the business sector
- Help Danish companies managing their risks and improving their environmental performance by making externalities visible throughout the supply chain
- Encourage other businesses to do NCA

When the measure was launched: 2013

Target sector/beneficiaries: pharmaceutical industry, textiles, food and other sectors

Allocated budget/resources: 200,000 EUR

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): A relatively large number of businesses have shown an interest in the topic of corporate natural capital accounting, through participation in workshops, application for grants, etc. An unknown number of Danish companies are working with NCA internally, without yet publishing results.

Other relevant features/information: The following EP&L projects have been finalised:

- EP&L for the pharmaceutical company Novo Nordisk A/S
- Assessment of potentials and limitations in valuation of externalities - With special focus on Environmental Profit and Loss
- Danish apparel sector natural capital account

Currently two other EP&L projects are being carried out.

Lessons from application of the tool

A precondition for the successful implementation of NCA are mature, modern companies with a culture of openness and sustainability leadership, who see the potentials of NCA as a strong tool for communication, risk management and improving resource efficiency. The inclusion of CSR and in particular the environmental aspect in the Danish Financial Statements Act helped raising the awareness of companies. Concerning the legislation on CSR-reporting, the comply-or-explain model has shown successful since very few companies have chosen not to have a CSR-policy – and a policy on environmental protection – although it is not required by law to have a policy, only to report on it.

Development of non-legal standards for products and services

Level of use of the instrument

There is a wide use of voluntary eco-labels in Denmark. Two official eco-labels are established: the EU Ecolabel and the Nordic Ecolabel, the Swan. The Swan is well-known in Denmark, with nearly

90% of the population recognising this label, and around 40% recognising the EU Ecolabel. More than 12,000 different products and services (as of the beginning of 2015) are labelled with either of the labels – with the Nordic Swan, however, accounting for 90% of all labelled products and services. The turnover of products and services with the Swan label accounted for nearly 0.9 billion EUR[13]. The Nordic Swan is available in Denmark, Sweden, Norway, Finland and Iceland and was introduced in 1989 (in Denmark 1997). The EU Ecolabel was launched in 1992. The "Ecolabelling Denmark" Secretariat at Danish Standards Foundation is responsible for criteria development, licensing, marketing and audits of both labels, which currently cover 61 different product categories. The total budget for both labels is 3.7 million EUR for 2015, of which 1.4 million EUR are granted by the government.

Lessons from application of the tool

There are only two officially approved eco-labels in Denmark, and their high level of awareness and credibility makes them an attractive choice for companies. The EU Ecolabel as well as the Nordic Ecolabel encompass a life-cycle perspective and cover the following environmental issues: energy usage, climate aspects, water usage, source of raw materials, use of chemicals, hazardous effluents, packaging and waste. As an example of a successful application of eco-labels in Denmark, the Nordic Swan has strengthened the environmental profile of a diaper company with reduced material consumption and thereby reduced the transport load and waste. Another example is the company NCC Housing Denmark, which could distinguish its products on the market by means of the Nordic Swan and experienced appreciation for sustainable housing by the customers. The option to expand the usage of the eco-label to operations in other Scandinavian countries is perceived as an advantage by companies (Nordic Ecolabelling 2014).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is a wide use of this support measure in Denmark. A Danish Producer Responsibility System for batteries, *Waste Electrical and Electronic Equipment* (WEEE) and end-of-life vehicles (ELV) was implemented due to EU-directives on these matters. The EPR schemes have been introduced in 2006 for WEEE, in 2007 for ELV and in 2009 for batteries with the following objectives:

- establish and operate a producer register,
- design and administer a simple and non-distortive producer responsibility scheme for the affected players in the market,
- avoid waste,
- encourage producers to produce environment-friendly products, and
- increase reuse, recycling, and other forms of recovery.

There is no government funding. The producer register is financed by producers, while the collection is financed by municipalities and producers. Producers often use a membership of collective schemes. The system has proven to be effective: Among EU member states, Denmark has the highest per capita battery collection at the lowest costs. Moreover, the recycling rate for WEEE is at 85% and a high percentage of WEEE are collected/financed in relation to the amount put on the market (53%).

Lessons from application of the tool

Collection systems of WEEE and batteries have been established long before the EU directives.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

Targeted information and advice on resource efficiency for companies is used a little as support instrument in Denmark. One interesting example is the web portal "Green21.dk", (see case box below)

[13] ab fabric, excl. VAT and taxes

which features 11 green tools to help especially small and medium-sized enterprises (SMEs) with their voluntary strategic environmental initiatives. The portal offers enterprises advice and guidance with regard to designing greener products and gives inspiration to strengthen enterprises' green competitiveness. A new tool to help enterprises reduce their waste has just been added. A second example is the "Green Entrepreneurship House", which offers physical facilities (e.g. a workshop and demonstration facilities), guidance and competency-development, mentors and contacts to experienced companies. Its objective is the acceleration and support of green entrepreneurs in Denmark. Launched in 2013, the Green Entrepreneurship House has until July 2015 had 371 entrepreneurs participating in different activities. It was financially supported by the government with approximately 2 million EUR in 2013 to 2014. A further example of this category of measures is a paperback case collection (accessible as free online document) published by the Ministry of the Environment, showing the potential of resource efficiency in selected industries.

Case box 17: Green 21.dk

Good practice example: Green 21.dk

Objectives:

- to help especially small and medium-sized enterprises with their voluntary strategic environmental activities
- offer enterprises advice and guidance with regard to designing greener products, ecolabelling, calculating total costs of purchases and strengthening of enterprises' green competitiveness

When the measure was launched: 2012

Target sector/beneficiaries: all sectors

Allocated budget/resources: 1.170.741 EUR, partly funded by Life+.

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses: Gree21.dk has had more than 11.000 website hits until July 2015

Other relevant features/information:

- The 11 tools currently featured in the portal include a guide to ecolabelling, tools to calculate total costs of and, most recently, a tool to help enterprises reduce waste.
- Training seminars for enterprises, business incubators and consultants have been conducted.
- The Green21 portal is the result of collaboration between the Confederation of Danish Industries, the Danish EPA, Aalborg University and Green Cross Denmark.

Lessons from application of the tool

The different information offers are well-targeted to the needs of SMEs. For example, a main objective of the paperback case collection was to break with the perception of SMEs not having enough resources to take environmental friendly initiatives. Therefore, varied and innovative examples of successful cases of resource efficiency initiatives from different industries were presented – with concrete examples of economic savings. Apart from that, advice on how to take the initial steps towards resource efficiency is given, as well as advice on which governmental funds can be applied.

Support for industrial symbiosis

Level of use of the instrument

There is a little use of this support measure in Denmark through the "National Programme for Green Industrial Symbiosis". The programme consists of a Task Force for Green Industrial Symbiosis, pro-

viding free advice to businesses that would like to take part in a green industrial symbiosis, and a funding scheme. Offers of the task force to businesses include a free resource check, individual matchmaking, matchmaking events, the drafting of an action plan as well as assistance in applying for subsidy. This support is available nation-wide and for all sectors. To this date, the funding scheme has provided financial support for 62 projects to a total value of 1 million EUR.

Case box 18: National Programme for Green Industrial Symbiosis

Good practice example: National Programme	
	Objectives: Promoting competiveness and resource efficiency through symbioses *When the measure was launched:* 2013 *Target sector/beneficiaries:* all sectors *Allocated budget/resources:* 1.5 million EUR in 2013 and 2.5 million EUR in 2014-16 (task force and funding scheme) *How widely/where the support measure is available:* nation-wide
	Indications of take-up by businesses: To this date, the funding scheme has provided financial support for 62 projects to a total value of 1 million EUR. *Effectiveness:* As one illustrative achievement of the Programme, construction waste became a raw material for building roads on a construction site for a thermal power plant in Aarhus. The National Programme for Green Industrial Symbiosis enabled research into the characteristics of crushed concrete, conducted by a construction company. It was found that the quality of crushed concrete was similar to that of gravel, which is usually used for building roads on construction sites (and beyond). Considerable ecological and economic benefits were achieved – gravel could be saved, which is a limited resource, and a practical application for recycled concrete was found. *Other relevant features/information*: The programme is based on a collaboration of the five Danish regions, the Regional Municipality of Bornholm and the Danish Business Authority.

Lessons from application of the tool

The Task Force is made up of consultants with a high level of technical proficiency and commercial expertise. The practice-oriented offers of the task force are attractive for businesses that would like to exploit the potential benefits of resource efficiency. A further success factor of the programme is the combination of practical advice and financial assistance.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Level of use of the instrument

There are a few further support measures in place in Denmark. One example is the "ready to use" inspection campaign material on waste prevention, which was prepared for environmental inspection officers. As part of their environmental inspection activities, Danish environmental authorities carry out two inspection campaigns per year in their respective municipalities. It is up to the authorities to choose the environmental theme of the campaign. By providing the necessary material for a campaign on waste prevention focused on SMEs, authorities can learn more about the subject, save some campaign-planning time, and finally by carrying out the campaign, initiate awareness on waste prevention, inspire and encourage companies to take initiatives towards waste prevention and resource optimization.

A second example is the cross-institutional Task Force for Increased Resource Efficiency between the Ministry of the Environment and the Ministry of Business and Growth. Its aim is to identify and overcome regulatory barriers for enterprises to increasing their resource-efficiency. Moreover, the Task Force is to promote more efficient and up-to-date regulation and propose simplification of rules and regulations. The work will be based on studies of the experiences of companies, which will look into material flows, value-chains and regulatory regimes. For each identified barrier, a solution team will

be established to find the most effective way it can be overcome. The Task Force was established in 2014 and will be active until the end of 2017.

Lessons from application of the tool

The argumentation for waste prevention focuses on cost savings: As part of the campaign material preparation, a survey amongst 1,300 manufacturing companies was carried out – showing that 38 % of companies having taken waste preventing initiatives had experienced lower raw material expenses. Regarding the task force, regulatory barriers may be an important factor hindering resource efficiency measures in companies. Therefore the idea of the task force appears to be a promising option for other member states.

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Country Report Estonia

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Estonia, the application of support measures related to resource efficiency in business is still in progress or under development and they are largely supported by EU funds. A few measures have been/are being implemented for supporting resource efficiency in business. None of the ten support measures are widely used: six are used a little, and for four support measures there is no national policy in place (see Figure 8 below).

The Ministry of Environment and the foundation Environmental Investment Centre (EIC) are the main authorities responsible for the development and coordination of the measures. The launched measures are implemented nationwide and targeted for all business sectors.

The measures applied in Estonia include among others, incentives for external audits, building of 'green' skills and voluntary agreements.

For brevity, in the following only selected support measures and examples are presented.

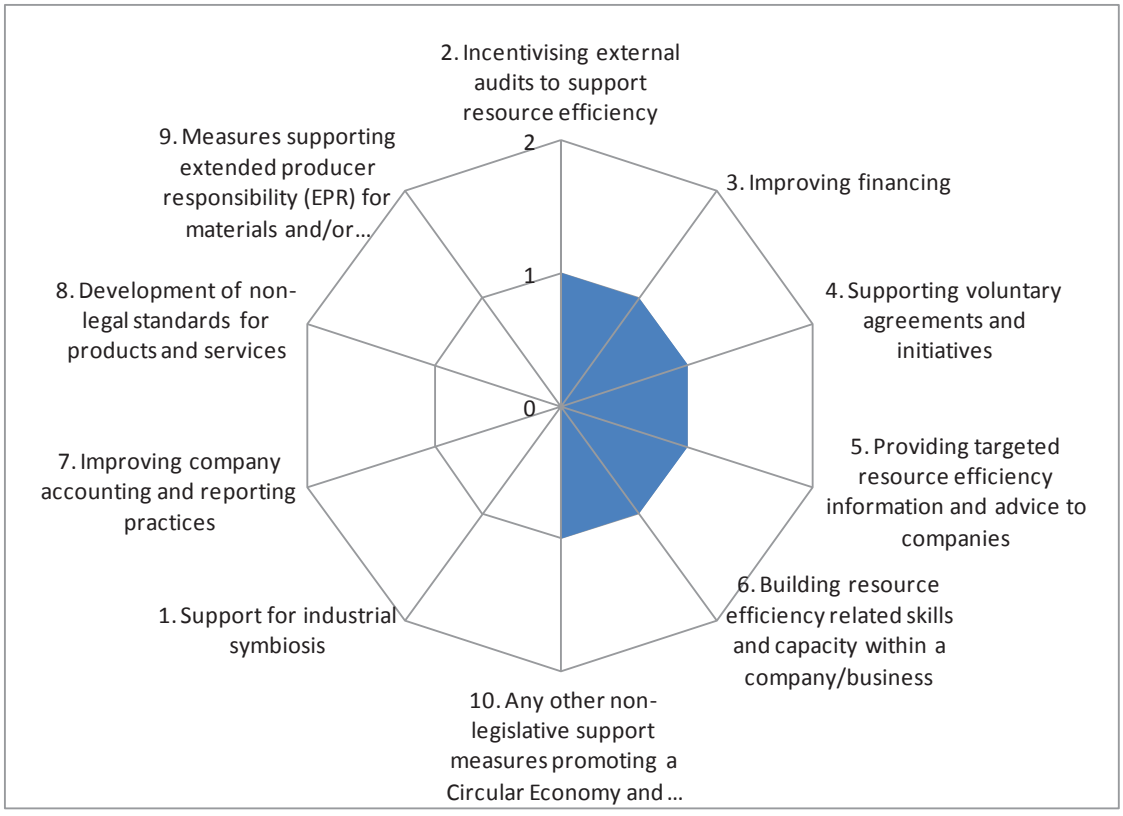

Figure 8: Level of application of Resource Efficiency measures in Estonia
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Incentivising external audits to support resource efficiency

Level of use of the instrument

This support measure is in a development phase and therefore the level of use can be characterised as limited. However, after the full deployment of the measure it is expected that the uptake will be positive. It will be implemented in the programming period 2014-2020, targeting all business sectors and with an allocated budget up to 1.5 million EUR of EU funds.

In the context of the Multiannual Financial Framework 2014-2020, Estonia will support resource audits. Financial support schemes are under development (scheduled in late 2015/early 2016). In 2015, Estonia will perform preparatory activities - raise awareness of companies and train resource specialists/auditors, who are capable of making resource audits. Also methodology for resource audits will be developed in Estonia.

Lessons from application of the tool

As the support measure and methodology is under development, no lessons learnt could have been identified at this stage.

Support for voluntary agreements and initiatives

Level of use of the instrument

There is little use of this support measure in Estonia. Nationwide support of voluntary agreements (VA) for implementing Environmental protection by making resource use more efficient was launched in 1999.

The specific context of VAs in Estonia consists of a contract between public administration and industry in which the signatory firm agrees to achieve a certain environmental objective. The agreements are bilateral – between one firm (or group of firms) and the Ministry of the Environment. VAs have not included any subsidies or other financial elements from the state. Within the VA, the company usually commits to reducing its polluting emissions to the environment by implementing appropriate environmental management systems, adopting best available technology, and sustainable production and consumption techniques. The Ministry takes over responsibility to provide the other side with information related to its activity and involve the company in the process of developing relevant legislation.

Lessons from application of the tool

As of today, 11 contracts have been signed. The implementation of the measure has raised awareness of companies and motivated them to make investments into resource efficiency solutions. Voluntary agreements with companies have had some success, but have not resulted in cooperation between companies. More information on reasons for these findings could not be obtained.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is little use of this support measure in Estonia. For the programming period 2014-2020, the support measure 4.3.3 – Energy and resource management, awareness-raising (4.3.3 Energia- ja ressursijuhtimise alase teadlikkuse tõstmine), for assistance for information concerning resource efficiency in businesses was launched nationwide. The measure is targeted for all business sectors and provides EU assistance up to 79,800 EUR.

Lessons from application of the tool

The support measure is still under development and therefore it is not yet possible to identify lessons learnt.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is little use of this support measure in Estonia. For the programming period 2014-2020 the support measure 4.3.2 – Implementation of resource management-related trainings (4.3.2 Ressursijuhtimise alaste koolituste läbiviimine), for assistance to the implementation of resource management-related trainings in businesses, was launched nationwide. The measure is targeted for all business sectors and provides EU assistance up to 400,000 EUR.

Lessons from application of the tool

The support measure is still under development and therefore it is not yet possible to identify lessons learnt.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Level of use of the instrument

There is little use of such support measures. These mainly refer to the European Union Structural Assistance to Estonia and the Programming period 2014-2020. Relevant measures related to resource efficiency in business include:

- 4.3.1 Investment in the best possible resource-efficient technologies; resource management systems and supporting IT applications supporting (4.3.1 Investeeringud parimasse võimalikku ressursitõhusasse tehnoloogiasse; ressursijuhtimissüsteemide ja toetavate IT-rakenduste toetamine)
- 4.3.5 Support for waste recycling (4.3.5 Jäätmete ringlussevõtu toetamine)
- 4.3.6 Support of preparation for re-use of waste (4.3.6 Jäätmete korduskasutuseks ettevalmistamise toetamine)

Lessons from application of the tool

The support measures above are mainly under development and therefore it is not yet possible to identify lessons learnt. However, some insights of support mainly through earlier application of measures have been drawn.

Concerning the support for waste collection, sorting and recycling, there were 37 projects supported with the amount 21.8 million EUR. Examples include waste collection centres, granulation of plastic waste etc. With these investments Estonia has increased waste sorting quality and awareness of citizens.

Furthermore, the Environmental Investment Centre (EIC) uses environmental fees (fees for the right to use natural resources and pollution fees) as grants. The Environmental Charges Act stipulates the amount of the fees and the relevant Regulation of the Minister of the Environment provides guidelines for the use of the funds received from the fees. The amounts distributed as grants through EIC bear the common title of the Environmental Programme, which supports resource efficient solutions, resource audits, eco-labelling, environmental management system implementation etc. It has contributed companies to make small-budget resource efficient improvements.

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Ministry of the Environment, Resource Efficiency, available at: http://www.envir.ee/et/eesmargid-tegevused/keskkonnakorraldus/ressursitohusus

Acknowledgements

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Country Report Greece

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Overall in Greece, the support on businesses to promote resource efficiency is promoted mainly through EU policies and EU-funded programmes. Two of the ten support measures are widely used, five are used a little, and for three support measures there is no national policy in place (see Figure 9 below).

Industrial symbiosis is promoted through the web-based platform e-Symbiosis. Resource efficiency is also supported through Public-Private Partnerships (PPPs) in the domain of waste treatment infrastructure. Targeted resource information and advice to businesses is provided through the web-portal EnviroHelp for Business. Capacity building to promote resource efficiency within businesses is supported through the National Strategic Reference Forum 2014-2020.

Specifically on the area of waste prevention and management, 7 EPR schemes have been established, out of which 2 address waste streams that are not subject to targets imposed by EU legislation; Waste Lubrication Oils (WLO) and Used Vehicle Tires (UVT).

For brevity, in the following only selected support measures and examples are presented.

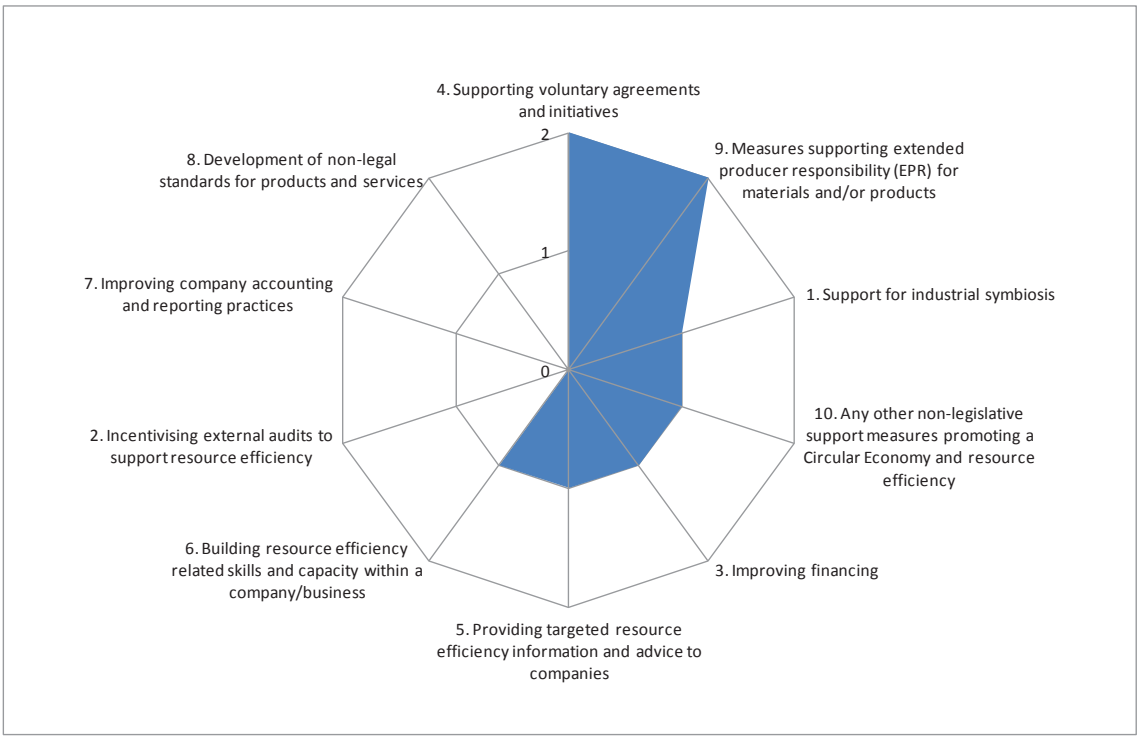

Figure 9: Level of application of Resource Efficiency measures in Greece
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Supporting voluntary agreements and initiatives

EMAS is the only voluntary instrument that supports resource efficiency in Greece. EMAS is an EU-wide quality label for voluntary environmental management and communication in organisations and businesses. EMAS include the following elements:

- Design and implementation of environmental management system;
- Active participation of the staff of enterprises in environmental management;
- Compilation and publication of an environmental statement containing verified information on all environmental issues concerning with the corporate operation such as: enterprise's performance regarding energy efficiency, efficient use of materials, water, waste, biodiversity and CO2 emissions;
- Verified environmental statement.

The initiative was developed by the EMAS Regulation (1221/2009).

Level of use of the instrument

Since its launch in the country, the EMAS registry has increased significantly. Currently, in Greece it includes active registrations of 69 organizations and 821 businesses. In addition, the companies and organizations actively participate in European Awards for EMAS[14].

Lessons from application of the tool

This support measure is based on EU legislation and therefore no specific lessons on its application can be drawn from the case of Greece. Similar application procedures are found throughout EU Member States.

Measures supporting extended producer responsibility (EPR) for materials and/or products

In addition to the EPR schemes which are promoted by EU legislation through the provision of targets (i.e. packaging and packaging waste, end-of-life-vehicles, waste from electronic and electrical equipment and batteries), the Hellenic Recycling Agency has also developed schemes that cover the following waste streams:

- Waste Lubrication Oils (WLO)
- Used Vehicle Tires (UVT)
- Construction Demolition and Excavation Wastes (CDEW)

Respectively for WLO, UVT and CDEW the schemes were launched in 2004, 2004 and 2010.

Level of use of the instrument

As regards WLOs, the scheme covers 95% of the total number of producers and importers. Specifically the scheme covers 50 producers of oil, 76 importers of oil and 44 importers of vehicles. There are 40 certified collectors with about 22,000 collection points. The EPR scheme on CDEW consists of 9 sub-schemes which cover different geographical regions of Greece. The UVT scheme covers 82 importers of tyres and 59 importers of vehicles.

Lessons from application of the tool

The collection of WLOs increased from 34,000 tonnes in 2004 (40.4% of production) to 39,000 tonnes in 2008 (67.1% of production) and then gradually dropped to 23,000 tonnes in 2012 (44.7% of production). In addition, the collection of UVTs increased from around 27,000 tonnes in 2004, to 52,000 tonnes in 2008 and then dropped to 31,000 tonnes in 2012. For the same years the recovery rates (thermal recovery, recycling, export or reuse) respectively were 20,000, 52,000 and 31,000 tonnes.

[14] Personal communication with the Ministry of Reconstruction of Production, Environment & Energy

The decrease of the collection of WLOs and UVTs after 2008 (in terms of absolute amounts and on the case of WLOs also in terms of collection rates) indicates that the economic downturn in the country might have a significant effect, both in terms of amounts of waste collected and collection rates. However the magnitude of this effect is uncertain.

Support for industrial symbiosis

Currently industrial symbiosis in Greece is not supported directly by nationwide policies or measures. Nevertheless, in the context of the pilot project e-SYMBIOSIS that was supported by the programme LIFE+, a knowledge-based service was developed to promote Industrial Symbiosis in the country. More specifically, e-SYMBIOSIS produced a web based platform providing consolidated practices from the experience in the UK. The tool initially focused on the region of Viotia and its development considered any relevant regional priorities. The information provided supports Industrial Symbiosis communities and especially Small and Medium sized enterprises (SMEs) to develop market–oriented solutions. The platform has the potential to help public administrators (municipalities, regional offices) to implement their policies and to monitor their environmental and economic consequences by establishing a knowledge base of the material flows.

Level of use of the instrument

To this date, e-Symbiosis has received 210,000 website visits which indicates a wide interest on the initiative. The project started in November 2010 and was completed in June 2014. The platform is still active.

Lessons from application of the tool

The project allowed the development of one synergy that allowed the saving of significant amounts of water and iron. In addition, 11 synergies are under negotiation or discussion. This indicates that the provision of information on synergy opportunities can effectively contribute to the development of industrial symbiosis even under the absence of a specific policy framework.

Improving financing

The Special Secretariat for Public-Private Partnerships (SSPPPs) supports the development of waste treatment infrastructure in the country. In all cases, the private partner undertakes the design, construction, maintenance, technical management and operation of the facility for a predefined number of years. SSPPs is a governmental body which holds the responsibility to develop the general policy for PPPs and to approve projects that are submitted under the PPP framework. The initiative is co-financed through the Joint European Support for Sustainable Investment in City Areas (JESSICA).

Level of use of the instrument

To date, approximately 70 tenders were approved under the initiative, out of which 13 concerned the development of waste treatment facilities. In each of the approved tenders, the development and operation of the facility is carried out either by an individual or a consortium of private partners.

In 2014, with regard to the number of transactions closed, Greece ranked 1st (together with Germany and France) with 7 deals. It is not known whether these specific PPPs concerned resource efficiency.

Lessons from application of the tool

No specific lesson could be learned from the application of this tool.

Providing targeted resource efficiency information and advice to companies

In Greece, targeted resource efficiency information and advice to businesses is provided through the web-portal EnviroHelp for Business. The portal provides information on the following areas:

- Identification of and compliance with relevant legislation;
- Application of best practices and approaches for cost reduction;
- Identification of third-party support;

- Development of tailor-made educational material and practices.

The web portal was developed under the pilot project Euro-waste which was launched under the programme Leonardo Da Vinci. Apart from Greece, it also covered the UK, Ireland and the Czech Republic. In Greece the project was run by the Aegean University.

Level of use of the instrument

Until recently, EnviroHelp was publicly accessible through the Aegean University's website, but currently the access is suspended.

Lessons from application of the tool

No specific lessons or factors of success were identified for this support measure in Greece.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

Financial support on the development of green skills is provided under the National Strategic Reference Forum 2014-2020 (Reference Forum). The Reference Forum constitutes the reference document for the programming of European Union Funds in Greece. Specifically, support on the development of environmental vocational and lifelong training is provided on the following areas:

- Competitiveness, Entrepreneurship and Innovation
- Transport Infrastructure, Environment and Sustainable Development
- Human Resources Development, Education and lifelong Learning

Beneficiaries include existing and new businesses as well as consortia that plan to develop R&D activities on waste prevention and management, pollution control and environmental footprinting.

Lessons from application of the tool

No specific lessons or factors of success were identified for this support measure in Greece.

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Acknowledgements

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Country Report Spain

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Four of the ten support measures are widely used in Spain (voluntary agreements, development of non-legal standards, measures supporting EPR, and building resource efficiency related skills), four are used a little (support for industrial symbiosis, providing targeted resource efficiency information and advice, improving financing, and other non-legislative support measures) and for two of them no national policy is in place (incentivising external audits and improving accounting and reporting practices) (see Figure 10).

The most widespread instruments for the promotion of resource efficiency and circular economy principles are being driven by initiatives and regulations at the national level. In the case of the Green Procurement Plan, there is evidence of the national initiative being replicated and expanded at lower administrative levels. In other cases, the relevant role played by European funding has been clear (e.g. the case of the "Empleaverde" Green Jobs Programme, where around 75% of the funding was sourced from the European Social Fund).

For brevity, in the following only selected support measures and examples are presented.

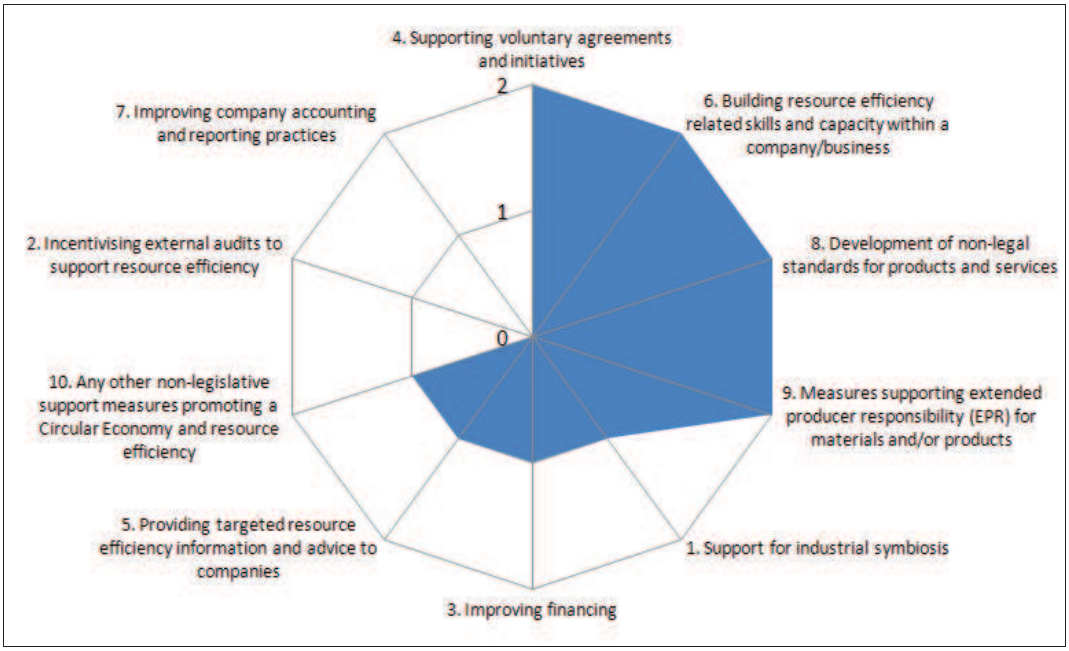

Figure 10: Level of application of Resource Efficiency measures in Spain
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Support for voluntary agreements and initiatives

The national administration in Spain uses voluntary agreements as a strategic tool to go beyond legal commitments to implement circular economy principles, promote business competitiveness and encourage resource efficiency. These types of initiatives are also implemented to promote sustainable private and public consumption of smarter products and services. The Spanish Ministry of Agriculture,

Food and Environment (MAGRAMA) participates in and promotes these voluntary commitments with business associations of various sectors as well as with social enterprises.

Level of use of the instrument

The instrument is used widely in Spain. While its use predates the current administration, a good number of new agreements have emerged. Due to higher availability of information regarding effectiveness and lessons learned, an earlier example is shown below.

Case box 19: Voluntary Agreement between the Spanish Association of Pulp, Paper and Cardboard Manufacturers (ASPAPEL) and the Ministry for the Environment, Rural and Marine Affairs (MARM)

Good practice example: Voluntary agreement paper sector	
	Objective(s): The voluntary compromise of the pulp and paper industries aims to achieve highly demanding emission limit values[15]. *When the measure was launched:* The first agreement was signed in 2000 and it was renovated in 2005. *Target sector/beneficiaries:* businesses in the paper, pulp and cardboard production industry who release process waters into the public waterways. *How widely/where the support measure is available:* nation-wide.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): Elimination of molecular chlorine in the production of bleached cellulose pulp in Spain; Monitoring of the individual data of 92% of the total emissions of the sector; R&D investment for the implementation of measures that reduce the environmental impact of pulp and paper production processes. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* 28% reduction in water use (with 14% increase in production levels); 29% reduction in the total volume of emissions and 38% reduction in emissions per tonne of product; 38% reduction in Chemical Oxygen Demand (COD) per tonne of paper and 37% reduction in COD per tonne of cellulose pulp; 78% reduction in Total Suspended Solids (TSS) per tonne of paper and 12% reduction in TSS per tonne of cellulose pulp; 49% reduction in Halogenated Organic Compounds (AOX) per tonne of cellulose pulp. (OECD 2015)

Lessons from application of the tool

Establishing objectives per unit of production terms instead of as a function of pollutant concentration was key to incentivise the adoption of the best available technologies by manufacturers. Furthermore, the fiscal incentives on investments offered by the MAGRAMA allowed ASPAPEL members to commit to the reduction of emissions, the phasing out of Cl_2 in the whitening processes and the elaboration of annual reports.[16] The voluntary agreement is considered by the businesses in the sector as key to impulse the improvement of environmental management.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is wide use of this support measure in Spain. As part of the Green Jobs Programme (*Empleaverde*), trainings for employees are offered with the aim to reduce the environmental impacts of

[15] A breakdown of the specific emission limits is included in the full questionnaire of the case study.

[16] OECD (2015) OECD Environmental Performance Reviews: Spain 2015, OECD Publishing. http://dx.doi.org/10.1787/9789264226883-en

activities in their respective sectors. The programme was operated by the Fundación Biodiversidad (a foundation within the Spanish Ministry of Environment).[17]

Case box 3: Trainings as part of the Green Jobs programme (*Empleaverde*)

Good practice example: Green Jobs Programme	
	Objective(s): To promote green jobs and businesses and develop skills linked to the green economy. *When the measure was launched:* 2007-2013. *Target sector/beneficiaries:* workers and entrepreneurs in general. *Allocated budget/resources:* 17,100,000 EUR (12,700,000 EUR contribution from the European Social Fund). *How widely/where the support measure is available:* Nationwide
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): "As of 2013, 55,000 workers in existing jobs had been trained to reduce the environmental impacts of activities in their respective sectors."[18]

Lessons from application of the tool

No specific information on lessons learned could be identified.

Development of non-legal standards for products and services

Spain's Green Public Procurement Plan has been in force since early 2008. The scheme has undergone two assessments, one in 2011 and the most recent one in June 2015. Both assessment reports have shown significant progress being made in the implementation of green procurement practices across the country at the level of the national ministries, and specifically in the 8 categories of products, services and public works defined as priority groups in the plan (see case box below). This advance has been in part supported by the development of three technical handbooks for Green Public Procurement by the inter-ministerial commission in charge of the plan (a fourth one is under review). The resonance of this initiative is corroborated by the surfacing of similar guidance documents in various autonomous communities including the Basque Country, Aragón, Navarra and Asturias, and at the local level in cities including Madrid and Barcelona.

Level of use of the instrument

Widespread use of this instrument has been found throughout the country.

[17] European Commission (2001). Going green in Spain. Accessed 20 August 2015, http://ec.europa.eu/esf/main.jsp?catId=46&langId=en&projectId=242

[18] OECD, 2015

Case box 20: The Green Public Procurement Plan of the State General Administration and its Public Entities and the Managing Bodies of the Social Security

Good practice example: name of the specific measure	
	Objective(s): The plan promotes the implementation of environmentally-friendly public procurement practices in the country. It aims to achieve levels of Green Public Procurement between 25% and 100% depending on the product group and implementation phase. The plan includes targets for 8 product groups (construction and maintenance, energy, transport, office equipment, paper and publications, furniture, cleaning products and services, events) based on the priority groups of the EU Commission. The initiative also includes targets for consumption reduction and energy mix.[19] *When the measure was launched:* the plan was approved in January 2008. *Target sector/beneficiaries:* all ministries (at the national level) and Autonomous Communities (at the regional level) have the capacity to implement and promote GPP.[20] *How widely/where the support measure is available:* Nationwide
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): According to the most recent review of the procurement practices at ministry departments, public entities and others, out of the total of 23 measures listed in the Green Public Procurement Plan: - 6 have been implemented to a very wide or full extent - 4 have been implemented to a wide extent - 11 have been implemented to a moderate extent - 2 have been implemented to a moderate-low extent Some of these included measures to promote separate waste collection, the incorporation of environmental parameters in public works projects, the procurement of highly energy efficient informatics equipment (Energy Star label), and the execution of cleaning services using more sustainable products.

Lessons from application of the tool

No specific information on lessons learned could be identified.

Measures supporting extended producer responsibility (EPR) for materials and/or products

In Spain, new legislation has been passed to comply with the Directive 2012/19/EU of 4 July of the European Parliament and the Council on waste electrical and electronic equipment (WEEE). Furthermore, the opportunity was taken to improve certain functional aspects of the WEEE management model that were inadequately developed under the earlier legislation (Royal Decree 208/2005 of 25 February, on electrical and electronic equipment and waste management). The new legislation aims to promote EPR for products and clarify its role and function on the management of waste more effectively.

Level of use of the instrument

The measure was found to be of wide use across the country's territory.

[19] European Commission (2014) National GPP Action Plans (policies and guidelines). Available at http://ec.europa.eu/environment/gpp/pdf/national_gpp_strategies_en.pdf. Last visited on 18.08.2015.

[20] Ibid.

Case box 21: Spanish legislation on waste of electric and electronic equipments (WEEE)

Good practice example: name of the specific measure	
	Objective(s): The Royal Decree aims to set a clearer regulation in place to increase the level of legal certainty and to establish a detailed description of the obligations of users, manufacturers, authorised representatives, importers, distributors and managers. It intends to integrate a single control instrument on regional and national WEEE data to identify compliance with the objectives in this field and ensure the traceability and appropriate management of waste. It will promote re-use and preparation for re-use and will encourage the creation of re-use centres and jobs in this sector. It will provide reliability and systematise reporting obligations of EEE producers and WEEE managers on the collection and recovery of WEEE throughout the country, ensuring uniformity of WEEE management criteria and market unity. Finally, it will economically optimize and efficiently manage WEEE under the extended producer responsibility in a framework that ensures competitiveness of EEE manufacturers and WEEE managers. *When the measure was launched:* February 2015. *Target sector/beneficiaries:* EEE manufacturers and WEEE managers. With implications for users, authorised representatives, importers and distributors. *How widely/where the support measure is available:* Nationwide.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In Spain there are 12 WEEE collective schemes reaching around 4000 EEE producers. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* Up to date the collection target of 4kg per inhabitant per year was not accomplished by the former WEEE collective scheme. This new regulation has been recently implemented, therefore the data necessary for such an analysis is not yet available. Nevertheless this tool is expected to fulfil the Directive 2012/19/UE.

Lessons from application of the tool

The authorities in Spain realised that one of the main aspects to improve was related to the liability and traceability of the collected WEEE. Hence, setting up a national database of the WEEE collected is now considered of the utmost importance. Through this database, the WEEE managers will provide their data directly, the competent authorities will verify these data, and the schemes in place will finally be able to organise the management of the collected WEEE in an effective manner.

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Acknowledgements

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Country report Finland

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Finland, all of the 10 support measures are covered. Six of the measures are widely used (ranging from the Finish Industrial Symbiosis System, through Voluntary Energy Efficiency Agreements, to the establishment of a National Material Efficiency Centre), and four are used a little (e.g. Material Efficiency Audits, low-interest loans and a network for building up resource efficiency skills) (see Figure 11 below).

For brevity, in the following only selected support measures and examples are presented.

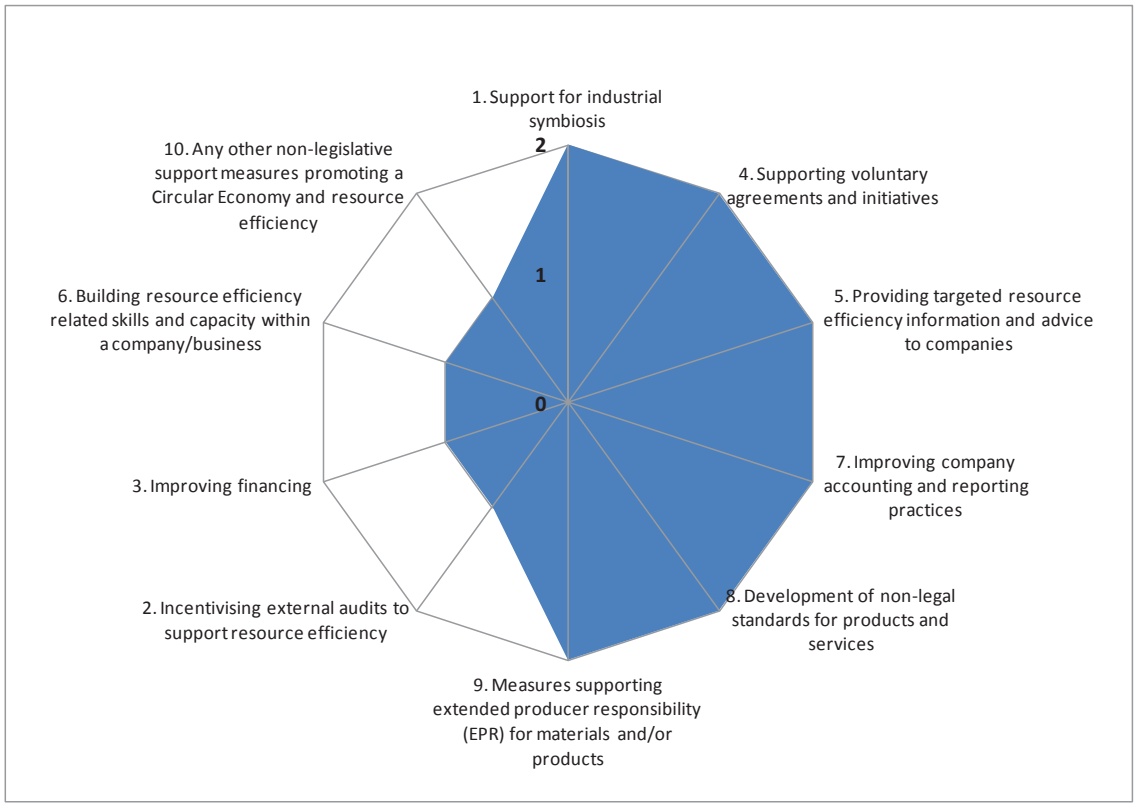

Figure 11: Level of application of Resource Efficiency measures in Finland
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Support for industrial symbiosis

Level of use of the instrument

There is wide use of this support measure in Finland through the Finnish Industrial Symbiosis System (FISS) (see case box below). In a pilot project (2013-2014), it was tested how the British NISP model could be applied to Finland: three workshops in different cities were conducted with companies and other organisations. Based on the experiences collected in the pilot project, the FISS was developed and put into practice. FISS is an operations model which provides a systematic way to help companies

and other organisations to create partnerships and new business opportunities through more efficient use of raw materials, technology, services and energy. The launch of FISS was in October 2014.

During the nine workshops held since the launch, 1,730 different symbiosis opportunities (synergies) have been identified and stored in a data base; synergies with about 100 companies are elaborated. The pilot project was conducted by the Finnish Innovation Fund (SITRA) and the state-owned company Motiva Oy. Now Motiva is responsible for the coordination and development of FISS. Both the pilot stage and FISS implementation are commonly funded by the Ministry of Employment and Economy, the Ministry of the Environment and SITRA. Regional projects implementing individual symbiosis are funded by the European Regional Development Fund.

Case box 22: Finish Industrial Symbiosis System (FISS)

Good practice example: Finish Industrial Symbiosis System

Objective(s):

- Cost savings for participating companies
- Creating new business and new jobs
- Encouraging new investments
- Increasing the use of recycled and reused materials
- Saving virgin materials and water
- Reducing hazardous waste, GHG emissions and landfilling

When the measure was launched: 2013 to mid 2014 (pilot phase), launch autumn 2014, ongoing

Target sector/beneficiaries: all sectors

Allocated budget/resources: Nationally 700,000 EUR per year (including national coordination and regional projects. At the moment 5 regions in Finland are participating having regional facilitators working together with companies). The operations are expanding.

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses:

- 350 companies and 2,042 waste/raw material flows involved (after 7 months of action)[21]
- nine workshops held (three during pilot phase and six in implementation phase)
- FISS has 3,300 website readers and 200 newsletter readers overall since its launch

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Too early to say, since symbiosis implementation takes time.

Lessons from application of the tool

A web portal (www.industrialsymbiosis.fi) enables companies to get information and contact to other participating companies through regional facilitators. The regional facilitators are using a common national database (SYNERGie), which enables identifying new symbiosis opportunities also between regions. The database also enables reporting of impacts and achievements on a regional or national level. Furthermore, an industrial symbiosis map on the web portal shows a wide range of existing symbiosis in Finland, their locations and the benefits of each symbiosis. This can be used to get ideas for symbiosis and also to find potential partners, while at the same time it serves as an incentive for participation.

[21] FISS – Finish Industrial Symbiosis System (n.d.). Creating Growth via Industrial Symbiosis. URL: www.industrialsymbiosis.fi, accessed 14 August, 2015

The development of new symbiosis requires co-development and expert co-operation. To find the right expertise an "expert pool" has been formed, from which the companies can find the right expertise needed. The TUORE Expert Network (see chapter 9 in this report) can also be utilised in building new industrial symbiosis.

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is a wide use of this support measure in Finland though the Voluntary Energy Efficiency Agreements (1997 – 2007; 2008 – 2016) between the Ministry of Employment and the Economy, the Confederation of Finnish Industries, and industrial associations (see case box below). In the framework agreement, mutual obligations of the signatories and measures targeted at participating companies are specified. Such efforts are also being taken to reach similar agreements in the area of material efficiency. The National Material Efficiency Programme proposes the trial implementation of material efficiency contracts between the administration and companies as a way of spurring material efficiency improvements.

Case box 23: Voluntary Energy Efficiency Agreements (1997 – 2007; 2008 – 2016)

Good practice example: Voluntary Energy Efficiency Agreements

Objectives:

- Decrease energy consumption and greenhouse gas emissions
- Promote the adoption of best energy-efficient technologies and services
- Networking and dissemination of energy-efficient innovations

When the measure was launched: early 1990s

Target sector/beneficiaries: energy intensive industries, energy sector and energy services, private services, transport sector, municipalities, building sector, transport sector and farms

How widely/where the support measure is available: The energy efficiency agreements cover all the above-mentioned sectors.

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Hundreds of companies and communities with thousands of sites have signed up. At the end of 2013, the energy use of companies and communities signed up to the agreement scheme covered over 65 % of Finland's total energy use.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

- 9 TWh per year energy savings were achieved through measures implemented due to the agreement, which is equivalent to 2% of Finland's total energy consumption in 2007
- Annual reduction on CO2-emissions of 2.8 million tons
- Cumulative energy efficiency investments of 612 million EUR (2008-2013)

Other relevant features/information:

- At the moment Motiva is together with stakeholders looking into possibilities and willingness for similar voluntary based agreements to promote material efficiency in Finland. The ongoing project studies the willingness of the industrial sectors and the state administration to participate and discusses the possibilities of implementing such scheme. The project will develop a roadmap for development of a voluntary material efficiency agreement scheme.

Lessons from application of the tool

A company joining the agreement scheme has to submit an annual report of the previous year's energy use and energy efficiency measures. The implementation of practical measures, such as energy audits, is boosted by the agreements.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is a wide use of this support measure through the National Material Efficiency Centre. Established in 2008, the centre aims to provide information (data and knowledge) in the field of material efficiency, to develop tools and services to promote material efficiency of businesses and the public sector, and to initiate and coordinate interactive networks among material efficiency professionals. The National Material Efficiency Centre is funded by the Ministry of Employment and Economy with 500,000 EUR per year. It is incorporated in Motiva Ltd. and operates nation-wide. Its offers to businesses since 2008 encompass

- an information portal on material efficiency under the Motiva web-pages,
- a Consultancy Service for Public Environmental Technology Procurement,
- the development and promotion of material efficiency audit tools for companies,
- the development and implementation of the Finnish Industrial Symbiosis System FISS (see chapter 2: Support for Industrial Symbiosis), and
- the TUORE Expert Network (www.tuoreverkosto.fi) promoting the building of resource efficiency related skills.

Lessons from application of the tool

The National Material Efficiency Centre presents a central contact point for information and advice on material efficiency.

Improving company accounting and reporting practices

Level of use of the instrument

In Finland, there is a wide use of this support measure. The integration of sustainability issues in company accounting and reporting practices is facilitated through the Sustainability Reporting Award Finland. The Award has offered Finnish businesses and other organizations an opportunity to enhance their reputation as one of the Corporate Responsibility leaders in the country. Representatives of independent experts audit companies (Deloitte, Ernst & Young, KPMG and PwC) evaluate all the reports in competition, and the top 10 reports, of which the organizers have chosen the winner. The organizer of the group and the jury of the competition are composed of representatives of the six organizations: Aalto University School of Economics, Authorised Public Accountants Association, the Ministry of Employment and the Economy, Environmental Management Association YJY, the Ministry of the Environment and the Corporate Responsibility Network FIBS. There are three competition categories: general, SMEs and the public sector. The measure was launched in 1996 and funding of 5,000 – 10,000 EUR is provided annually.

Lessons from application of the tool

The Sustainability Reporting Award Finland is a low-cost support measure. With the award, an improved quality of the reports could be achieved and the number of interested companies has increased. There are special themes in different years, which raise the attention of businesses to emerging themes.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this support measure in Finland. For example, a national focal point for green and eco-innovative Public Procurement was established in 2012. Targeted at public procurement entities and suppliers, its aim is to facilitate the uptake of Green Public Procurement and procurement of clean tech by:

- developing product group specific environmental criteria and guidance in co-creation with businesses and procurement entities,
- providing a Help Desk for public procurement entities,
- facilitating market dialogue through supply-demand seminars, and
- providing information on best practices.

A budget of 300,000 EUR is allocated to the measure per year. The nation-wide measure has a good take-up: There have been over 5,200 website hits per year and about 1,400 newsletter subscribers. The Help Desk has dealt with more than 90 procurement cases and 20 best practices have been published annually.

Lessons from application of the tool

The development of environmental criteria for public procurement is combined with information on best practices and advice measures in form of a help desk.

Incentivising external audits to support resource efficiency

Level of use of the instrument

In Finland, there is a little use of this support measure. Firstly, the state-owned company Motiva develops and implements material efficiency audits and analysis tools for companies (see case box below). Secondly, the Finnish Ministry of Employment and Economy is subsidising companies to perform a material audit, which is based on the model created by Motiva. The material audit is performed collaboratively between the company and a consultant using the Motiva's auditing method.

Case box 24: Material Auditing for companies

Good practice example: Material Auditing in companies	*Objectives:* • identifying potential resource (material and energy) savings in production processes • generate well focused action plans for the companies • save costs and quantify environmental product performance (based on ISO 14051) • promote a widely accepted and used audit model for all industrial sectors • establish a subsidised programme in which authorised auditors perform the auditing using the audit model *When the measure was launched:* Started 2009 with piloting *Target sector/beneficiaries:* all sectors *Allocated budget/resources:* approximately 200,000 EUR annually *How widely/where the support measure is available:* nation-wide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Altogether 15 Material Audit projects have been initiated.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

The total saving potential has reached 11 million EUR (based on ISO 14051). Within the scope of pilot case studies, the audit was conducted in different companies and revealed an average yearly savings potential of several hundred thousand EUR.[22]

Lessons from application of the tool

Extensive training of new expert companies focusing on resource efficiency has resulted in enthusiasm for the national Material Audit Program. Recent material audits focused on chemical, forest and metal industries have been profitable and useful projects for the companies. Material auditing also gives further insight to industrial symbiosis and product design capabilities for the companies.

Improving financing

Level of use of the instrument

There is a little use of this support measure in Finland. The Finnish Funding Agency for Innovation TEKES offers grants and loans to companies for the realisation of resource efficiency projects, especially through the "Green Growth Programme". The type of funding depends on the goals and the content of the project: A grant is meant for companies' research-oriented projects, and the loan for development work and piloting. The loan has a low rate of interest and is without collaterals. The Green Growth Programme pursues the following targets:

- Fund projects that create long-term benefits for the national economy
- Identify potential new growth areas for the sustainable economy business
- Promote lower energy consumption and sustainable use of natural resources
- Increase energy and material efficiency of production and service chains over the entire life span of products
- Support the growth and access to international markets of SMEs
- Support for the formation of cross sector business ecosystems and demonstrations.

Grants and innovation loans only cover a certain percentage of the overall project costs. The nationwide measure promotes the uptake of cleantech, circular economy initiatives and bio-economy. Moreover, TEKES does not only support technological innovations, but also service-related, design, business, and social innovations. 25 successfully realised projects under the Green Growth Programme have been presented in a brochure on the website (TEKES n.d.).

Lessons from application of the tool

The public funding by the Green Growth Programme supports businesses in the early stages of projects, where it is difficult to find private funders. Businesses benefit from the availability of grants as well as loans, depending on the focus of their respective projects.

[22] Motiva (2014). Material Audits Bring Savings. URL: http://www.motiva.fi/en/areas_of_operation/material_efficiency/material_efficiency_audit_tools_for_companies/material_audits_bring_savings, accessed 14 August, 2015

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is a little use of this support measure in Finland through the TUORE Expert Network (www.tuoreverkosto.fi), which is run by the National Material Efficiency Centre. The network enhances resource efficiency related skills in businesses through active communication, face-to-face meetings, a LinkedIn forum, and newsletters. The TUORE website's information is available for everyone, not only for members.

Case box 25: TUORE Expert Network

Good practice example: TUORE Expert Network

Objective(s): promote the implementation of practical life-cycle thinking in the design of products and operations

When the measure was launched: 2011

Target sector/beneficiaries: The TUORE Expert Network is meant for companies and expert organisations that want to increase their competence related to the management of supply chains.

Allocated budget/resources: 100,000 EUR per year

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

- active members from various industrial sectors (good information dissemination)
- 265 members in year 2014)
- the number of active members is growing

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Administration costs of target oriented networking are low (only coordination activities). Partners involved in activities are taking care of their own costs.

Lessons from application of the tool

Networking is active work and involves collaboration with strategic partners. Engagement at personal level is essential. One specific feature of TUORE is its interlinkage with other support measures, such as support for industrial symbiosis, provision of targeted resource efficiency information and development of non-legal standards for products and services.

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Country Report France

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In France, several measures have been/are being implemented for supporting resource efficiency in business. Three of the ten support measures are widely used, six are used a little, and for one support measure there is no national policy in place (see Figure 12 below).

These measures range from the attempt to replicate in France the 'National Industrial Symbiosis Program' currently deployed in the UK, to initiatives taken at regional level (i.e. roadmaps for circular economy, issuance of green bonds), and the national experimentation for the environmental display on products conducted between 2011 and 2012.

For brevity, in the following only selected support measures and examples are presented.

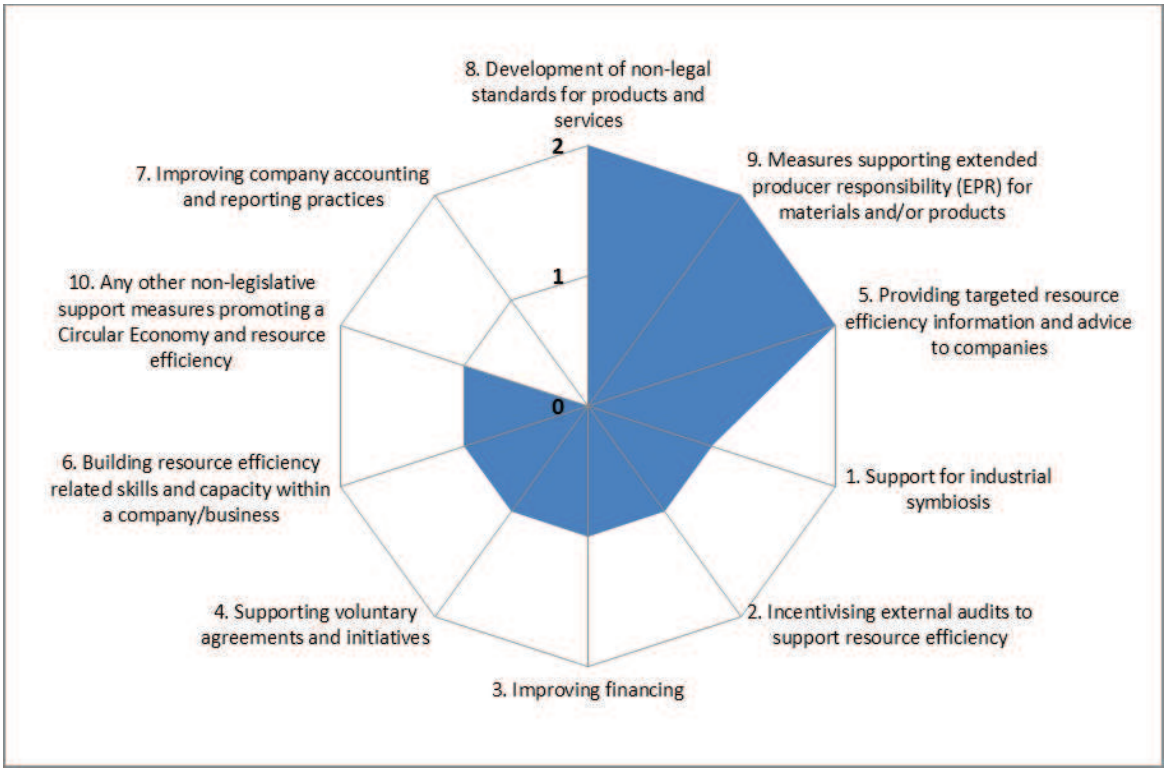

Figure 12: Level of application of Resource Efficiency measures in France
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Development of non-legal standards for products and services

Level of use of the instrument

The development of standards for products and services can be considered as one of the most significant measures in France to support resource efficiency in business, in particular via the National experimentation for the environmental display on products.

Case box 26: National experimentation for the environmental display on products

Good practice example: National experimentation for the environmental display on products

Objective(s): As part of the commitments taken through the Grenelle Environment Forum, this national experimentation, steered by the French Ministry for Environment, aimed at improving the information that is available to consumers regarding the environmental impacts of the goods they purchase. This experimentation relied on a call for volunteers, which was open to all kinds of companies, trade associations, etc. in order to create a sample group as broad and varied as possible. The aim was both to push consumers to be better informed when making their purchase decisions, and to allow producers to develop eco-design approaches when designing their products.

When the measure was launched: From July 2011 to July 2012.

Target sector/beneficiaries: Companies/consortia of companies, trade associations and professional bodies of all sizes and from every sector were allowed to apply.

How widely/where the support measure is available: National (but some foreign companies participated as well).

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): The experimentation gathered 168 businesses of various sizes and sectors

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): See below (lessons from application of the tool)

Lessons from application of the tool

The experimentation gathered 168 businesses of various sizes and sectors. A survey conducted after the experimentation shows that:

- 60% of participating companies declared themselves happy to have participated in the experimentation;
- 78% of them think that the experimentation allowed them to better understand the environmental performances of their supply chain/ of the value chain;
- 73% think that ecolabelling is a potential source for competitive advantage;
- In parallel, the work conducted by the platform set up by the French Agency for environment and energy management (ADEME) and the French association for standardisation (AFNOR) allowed to elaborate, in collaboration with stakeholders, industry standards for ecolabelling, such as for TVs, shoes, wooden furniture, shampoos, food products, textiles, etc.

Specific factors for success include the fact that this experimentation involved a series of meetings and consultations with different stakeholders (National Committee for Sustainable Development, Grenelle Environment Forum, ministries, the AFNOR ADEME platform [French standardisation body/French agency on environment and energy management], the French National Consumer Council, etc.) in order to set labelling requirements. This intensive collaboration across very diverse stakeholders was a key enabler for the positive feedback from the stakeholders and the positive impacts of the experimentation in terms of streamlining resource efficiency concerns into business operations.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

In France, there is a wide use of regulations on waste management and EPR. EPR mechanisms have been put in place as early as in 1992 for household packaging waste and since then, many more schemes (14 in total) have become operational, mainly in the 2000s. Some of them stem from EU directives – sometimes EPR is directly required by the directives (WEEE, batteries, ELV), and sometimes France decided to set up EPR schemes where EU directives did not explicitly ask for it (such as tires, graphic paper). There is also a variety of purely domestic schemes – including tyres, graphic papers, and textiles. Most recent schemes concern items such as furniture, infectious healthcare waste, dispersed hazardous waste.

Lessons from application of the tool

While cost-effectiveness is difficult to assess, research findings illustrate that stakeholders generally consider the French EPR schemes to enable reaching ambitious results at relatively affordable costs.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

In France, targeted resource information and advice are widely provided to companies. The key player in this respect in the French Environment and Energy Management Agency (ADEME), which provides technical and financial support to companies on all aspects of resource efficiency. Among the numerous information materials and tools on circular economy and resource efficiency provided by the ADEME, the document called '*Efficience économique & utilisation efficiente des ressources: 10 méthodologies d'actions pour les entreprises*' is destined specifically for businesses that aim to improve their economic and resource efficiency and want to understand the methodologies that are available and which one would best suit their own needs. The document is a benchmark that explains the basis, pros and cons of 10 methodologies developed globally or in specific countries for reducing environmental impacts (i.e. waste) while at the same time reducing costs and/or increasing revenues.

Lessons from application of the tool

No specific lessons or factors of success were identified for this support measure in France.

Support for industrial symbiosis

Level of use of the instrument

There is little use of this support measure in France. The main initiative in this respect is the experimental deployment of the NISP method – which is has been operating in the UK since 2003 and provides a platform to inspire businesses to implement resource optimisation and efficiency practices (see UK country report) – in several French regions.

Lessons from application of the tool

The experimentation will involve 150 companies in each of the four regions where it is being implemented. Since this initiative has just begun, it is difficult to assess lessons from application of the tool.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is a little use of this support measure in France, via the French Environment and Energy Management Agency (ADEME), which provides financial and technical help to companies willing to integrate the principles of eco-design in their business. This support has been deployed in several French regions. In the Bourgogne Region, the ADEME and the Conseil regional de Bourgogne have been supporting companies since 2006, with all industrial sectors of the region being part of the target (engineering, plastics processing, stone processing, etc.). A similar example exists in the Lorraine region.

Lessons from application of the tool

In the Bourgogne region, this measure seems to be successfully implemented. In 2009, the partners of the ADEME (the Region, the national government and Oséo) decided to create a dedicated resources centre, with the aim to support companies willing to integrate Eco-design into their business at each stage of their project.

Improving financing

Level of use of the instrument

There is little use of this support measure in France. In this context, one important measure is the issuing of green bonds by the Ile-de-France regional council, with the objectives to raise money for en-

ergy, low-energy social housing, and dedicated biodiversity as well as social and solidarity economy initiatives.

Case box 27: Green bonds by the Ile-de-France regional council

Good practice example: Green bonds by the Ile-de-France regional council	
	Objective(s): The "environmentally and socially responsible bond" issued by the Île-de-France région in 2012 was allocated 50% to funds for financing environmental projects and 50% to economic, social and solidarity development projects. The April 2014 issue intends to finance a mix of green investments. *When the measure was launched:* First launch in March 2012; second launch in April 2014 *Target sector/beneficiaries:* Environmental projects and economic/social and solidarity development projects *Allocated budget/resources:* The March 2012 issue allowed raising 350 million EUR; the April 2014 issue allowed raising 750 million EUR. *How widely/where the support measure is available:* Regional initiative.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): The 2012 bond's subscription rate reached 175% within half-an-hour. This meant that the Region, which was expecting a 200 million EUR loan, saw its order book increase to around 620 million EUR. Ultimately, 350 million EUR was raised for energy, low-energy social housing, and dedicated biodiversity as well as social and solidarity economy initiatives. In the 2014 issue, the 12-year bond's coupon was expecting 600 million EUR. Strong demand raised the order book to over 750 million EUR. The issue was a success with socially responsible investor profiles integrating extra-financial criteria including ethical, social and environmental factors into their management and investment decisions. They subscribed 85% of the issue, with foreign investors accounting for 25% of funds raised. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* See above (indications of take up) *Other relevant features/information*: It is interesting to note that when launching its March 2012 issue the Île-de-France région quickly provided information on the projects, while also disclosing its sustainability rating (59/100 awarded by Vigeo) after S&P and Fitch credit ratings (AA+/AAA). *Source of information/further information:* Région Île-de-France: Murielle Gillet, tel: +33 1 53 85 57 33; email: murielle.gillet@iledefrance.fr

Lessons from application of the tool

According to analysts/reports, the specific features of this offering met investors' requirements in terms of risk (long maturity, high issuer rating, etc.), partly explaining the transaction's success. Moreover, the transparency of the initiatives financed along with the social and environmental nature of the March 2012 issue appear to justify one third of the offers made by investors, according to Crédit Agricole CIB, which set up the transaction, alongside BNP Paribas CIB. The strong demand from investors enabled the Ile-de-France Regional Council to borrow at 3.625%, which amounts to the lowest euro yield paid by a French local authority since the beginning of the year. These elements account for the success of this measure.

Support for voluntary agreements and initiatives

Level of use of the instrument

In France, several voluntary agreements and initiatives have been deployed to support resource efficiency in business. Along with other initiatives such as ARPEGE (Atelier de reflexion prospective sur l'écologie industrielle), the Institut de l'Economie Circulaire is a key player in France for fostering voluntary collaboration among business stakeholders in the field of resource efficiency. Its aim is to

promote the concept of a circular economy. The Institute was founded in February 2013. Among its founding members, there are NGOs such as the Fondation Nicolas Hulot, companies such as La poste, Gaz réseau distribution France, and business associations such as the French federation of recycling industries and the French Cement Association (SFIC). Many business stakeholders/ eco-organisms/ business associations have become Members, among which Coca-Cola Entreprise, ECOFOLIO, Ecologic France, GrDF, Greenflex, La Poste, Le Relais, Nexity, Paprec group, etc.

Lessons from application of the tool

French experiences in this field show that this measure helps spreading the concept of resource efficiency and increasing collaboration among stakeholders. In the case of the Institut de l'Economie Circulaire, specific achievements include organising workshops, seminars, producing position papers, monitoring legislative developments on circular economy and communication/outreach.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

In France, some initiatives have been implemented at regional level to support the development of green skills within companies/businesses. The Aquitaine Region offers an example of this approach: as part of its Roadmap for circular economy, which was issued in January 2015, the Region provides support to training on topics related to circular economy (i.e. financing of the online University for Environment and Sustainable Development – Université Virtuelle de l'Environnement et du Développement Durable, creation of a Chair on Ecodesign). The region has also raised awareness on environmental issues among businesses, with the help of the local Chamber of Commerce and Industry (CCI des Landes).

Lessons from application of the tool

Since the Aquitaine region has just released its Roadmap for circular economy, it is too early to assess the application of the measure and identify lessons learnt. However, the development of similar roadmaps in other French regions (i.e. the Basse-Normandie region) can be considered as a positive trend.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Other initiatives have been taken to support Circular Economy in France, such as the Call for Proposals 'Territoire zero déchets, zero gaspillage' ('zero waste areas'), the 'Waste funds' (which is managed by the ADEME and can provide 140 million euros each year – 40% of which being earmarked for companies – to promote studies, waste diagnosis, and improve resource efficiency, and 'Investissements d'avenir'.

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Country Report Croatia

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Croatia, one support measure (regulations on waste management and extended producer responsibility) is widely used, six of the ten support measures are used a little (ranging from a project implementing an industrial symbiosis in Zagreb, through consultations and information on the implementation of cleaner production, to a public call for co-financing of different voluntary environmental instruments), and for three support measures there is no national policy in place (see Figure 13 below).

For brevity, in the following only selected support measures and examples are presented.

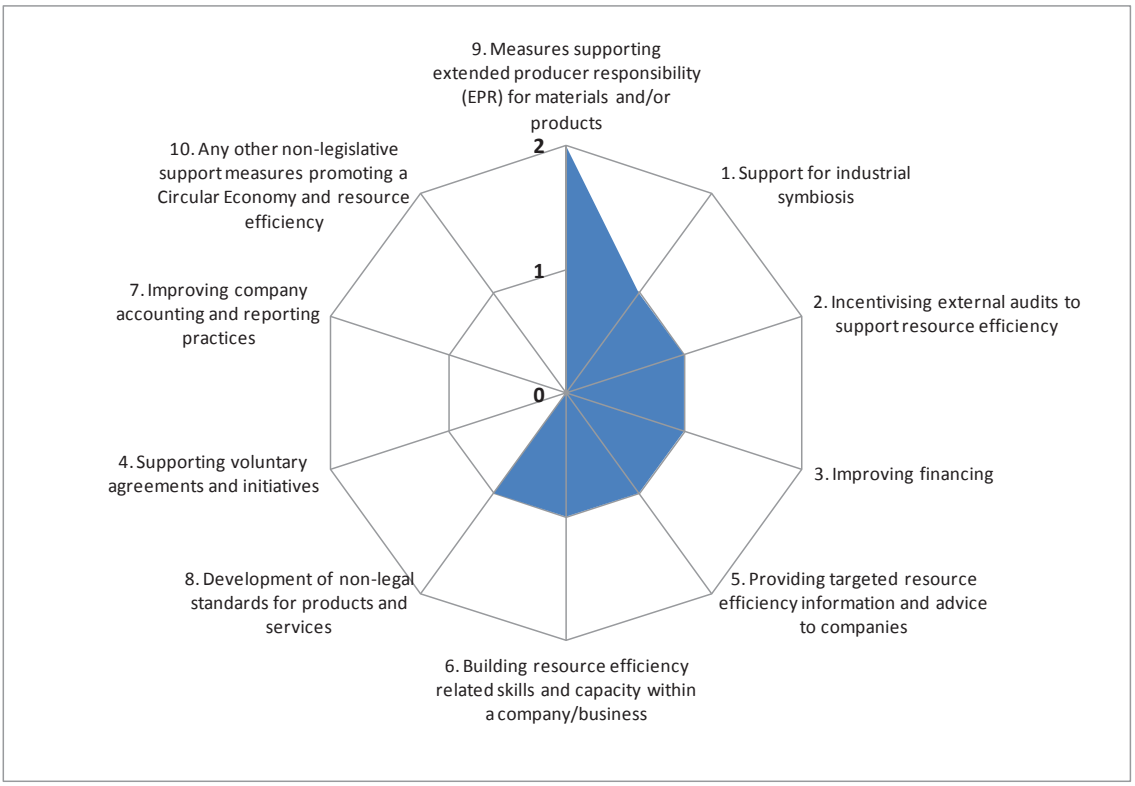

Figure 13: Level of application of Resource Efficiency measures in Croatia
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

Extended producer responsibility schemes are widely used in Croatia in the area of waste management. There are policies in place for end-of-life vehicles (ELV), batteries, waste electrical and electronic equipment, tyres, oils, packaging, as well as for medical waste. The three first mentioned ones are based on the respective EU directives (Directive 2000/53/EC on end-of life vehicles, Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, Directive

2012/19/EU on waste electrical and electronic equipment), while tyres, oils and medical waste go beyond EU legislation. An interesting example is the ordinance on management of end-of-life vehicles (see case box below). Introduced in 2006, the EPR scheme is funded by the Environmental Protection and Energy Efficiency Fund - EPEEF.

Case box 28: Ordinance on management of end-of-life vehicles

Good practice example: name of the specific measure

Objective(s): (1) collection and recovery of end-of-life vehicles; (2) by 2015, ensure the rate of re-use and recovery to be at 95% in terms of average weight per collected vehicle/year; (3) by 2015, ensure the rate of re-use and recycling to be at least at 85% respectively in terms of average weight per vehicle/year

When the measure was launched: in 2006 (ongoing)

Target sector/beneficiaries: automobile sector

Allocated budget/resources: Regulations on waste vehicles stipulated the amount of the fee which producers and importers of vehicles in Croatia are liable to pay for the import of vehicles. The fee amounted to 0.85 EUR/kg of vehicle and from June 2015 the fee is 0.60 EUR/kg of vehicle. The budget of the Fund thus depends on the number of vehicles imported into the Republic of Croatia, and their mass.

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses:

The system of ELV is financed by the Fund. Revenues generated by Fund from charges by users of the environment, importers and producers of vehicles are used to pay the expenses of collection and recycling of these waste streams to licensed collectors and recovery operators. Economic operators of the system are manufacturers and importers of vehicles, collectors and recovery operators. The Fund signed agreements with the collectors and recovery operators on methods of collection and recovery, pricing the services provided, and reporting. The Fund has signed 7 contracts on the collection of waste vehicles and 2 contracts for recovery of waste vehicles. Collection and recycling shall be paid according to the amounts set in the Regulations. From June 2015 there were changes to the prescribed amounts in a way that recovery is no longer paid, and for collection there is a reduced amount. From fees paid by manufacturers and importers the Fund is paying the owners of ELVs that deliver the vehicles to the collector for a fee. This fee amounted to 0.40 EUR / kg and from June 2015 increased to 1.00 EUR / kg per complete ELV delivered.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

With the introduction of the system of waste vehicles in Croatia, disposals of ELVs into the environment could be reduced to a large extent. Moreover, all the wrecks that were disposed in the environment are being collected. All the collected waste vehicles are handed over to recycling facilities in Croatia. Recovery operators achieved the separation of components in a rate of 97% in 2014.

Other relevant features/information:

There is an ongoing review of the system of waste vehicles in order to improve the system and further reduce the fees for producers and importers.

Lessons from application of the tool

The environmental fund EPEEF is responsible for the financial management of specific waste streams, among them end-of-life vehicles. Producers pay charges for the vehicle waste to the Fund, which are used to pay the expenses of collection and recycling to licensed collectors and recovery operators. Reduction of fees has been achieved through legal changes.

Support for industrial symbiosis

Level of use of the instrument

Developing industrial symbiosis as well as symbiosis between public companies, cities and regions, industrial entities and other players is a topic of interest in Croatia. Currently there is a little use of state support for industrial symbiosis. One example is the UrbanBiogas Project in Zagreb. In order to promote the use of organic urban waste for biogas production, a concept for the creation of an Industrial Symbiosis in Zagreb has been established. An agreement is aspired between a biomethane production company, the waste management company (ZCH Čistoća), the City Gasworks Company as well as the Urban Public Transport Company for the City of Zagreb.

Case box 29: UrbanBiogas Zagreb Project

Good practice example: name of the specific measure

Objective(s):

- Joint waste management and renewable energy production (heat and biofuels) based on the least cost principle for the public money
- Decrease production costs of biogas
- Decrease landfilling of organic waste
- Reduction of greenhouse gas emissions
- Increased possibility of benefiting from EU funds

When the measure was launched: In 2011. The project officially ended in April, 2014. Further ongoing activities regarding biogas plant construction in the City depend mainly on the decisions and future plans of the City Council.

Target sector/beneficiaries: waste sector, biogas production, waste water treatment, public transport

Allocated budget/resources: 1,170,240 EUR for the whole project.

How widely/where the support measure is available: in the city of Zagreb

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

- Involved parties in the project: City Council/municipality, waste collection company (Čistoća), public transport company (ZET), waste treatment company (Zrinjevac), Waste processing company and Landfill operator (ZGOS), Biomethane producer and Biomethane trading company, Natural gas grid operator (Gradska Plinara-Opskrba), Fuel distribution companies (INA, OMV, Tifon, etc.)
- Negotiations took place between interested investors, Croatian partners in the project and city officials
- Two potential investors have signed a letter of interest

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

- As one result of the project, the urban public transport company uses compressed biomethane in its busses.
- A Waste Management Plan was established, which officially defined and conditioned all the elements of the waste management at the time of implementation and explicitly included biogas production

Lessons from application of the tool

Urban Biogas Zagreb was initiated and financially supported by the „Intelligent Energy for Europe“ programme of the European Commission. The example shows that financial support from outside

Croatia facilitates the implementation of such projects. One success factor was the involvement, motivation and commitment of local entities: the waste management company (Čistoća) and the state-owned Energy Institute Hrvoje Požar committed themselves to the project. Also, city officials and the City Gasworks gave support to the implementation. Čistoća and EIHP made efforts in finding interested investors in order to implement the project plans. A further central factor for success was the willingness of the urban public transport company to use compressed biomethane in its busses.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is a little use of this support measure in Croatia. Since 2000, the Croatian Centre for Cleaner Production (Cro-CPC) offers consultations and aid in the implementation of cleaner production and Environmental Management Systems (EMS) in industrial companies. Objectives of the measure are a more efficient use of raw materials and energy, savings in water and energy as well as a reduction in the emissions of pollutants and waste at source. Cro-CPC was jointly founded by the Croatian Government and UNIDO in the year 2000. Cro-CPC is a regular member of UNIDO/UNEP RECP[23] network. Although the services of Cro-CPC are in principle available for all sectors and nation-wide, at present there is no clear strategy to systematically establish the activities on the national level. (Eco SCP Med 2013)

Lessons from application of the tool

Mostly, all of the activities in the implementation of cleaner production in the industry have been implemented with support from international donors (UNIDO, Norwegian government, etc). Apart from that, the Czech Republic supported the Cro-CPC by offering training for the staff and carrying out demonstration projects. This shows that knowledge transfer from countries that have more experience with the introduction of resource efficiency measures can be a key to success. By means of the initial support from outside Croatia, financial savings of around 85 million HRK per year could be achieved, which equals approximately 11.6 million EUR.[24]

Improving financing

Level of use of the instrument

A number of governmental financial support programmes exist in Croatia, which cover measures to increase resource efficiency in businesses. Overall, there is a little use of this support measure. For example, the Ministry of Entrepreneurship and Crafts (MEC) aims to support technological innovation in the small and medium-sized enterprises (SME) sector. Through an "Entrepreneurial Impulse" support programme, the ministry and the Croatian Agency for SMEs, Innovations and Investments (HAMAG BICRO) make grants available to projects in the manufacturing, environmental protection and information technology sectors, which can include eco-innovation projects. The instruments/measures stimulating the eco-innovations are not directly focused on specific technological area. Furthermore, the Environment Protection and Energy Efficiency Fund (EPEEF) invests in the preparation, implementation and development of programmes, projects and similar activities in the field of environmental and nature protection, energy efficiency and use of renewable energy sources. Apart from that, various projects are financed by international programmes and investors. Croatian partners have, for example, led or participated in 6 eco-innovation projects funded by the EU's Competitiveness and Innovation Framework Programme (CIP), which ran from 2007-2013. One of these projects was RUCONBAR, which used "rubber concrete", or a mixture of stone aggregate and rubber granules recovered from car tyres, to manufacture noise barriers that are placed alongside motorways and railway lines. The project, which concluded in August 2014, found a use for old tyres that would otherwise enter the waste stream and created a product that potentially could be widely sold.

[23] Resource Efficient and Cleaner Production

[24] For the currency conversion from Croatian Kuna into Euro, the European Central Bank Average Exchange rate over the last 10 years was applied (https://www.ecb.europa.eu/stats/exchange/eurofxref/html/eurofxref-graph-hrk.en.html).

Lessons from application of the tool

A part of the financial support is specifically targeted at SMEs. Next to the national support programmes in place, financing through international programmes plays an important role for the realisation of resource efficiency projects in Croatia.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this support measure in Croatia, which has been introduced very recently. A public call for co-financing of different voluntary environmental instruments was launched in 2015 through the national Fund for Environmental Protection and Energy Efficiency. In particular, this was targeted on

- Studies on the conformity of products with the criteria for the EU Ecolabel
- Implementation of EMAS
- Implementation of ISO 14001

This instrument aims to encourage the private sector to certify the environmental performance of products, services and management in order to reduce the environmental footprint and stimulate green business. Approximately 130.000 EUR of governmental budget are allocated to this measure.

Lessons from application of the tool

A low interest of the business sector was noticed, probably because they are not well informed about and have limited find interest in the environmental certificates. Therefore Croatia aims to increase its promotion activities. The state's idea is to include information about incentives and regulatory reliefs to attract the business sector to the environmental certificates. Applicants showed more interest in ISO 14001 as it has a longer tradition in Croatia and is better known. In 2015, 11 companies satisfied the criteria and will sign the contract for the ISO 14001. As this is a very recent measure, no information on its efficiency is available yet. The call was opened on national level for the year 2015, or to when the funds are spent. It is in plan to repeat the same scheme in next year.

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Country Report Hungary

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Two of the ten support measures, providing targeted information and advice and regulations on extended producer responsibility, were found to be widely used in Hungary, five measures are used a little, and for three support measures no national policy was found to be in place (see Figure 14below).

For brevity, in the following only selected support measures and examples are presented.

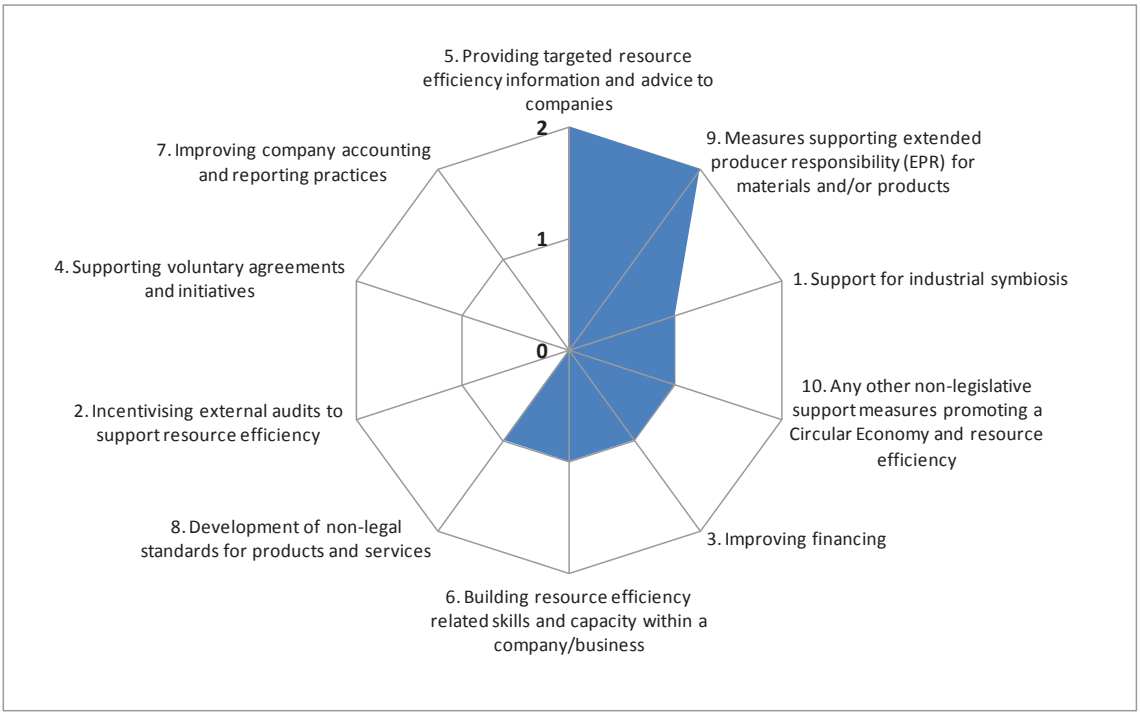

Figure 14: Level of application of Resource Efficiency measures in Hungary
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

In Hungary there is a wide use of measures aiming to provide targeted information and advice to companies on resource efficiency. The main measure is the so-called 'Money Thrown Out the Window' initiative (*Ablakon Bedobott Pénz*), which was created by the KÖVET Association for Sustainable Economies, an independent and non-profit organisation (see case box below). Within the programme a site visit by the staff of the Association to the applied company takes place and an eco-mapping is undertaken with the aim of exploring the potential saving opportunities and areas for development. This assessment is followed by a brainstorming with the employees and an examination of relevant documentation and data of the company in order to identify a list of measures which could help to achieve environmental savings in the company. Apart from this process the KÖVET Association for Sustainable Economies also organises information dissemination conferences and workshops, and hands out an annual 'Environmental Savings Award'.

The Ministry of Agriculture also plans to organise a conference on eco-innovation for environmental businesses (mainly SMEs) in 2015. The main objective of the conference is to provide businesses with relevant information to initiate or foster eco-innovations; information will include current EU and national tender and funding opportunities for companies. Moreover, selected companies will have the chance to give a short presentation of their innovative technology or service.

Case box 30: Money Thrown Out the Window

Good practice example: Money Thrown Out the Window	
	Objective(s): The objective is to promote resource efficiency measures in the industry sector which result in financial savings. The companies that apply for this initiative receive a list of suggested measures to achieve environmental savings. The list is based on a site visit, a discussion with the employees of the company and the examination of documents. Annual conferences and workshops are also organised and the annual 'Environmental Savings Award' is handed out in three categories to the best performing organisations. *When the measure was launched:* The initiative was launched in 2002. *Target sector/beneficiaries:* The targeted sectors include fisheries and forestry, mining and quarrying, manufacturing, electricity and water supply, construction, the commercial sector, hotels and restaurants, transport logistics and real estate. *Allocated budget/resources:* In 2014, the organisations which participated in the initiative invested around 230.5 million EUR (HUF 71.78 billion) with the aim to introduce more effective environmental equipment and operation. *How widely/where the support measure is available:* The support measure is available for a wide range of organisations and companies.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In 2014, 78 organisations participated in the programme, with 370 measures and initiatives. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* In 2014, in the last Money Thrown Out the Window program, savings worth 71.29 million EUR (HUF 22.1 billion) were realised, 663 thousand tonnes of non-hazardous and 60.5 thousand tonnes of hazardous waste and 751 GWh of energy were saved.

Lessons from application of the tool

According to the information obtained from the Ministry of Agriculture the companies participating in the initiative can gain several long-term environmental and economic benefits.

On the website of the initiative a large database also exists listing the companies that undertook environmental saving measures as part of the programme (see at: http://www.ablakonbedobottpenz.hu/megtakaritas.php). The database provides information on each company indicating the types of measures, the achieved environmental savings and key economic information. This database could provide useful information for other companies.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

In Hungary, two instruments are widely used on waste management. One of the regulations is the so-called WEEE coupon, which is used when consumers (households) take back their e-waste to an EEE selling point. The consumers then get a coupon which can be used when the next piece of EEE is purchased. The legal base of the coupon is the Gov. Decree No. 197/2014 (VIII. 1.), which came into force in 2015.

The other tool is the environmental product fee, which is applied to a wide range of products including batteries, packaging materials, EEE, tyres, plastic bags, plastics and office paper (see case box below).

The taxable entity depends on the product in question, but it can include users, buyers, distributors and manufacturers. The fee is currently regulated by the LXXXV. Act of 2011.

Case box 31: Environmental Fee on Products

Good practice example: Environmental Fee on Products	
	Objective(s): The basic concept is designed to limit external impacts on the environment caused by the production and marketing of the following products: batteries, packaging materials, EEE, tyres, plastic bags, plastics and office paper. The main objective of the fee is to prevent pollution caused by these products and to efficiently manage natural resources. The environmental product fee considers the polluting potential of the different products; for instance for those packaging materials that are less harmful to the natural environment than others, a lower environmental product fee is applied. *When the measure was launched:* The fee was introduced in 1996. *Target sector/beneficiaries:* Producers and traders *How widely/where the support measure is available:* The fee is applied nation-wide and is a legal obligation regulated by the LXXXV. Act of 2011 on the environmental product fee.
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): The fee is an effective environmental management tool which has favourable effects on domestic waste management processes. It also provides funding for the State in order to achieve EU targets related to recovery and it supports the development of domestic waste recovery. The regulatory advantage is to be able to stimulate manufacturers / distributors for the manufacture / marketing of environmentally favourable products and to restrict environmentally undesirable products.

Lessons from application of the tool

Since the introduction of the environmental product fee in 1995, numerous changes have been made to the legislation on the fee. In 2011 a 'Green Tax Act' was passed by the parliament, introducing significant changes to the environmental fees on products. The fee on advertising papers was raised threefold. Changes were also made to exemption rules and liabilities related to packaging, which resulted in an increase of State revenues from the fee. The most recent changes were made in 2015 when the fee was extended to additional products, including for instance soaps, washing powders and cosmetic products. Furthermore, the recent changes introduced six new 'pollution categories' according to the degree of the pollution of the specific products. The main aim of these changes was to create a more transparent and simpler system which would reduce the administrative burden.

Support for industrial symbiosis

Level of use of the instrument

There is a little use of measures supporting industrial symbiosis in Hungary. Even though two successful initiatives existed previously both initiatives were only in place for 1 to 2 years. The main initiative was the 'National Industrial Symbiosis Programme' (NISP, see case box).

At the same time, between 2010 and 2011 a cross-border project between Hungary and Slovakia also existed, the 'Reprowis Project – Reducing Production Waste by Industrial Symbiosis'. This was an ERDF funded EU project with the aim of reducing waste generation and promoting innovative techniques of waste management through various methods of cleaner production and industrial ecology. The project also aimed to create action plans for innovative industrial symbiotic actions (waste management) to reduce waste generation by SMEs.

Case box 32: National Industrial Symbiosis Programme

Good practice example: National Industrial Symbiosis Programme	*Objective(s):* The aim of the programme was to provide support for businesses on how to deal with industrial waste through the creation of new business opportunities. The key objective of the programme was to help the EU to reach its climate change targets via the application of industrial symbiosis principles in the regions of Hungary. *When the measure was launched:* The programme was launched in 2010 and was in place until 2012. *Target sector/beneficiaries:* Producing and processing industry *Allocated budget/resources:* Total budget was 793,485 EUR, of which 50% was provided by the EU under LIFE+. *How widely/where the support measure is available:* Waste generators and waste processing companies from across the country could apply to the programme.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In total 72 synergies were completed throughout the project. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* 1,200 tonnes of waste diverted from landfill, 1,238 tonnes of raw materials saved, 26,000 m^3 water use prevented and 3,751 tonnes of CO_2 emissions saved.

Lessons from application of the tool

According to the information obtained from the Ministry of Agriculture, the NISP's main success factor is its innovative approach to overcome barriers.

This LIFE funded project was the first business model in Hungary which applied the industrial symbiosis approach with the aim of facilitating business partnerships for improved resource efficiency. The key innovative character of the project was the introduction of new operational procedures in companies and the need for machinery design. Throughout the project various barriers were identified, which motivated the formation of a new consortium to apply for funding from the Climate-KIC initiative in order to overcome the identified barriers.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

While various initiatives exist in Hungary which aim to provide information on resource efficiency in businesses there is only a limited use of targeted capacity building measures.

In Hungary, two key business platforms exist which can have an impact on resource efficiency related skills. The mission of the Business Council for Sustainable Development in Hungary (BCSDH) and the Hungarian Business Leaders Forum (HBLF) is to promote sustainable development and to integrate corporate social responsibility within Hungarian companies. The BCSD Hungary was founded in 2007 and targets business, civil and governmental organisations. The HBLF's target sectors are local and international companies, small and medium-sized enterprises (SMEs), non-profit organisations and individuals. The HBLF has close to 100 members today, while BCSDH has 65 corporate and 3 individual members.

Furthermore, an ERDF funded EU platform, the Presource Network, also exists in Hungary. As part of the project's output, the EDIT Value Tool was developed, which aims to enable SMEs in the production sector to identify and exploit within their own organisation potentials for increasing the resource efficiency of production processes and products.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of non-legal standards for product and services in Hungary. One particular scheme does exist, the 'Hungarian National Ecolabel' *(Környezetbarát Termék Ökocímke)* – see case box.

Case box 33: Hungarian National Ecolabel

Good practice example: Hungarian National Ecolabel	
	Objective(s): The Ecolabel is a certification that helps consumers to identify products and services with proven reduced environmental impact throughout their whole life cycle. The Ecolabel schemes are voluntary. *When the measure was launched:* The certification was launched in 1994 by the Ministry of Agriculture. *Target sector/beneficiaries:* National and foreign manufacturers, suppliers and distributors *How widely/where the support measure is available:* At the moment there are 27 product groups within the label.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): As of 2015, 15 companies are registered Ecolabel license holders and have 323 licensed products in total. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* The ecolabel helps consumers to decide which products are the most environmentally-friendly.

Lessons from application of the tool

No specific lessons were identified.

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KÖVET Association for Sustainable Economies website: http://www.kovet.hu/en

LXXXV. Act of 2011 on environmental fee on products (*2011. évi LXXXV. Törvény a környezetvédelmi termékdíjról*)

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Country Report Ireland

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Ireland, two of the ten support measures are widely used (audits and targeted information by the Green Business Programme, six are used a little (ranging from SMILE Resource exchange programme, through Repak's Prevent and Save Initiative, to support for "Green Hospitality") and for two support measures there is no national policy in place (see Figure 15 below).

For brevity, in the following only selected support measures and examples are presented.

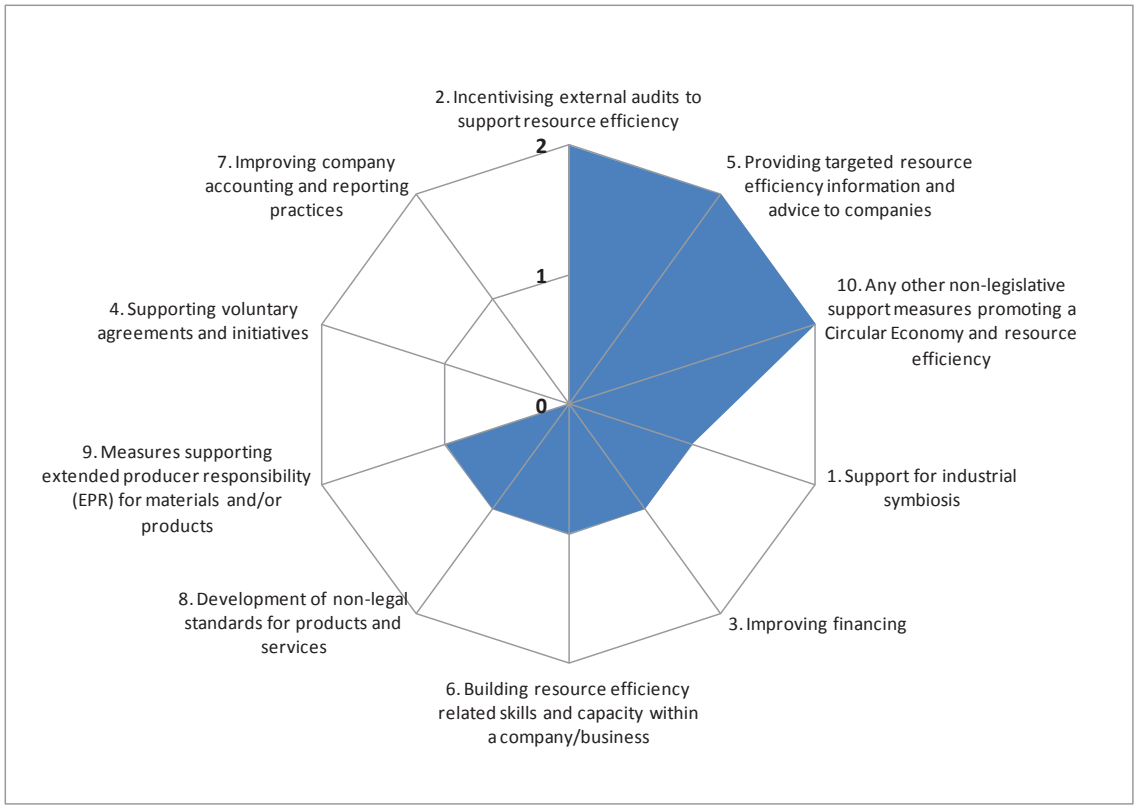

Figure 15: Level of application of Resource Efficiency measures in Ireland
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is a wide use of this support measure in Ireland through the Green Business Programme, which provides free onsite Resource Efficiency Assessments (REAs) carried out by experts. Participating businesses may have up to 5 days of consultant support, including write up of reports. A report is issued following an onsite visit, which identifies resource efficiency opportunities specific to a business. The report identifies a number of opportunities, which will be a mixture of 'no-cost', 'low-cost' and also opportunities that may require some investment. All companies have access to the web-based tools even if they don't engage formally with the Green Business Programme. As further part of the

programme, regional workshops are conducted to introduce the concept of waste prevention and discuss resource efficiency issues with businesses. The workshops give companies access to experts in several fields, who not only present on resource efficiency topics, but also provide specific advice and assistance in discussions. They can also provide assistance via phone, web and via email.

Case box 34: Green Business Programme

Good practice example:

Objectives: (1) using less water, energy and raw materials to manufacture a product or provide a service; (2) reducing costs for the participating companies

When the measure was launched: Current iteration of the programme is in place since 2011.

Target sector/beneficiaries: All business areas are invited to participate in Green Business. There currently is a particular emphasis on the Food & Drink sector.

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses: 1,144 businesses have engaged with Green Business since 2011. 38 Resource Efficiency Assessments were carried out in 2014 (180 conducted since 2011).[25] Six BeGreen regional workshops took place in 2014 with a total of 218 attendees.

Effectiveness:

- Typical savings of 37,000 EUR per annum per company have been assessed.[25]
- 70% of potential cost savings are energy savings (20% on waste, 10% on water). [25]
- In 2014, a potential benefits to costs ratio of 4:1 was calculated.
- A survey of businesses that had undertaken a Green Business Resource Efficiency Assessment (REA) between January 2008 and July 2011 was developed, distributed and analysed in 2012. In all, 56 companies were surveyed, with a response rate of 34%. The majority of respondents were satisfied with the "No Cost" recommendations made for their company with half of the companies stating that they had implemented more than 50% of these recommendations since the site visit and REA report.

Other relevant features/information:

Green Business works with other organisations to provide services, and can also inform businesses about or refer them to other Resource Efficiency support agencies and funding programmes.

Lessons from application of the tool

All work carried out by Green Business is 100% confidential and information is not shared with any third party. In order to be practical and encouraging, the site reports are specific and detailed and concentrate on "no and low cost" improvement actions. Furthermore, Green Business follows up with the firm after approximately 6 months to see how the firm is progressing with the identified savings, so providing an incentive for their implementation. The results from this follow up are used as case studies, providing further implementation incentives, and demonstrating benefits to other firms.

An additional factor of success of the Green Business programme can be seen in the cooperation with the EPA and the Irish Business representative organisation (IBEC) which has 7,500 business members. The cooperation is aiming to promote resource efficiency to the IBEC members and other stakeholders in Ireland. Its achievements include that Green Business developed relationships with other players involved in Resource Efficiency. The liaison is believed to have increased attendance at regional workshops and participation.

[25] Green Business Achievements (n.d.). URL http://ctc-cork.ie/wp-content/uploads/2015/04/GB-Infographic.pdf, accessed 21 October, 2015.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is wide use of this support measure in Ireland. Next to audits, the Green Business Programme is also providing targeted resource efficiency information and advice to businesses. In particular, Green Business provides online information which is relevant to companies in specific sectors all over Ireland, in formats which they find useful. Various information that covers many different sectors has been produced since 1995, with a series of 133 documents now available online dating from 2002 onwards. In 2014, Green Business published two good practice guides on resource efficiency: *Resource Efficiency for the Retail Sector* and *Resource Efficiency for the Print & Packaging Sector*. Both of these guides were developed in collaboration with industry and business sector organisations. Moreover, in the last three years, Green Business has hosted 29 Resource Efficiency Seminars. These seminars are aimed at promoting the message that 'Green Business' is 'Smart Business' and that resource efficiency has a crucial part in sustaining business.

Lessons from application of the tool

The Green Businesses online information is targeted to specific sectors. Some guides have been written together with the representative organisations for particular sectors (e.g. print and paper, retail) and are promoted by these sectoral organisations to their members.

Support for industrial symbiosis

Level of use of the instrument

There is a little use of this support measure in Ireland through the Industrial Symbiosis programme "SMILE Resource Exchange" (see case box below). SMILE is a free service for companies and aims to encourage resource exchanges between its members. Potential exchanges are identified through regional networking events and an online exchange tool.

Case box 35: SMILE Resource Exchange

Good practice example: SMILE Resource Exchange	
	Objective: to encourage the exchanging of resources between its members in order to save them money, reduce waste going to landfill and to develop new business opportunities. *When the measure was launched:* in 2011 on the local level, launched nationally in 2014 *Target sector/beneficiaries:* open to all sectors *Allocated budget/resources:* Total Cost in 2014 is 90,000 EUR *How widely/where the support measure is available:* SMILE is now available nation-wide; it operates more strongly in some regions of Ireland: Cork, Dublin, Clare, Limerick, Kerry.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): Currently SMILE Resource Exchange has 1,232 members (second quarter of 2015) *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* • As of the second quarter of 2015, SMILE Resource Exchange has 1,232 members. In 2014, through SMILE 60 successful synergies were concluded, altogether helping to divert 357 tonnes of material from landfill with an estimated value of 398,000 EUR (EPA 2015). • Cost to benefit ratio is estimated at 3:1 (2014).

Lessons from application of the tool

The following success factors have been identified for the programme:

- A team is provided free of charge to assist in facilitating exchanges.

- Regional events are held which bring together interested regional companies, and many potential exchanges are identified at these events.
- In one particular feature of the programme, a mentoring system is being developed which should see the environmental best practice from within a multinational company in Cork being shared with groups of SMEs. SMEs are thus engaged through interaction with a multinational company.
- In 2014, a team of technical consultants was engaged by SMILE Resource exchange to enhance the identification of potential resources and to support the exchanges. This approach has proved worthwhile to date and has been successful in other countries.

Improving Financing

Level of use of the instrument

There is a little use of this support measure in Ireland through "Green Enterprise" grants by the Environmental Protection Agency (EPA). A key objective of the measure is to provide co-funding for projects aiming to "green" enterprises. The measure was launched in 2001 (it was called the Cleaner Green Production Programme until 2013). In 2013, the measure was broadened from industrial production to services and institutional sectors. The grants are available nation-wide. Over the six phases of this programme which have run to date, the EPA has committed 6.6 million EUR to 106 projects that have received part-funding for demonstration projects.

Lessons from application of the tool

The grants have funded many successful projects. A book of case studies from this programme (2008-2012) is available describing some of the successful projects undertaken. As part of the programme's rebranding the EPA redesigned and launched a new website in 2015.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this support measure in Ireland through the voluntary programmes "Green Hospitality" and "Green Origin". The former focuses on the hospitality, travel and tourism sector and is presented in the case box below. As part of the programme, leading businesses are recognized with a Green Hospitality Award.

Origin Green was launched in 2012 and focuses on the food and drink sector, from farms to fork and all across the supply chain. Its ultimate aim is the creation of a significant point of differentiation around the area of sustainability for the Irish food and drinks industry in international markets. Consumers in key markets can then recognise that by buying Irish, they are choosing to value and respect the natural environment. The objective is to have 75% of Irish food and drink exports sourced from Origin Green members by the end of 2014, and to progress membership levels in the future. The programme is based on the "Origin Green Charter", which directs companies to set meaningful and measurable sustainability goals that are then independently verified. This is achieved by the members through the development of five-year resource efficiency action plans to reduce their use of water, raw materials and energy, and thus minimise their overall carbon footprint and lessen their impact on the environment.

Case box 36: Green Hospitality Programme

Good practice example: Green Hospitality Programme	
	Objective: The Green Hospitality Programme (GHP) promotes increases in resource efficiency by providing Environmental Certification for any hospitality business with a range of available Eco-labels, in particular the Green Hospitality Award certification. *Target sector/beneficiaries:* Irish Tourism & Hospitality Sector *Allocated budget/resources:* GHP is currently in process of moving from a government-supported business model to a commercial focus. From 2016, public monies will not be provided to Green Hospitality, though EPA will work closely with the programme through our Green Business offering. *How widely/where the support measure is available:* nation-wide
	Indications of take-up by businesses: The GHP has 270 members (2014). *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* Estimated environmental benefits for GHP members in 2014 are: • 8,500 tonnes of waste prevented • 45,000,000 KWh of energy saved • 500,000 m³ of water saved • 10,000 tonnes of CO2 saved The average GHP hotel energy cost per sleeper was 4.7 EUR in 2013. Water and waste costs averaged at 0.72 EUR per sleeper. In 2013, GHP hotels had circa 5 million sleeper nights, with an estimated utility cost of 27.1 million EUR. If these hotels were consuming as they did in 2004, utility costs would be at least an additional 32% more than they are today which is equivalent to 8.7 million EUR per annum for the current 130 hotels participating in the programme. Therefore the average additional savings for GHP hotels is 70,000 EUR per hotel per annum.

Lessons from application of the tool

Origin Green has been developed and rolled out in a working partnership with the Irish Food Board – Bord Bia, which has increased the programme's relevance, salience, and uptake.

Both of the voluntary programmes mentioned above are linked to the Green Business Programme. For Green Origin, resources of the Green Business Initiative have been allocated to assist in the development of the action plans for manufacturers which will also increase overall efficiency and competitiveness in the industry. This includes the Green Business Resource Efficiency Assessments, where up to 5 days of consultancy time for resource efficiency improvements are provided free. For Green Hospitality, funding is provided by the Green Business Initiative for the Green Hospitality Awards.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is a little use of this support measure in Ireland. An interesting example is the "Prevent and Save" initiative (see case box below) by Repak, an industry funded organization whose aim it is to facilitate and grow packaging recycling. The initiative is part of Repak's Waste Prevention Programme. Part of "Prevent and Save" initiative is the provision of free Packaging surveys to Repak Member companies. A typical survey is conducted by a Packaging Technologist and takes approximately 2-4 hours to complete, depending upon the amount of packaging being used. A confidential report is then compiled and submitted to the Member company with recommendations outlining the main target areas for Packaging Optimisation.

Case box 37: Repak's Prevent and Save Initiative

Good practice example: Repak's Prevent and Save Initiative	*Objective:* optimising all packaging placed onto the Irish market *When the measure was launched:* in 2005 *Target sector/beneficiaries:* Members of the packaging producer responsibility organisation compliance scheme *Allocated budget/resources:* Budget varies from year to year *How widely/where the support measure is available:* nation-wide
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): • On average during 2005-2013, it is estimated that each successive year saw an additional approximately 11,000 tonnes of packaging being prevented by Repak's members; • Cumulatively during this period, almost 520,000 tonnes of packaging have been prevented and this includes an estimated 88,000 tonnes of packaging prevented in 2013 alone; • The significant tonnes of packaging prevented mean that Repak members are able to achieve appreciable cost savings in not having to purchase packaging materials (*procurement savings*) and in *supply chain savings* (or savings made in logistics, production and fees by avoiding the requirement for packaging); • The estimated procurement savings made by Repak members have risen from 9.4 million EUR in 2006 to 36 million EUR in 2013 or amount to a cumulative total of almost 213 million EUR over this time; • The estimated supply chain savings from the packaging prevention activities of Repak members have grown from 4.8 million EUR in 2006 to nearly 15 million EUR in 2013 or by 93 million EUR cumulatively during the period; • In 2013, the 51 million EUR in procurement and supply chain savings associated with the packaging prevention activities of Repak members equate to an average of approximately 24,200 EUR in packaging savings per member. *Other relevant features/information*: This is part of REPAK's Waste Prevention Programme.

Lessons from application of the tool

The information in the case box above demonstrates that it has been a very effective programme as evidenced by the amount of packaging saved. The website is available to all, but packaging prevention advice, audit service etc. is only available to Repak members.

Quite often the packaging surveys lead to a reduction in procurement costs combined with a reduction in Producer Responsibility fees after the recommendations are implemented, which means that one of the incentives for reduction comes from the fee structure in the Producer Responsibility Organisation.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

There is a little use of this support measure in Ireland. One example is the free online reuse service "Free Trade Ireland", which allows its users to pass on unwanted items for free – ranging from beds and furniture, through electronic goods, to garden equipment and more. Its aim is to facilitate the reuse of household and business items throughout Ireland, and in doing so, to promote reuse and waste prevention. The service is free to use and delivers real financial savings to all its users, as well as provid-

ing benefits to the environment and contributing to the national re-use economy. After four successful years' operating in Dublin, FreeTradeIreland.ie was launched nationally in July 2010.

Over 18,000 items were re-used through the service during 2014, and over 100,000 items have been re-used since the service began. In 2014, the site had over 630,000 unique visitors. In regard to its effectiveness, it is estimated the service diverted approximately 200,000 kg of quality materials away from landfill and saved members of the service over 1.4 million EUR during 2013. Since the service was launched nationally the total financial savings amounts to 6.69 million EUR. The return on investment remained high in 2014 with a 17 EUR return for every EUR invested by the EPA and Local Authorities. The service generates revenue from online advertising and in the last 12 months this amounted to just over 3,500 EUR.

Lessons from application of the tool

Freetrade has probably benefited from the increase in online trade generally as there are other commercial entities in this space but who charge for the goods as opposed to goods being free of charge with Freetrade. It is also marketed via the Waste Prevention officers in local authorities and is also helped by the general interest in upcycling. There is also a Community Reuse Network sponsored by the EPA as part of the National Waste Prevention Programme which is a national umbrella body promoting reuse and representing community based reuse organisations. All this activity promotes the circular economy and different reuse activities.

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Acknowledgements

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Country Report Italy

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Various examples of the application measures described in this document were identified in Italy. Three of the ten support measures are widely used, six are used a little, and for one support measure there is no national policy in place (see Figure 16 below). Many of them were recently implemented and address specifically small and medium enterprises (SMEs). The most interesting measures were identified in the areas of resource efficiency audits and support for voluntary agreements.

An overall important stakeholder participation can be noticed, involving all types of actors – businesses, industries, public institutions or universities. Also, more than half of the measures are implemented at the national level, showing a strong support to resource efficiency in business in Italy.

For brevity, in the following only selected support measures and examples are presented.

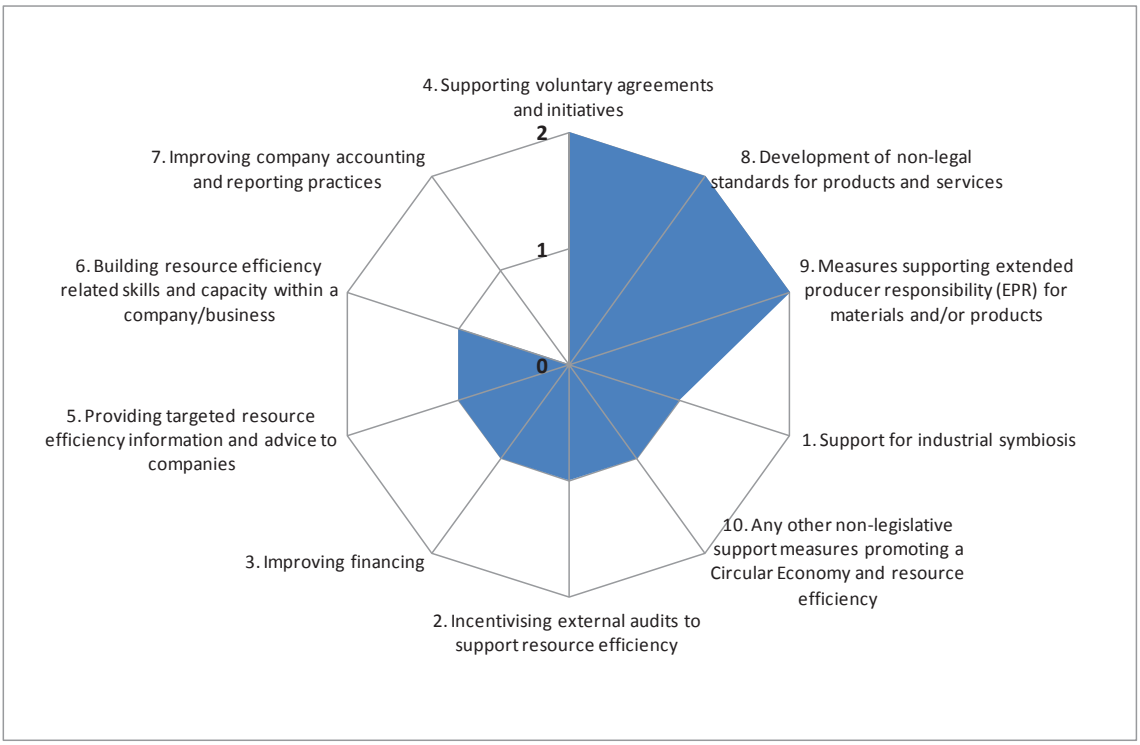

Figure 16: Level of application of Resource Efficiency measures in Italy
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Support for voluntary agreements and initiatives

Level of use of the instrument

There is a wide use of this support measure in the country, since the Ministry of Environment is committed in involving the private sector into efforts to improve resource efficiency. The Ministry is currently working on the definition of a national voluntary scheme, called "Green Made in Italy" that, by adopting the methodology PEF - Product Environmental Footprint of the European Commission, is

aimed at promoting the competitiveness of Italian products in a context of growing demand for high environmental performance on national and international markets.

Case box 38: The Italian Environmental Footprint Programme

Good practice example: The Italian Environmental Footprint Programme	
	Objective(s): The development of a diagnostic tool based on the LCA (Life Cycle Assessment) methodology that helps companies to identify 'carbon management' procedures and low-carbon technologies to improve resource efficiency of the production processes. *When the measure was launched:* 2012 *Target sector/beneficiaries:* All business sectors; Leading companies in their sector, SMEs. *Allocated budget/resources:* About 6 million EUR. *How widely/where the support measure is available:* In Italy and abroad through specific collaboration projects.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): 200 participants from different entities *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* See below (lessons from application of the tool)

Lessons from application of the tool

At least 200 entities (public entities, companies, research institutions) took part in the program by signing voluntary agreements and by participating in calls for funding promoted by the Italian Ministry of Environment.

The Program succeeded in promoting carbon management procedures, and low-carbon technologies and best practices in the production processes on Italian goods and services private sector.

It provided an effective tool for data collection and scientific and technical information necessary to ensure an active participation in the testing program of the European Commission on the PEF.

It facilitates a new awareness among consumers, encouraging increasingly responsible choices.

Development of non-legal standards for products and services

Level of use of the instrument

There is wide use of this measure in Italy through Green Public Procurement (GPP) programmes such as the Minimum Environmental Criteria (MEC). Its application boosts prevention, recycling and reuse. For example, the GPP MEC for 'municipal waste management services' stimulates recovery of quality compost, while the GPP MEC for 'Service gardens' promotes the use of compost produced from municipal waste, as fertilizer in the management of public parks.

Lessons from application of the tool

An application of GPP MEC is the use of 'remanufactured' cartridges thus promoting all those small operators who are working on the 'preparation for reuse' by reducing the volume of waste for disposal. About 3 000 small companies were engaged in this sector, however since not many public authorities adopted a MEC GPP scheme for buying remanufactured cartridges quality, thus this area was affected by the unfair competition of low-quality products from abroad.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is wide use of this support measure thanks to the national organisation CONAI, the consortium consisting of packaging producers and users managing the recycling of packaging waste in Italy. CONAI established by the Ronchi Decree in 1997 (Legislative Decree n. 22 of 5 February 1997).

Companies who register to the CONAI system are paying a registration fee and are also participating to the "contributo ambientale" (environmental contribution) which varies from 4 to 140 euros per tonne depending on the material and allows to split the cost of the differentiated waste collection among packaging producers, packaging users and municipalities. The main objectives are:

- ensuring environmental protection via cooperation between all participants involved in waste management
- applying the 'polluter pays' and 'shared responsibility' principles
- reaching recycling and recovery targets for waste packaging

Lessons from application of the tool

Given its important organisational capacity, the system covers an important part of the recycling in Italy, achieving increased volumes of recycled packaging every year (3% increase in 2014 compared to 2013).

Support for industrial symbiosis

Level of use of the instrument

There is little use of this support measure in Italy and it's mainly concentrated in regional initiatives implemented in Sicilia and Emilia-Romagna. However, despite the fact that the application is only regional, the local participation is quite significant as the local initiatives provide connections among several actors in the region. Several projects have been implemented in the field, such as the Green Symbiosis Project, the Eco-Industrial Park Rieti, and also the Eco-Innovation in Sicily Project, with the goal of developing and implementing the first regional industrial symbiosis web-based platform in Italy – the ENEA Industrial Symbiosis Platform.

Lessons from application of the tool

During the Eco-Innovation in Sicily project, two workshops were carried out in Sicily and the resulting information was uploaded in the ENEA Industrial Symbiosis Platform. The project connected research centres, local authorities and local enterprises in order to elaborate innovative methods of valorisation and treatment of agro-industrial waste. The first goal achieved has been the set-up of a private/public network in which the by-product of a company can be used as a secondary raw material for one of the other regional industries of the network.

Technical reports on the most relevant matches (for the resource categories 'biowaste' and 'inert waste') have been compiled with technical, scientific and regulatory framework information, potential barriers and companies to get involved for effective matching. All in all, 660 potential synergies for the Eco-innovation Sicilia Project have been identified. The Eco-Innovation in Sicily project was a success due to ENEA's technical and scientific support to the companies and the large stakeholder engagement achieved through the workshops.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is little use of this support measure in Italy.

Case box 39: Remade in Italy

Good practice example: Remade in Italy	
	Objective(s): Remade is the first accredited certification scheme in Italy and in Europe specifically aimed at the verification of recycled content in a product. ***Remade in Italy*** certification satisfies the Minimum Environmental Criteria (MEC) for Green Public Procurement adopted by the Italian Ministry for the Environment Land and Sea. Remade certification attests traceability of production within the same production chain, starting from the verification of origin of incoming raw materials, to finished product, making it a model for verification of the quality and sustainability of recycling. *When the measure was launched:* 2013 *Target sector/beneficiaries:* The beneficiaries are manufacturers of recycled goods. *Allocated budget/resources:* 50,000 EUR per beneficiary *How widely/where the support measure is available:* National level
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): 20 recycled products industries involved. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* See below (lessons from application of the tool)

Lessons from application of the tool

Remade in Italy certification has been developed involving a large variety of relevant stakeholders in Italy. Stakeholder engagement may represent a strategic engine for the circulation of knowledge and for facilitating implementation of public policies.

Currently there are 20 recycled product industries involved, for around 100 recycled products certified. The certification process costs around 1,500 EUR. Such cost is lower than other product certifications, and may be a very advantageous investment for businesses interested in green economy (competitive advantage, performance indicator).

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

The PRESOURCE project was launched in Italy in November 2014 and provided several instruments and tools to help promoting the resource efficiency in Central European SMEs. This project was funded by the EU Regional Development Fund and co-funded by the Italian government.

The tools provided by the project are described below:

1. The "EDIT Value tool", a need-driven holistic tool that enables to identify the most effective opportunities for improving RE in SMEs across all business levels and with a life cycle approach. The tool is available in 6 different languages;
2. An advanced "Cost Benefit Analysis" method to better communicate the positive effects of resource efficiency in monetary terms to investment decision-makers and a "Financial Guide for SMEs" providing a comprehensive overview of relevant actors and instruments to finance resource-efficient measures,
3. The "European RE platform" a on line platform and one-stop shop for policy makers, intermediaries, SMEs and financial actors in Central Europe.

Lessons from application of the tool

Pilot applications of the EDIT Value Tool during the PRESOURCE project in 18 SMEs, showed that it is manageable and effective to promote resource efficiency in SMEs by a need-driven and semi-quantitative initial diagnosis. Most SMEs appreciated the broad view and emphasised the uniqueness

of this instrument and the majority of them confirmed that the implementation of identified measures will clearly contribute to reducing costs. Major benefits of EDIT tool are:

1. Identification of most interesting areas for improvement
2. Proposals of innovation projects bringing double benefit of RE - costs savings and reduction of environmental risks at the same time
3. Involvement of enterprise staff in continuous improvements of the enterprise performance
4. Better control over strategic risks and opportunities of enterprises
5. Increase of enterprise value
6. New view on business effectiveness and efficiency.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

In 2006, the first spin off company of the Sant'Anna School of Advanced Studies of Pisa– ERGO – was launched with the goal of offering consultancy services focused on environment and sustainability management and covering all the main issues related to Companies, Products, Administration, Cluster and Territories ("IMPACT focus").

Since 2006, green skills developed via this measure focus on extensive topics, inter alia: support for achieving environmental certification of product and processes; green marketing plans; training for managers and employees; support for greenhouse gas emission management; support for policy and environmental impact assessment procedures; support to local authorities' environmental services subject to planning and regulation.

Lessons from application of the tool

No specific lessons were identified from the application of the tool.

References and sources used

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Country Report Lithuania

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Lithuania, there is a wide range of application of support measures related to resource efficiency in business. Two of the ten support measures are widely used, four are used a little, and for four support measures there is no national policy in place (see Figure 17 below).

Mainly, the applied measures are focused on supporting SMEs, and most of them are launched nationwide for a period of 5 years.

Moreover, the most of the measures included here refer to the programming period 2014-2020 (new measures, corresponding to the EU Structural/Cohesion Funds period 2014-2020), so the examples of the application of such measures are not described in this document.

For brevity, in the following only selected support measures and examples are presented.

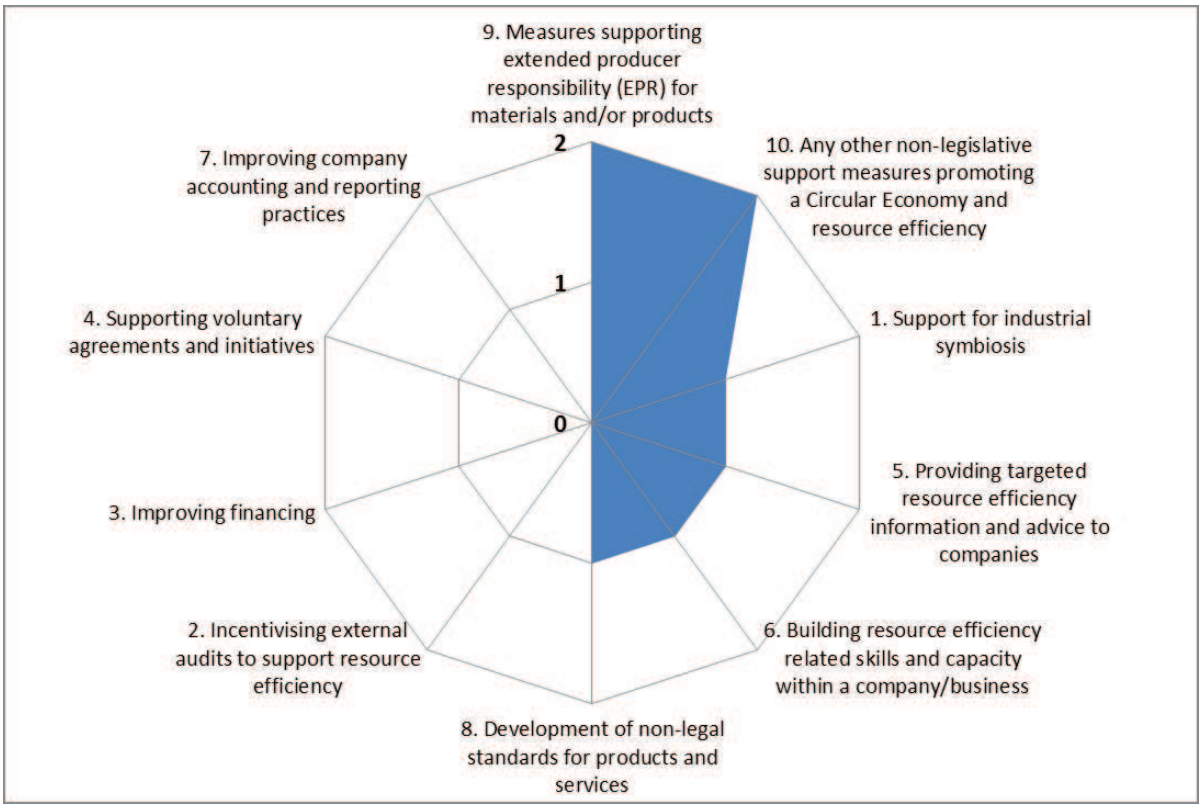

Figure 17: Level of application of Resource Efficiency measures in Lithuania
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

This support measure is widely used in the country. The Product or Packaging Waste Management Programme (Gaminių ar pakuotės atliekų tvarkymo programa) was launched in 2004 and it subsidises the development and operation of waste management systems for electrical and electronic equipment, taxable products and packaging waste. It is designed to assist private entities and municipalities nationwide. Financial support derives from the Lithuanian Environmental Investment Fund.

Case box 40: The Product or Packaging Waste Management Programme

Good practice example: The Product or Packaging Waste Management Programme

Objective(s): The overall objective of the measure is to reduce the environmental impacts of waste electronic equipment, taxable products and packaging waste by financing the creation and maintenance of waste managing systems, while at the same time educating society and municipalities' employees in waste management system creation and maintenance. Specifically, it delivers its goals by:

- Organising evaluation and selection of submitted requests;
- Financing projects which reduce electronic equipment, taxable products and packaging waste;
- Organising supervision of programme enhancing tools;
- Gathering and storing the information about programme enhancing tools.

When the measure was launched: 2004

Target sector/beneficiaries: Private entities and municipalities.

Allocated budget/resources: approximately 29.25 million EUR for the period 2004-2013.

How widely/where the support measure is available: Nationwide.

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): Wide use of this support measure

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): The Product or Packaging Waste Management Programme has financed various projects aiming at improving waste management and utilisation of waste as a resource. Two examples of projects supported directly by the Programme are:

- The 'Solid Recovered Fuel (SRF) from packaging waste manufacturing capacity building' project. The mechanism processes residual waste from sorting and pre-treatment operations which still has energy value and makes solid recovered fuel which can be used in industrial facilities and cement kilns.
- The 'Plastic products from granulate, regranulate and plastic waste production' project. With this project the capacity of plastic packaging recycling was increased in Lithuania, while saving a significant amount of new raw materials for avoided/reduced plastic production.

Lessons from application of the tool

The Product or Packaging Waste Management Programme has financed several projects and has contributed in improving the overall waste management in Lithuania, reportedly increasing the reuse, recycling and recovery rate of waste in Lithuania and reaching up to 35% in 2013. The programming period 2004-2013 was deemed successful by Lithuanian authorities, which prompted the continuation of financial support for the following years up to 2020.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Level of use of the instrument

There is wide use of this support measure in Lithuania. The 'Green Industry Innovation' measure was launched nationwide in 2012. The total budget of the programme amounts to 9.4 million EUR[26]. Its objective is to increase the competitiveness of environmental friendly companies, by including green solutions into existing traditional manufacturing enterprises, through green innovation and entrepreneurship. Supported activities include[27]:

- Implementation of innovative environmental technologies,
- Improvement of existing processes,
- Development and commercialization of innovative eco-friendly technologies, as well as
- Development or improvement of green products and materials.

Lessons from application of the tool

The measure fosters international cooperation and bilateral matchmaking of companies for knowledge transfer and implementation, as it requires mandatory partnerships for receiving support. Specifically, promotes partnerships with entities registered in Norway (enterprises, research organisations, private sector organizations, etc.) with regular activities related to green industry innovation.

Support for industrial symbiosis

Level of use of the instrument

There is little use of this support measure in Lithuania. In 2014, the Lithuanian government launched the Eco-Innovations LT+ measure which aims to promote SME investment in tangible assets (equipment, technologies) that would help reducing the SME's negative environmental impact and promote industrial symbiosis thus supporting cleaner production innovations.

The programming period of the project is 2014-2020 and its target group is SMEs. The allocated budget for the project is 86,886,006 EUR and is applicable nationwide.

Lessons from application of the tool

The support measure is still under development and therefore it is not possible yet to identify lessons learnt.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is little use of this support measure in Lithuania. In 2014, the Eco-Consultant LT was launched and its objective is to provide consultation for SMEs on issues related to more efficient use of resources, protection of natural resources, eco-technologies and others. SMEs, using checks issued by INVEGA (support administration agency), which correspond to a fix amount of money (fee) to be paid for consultancy services, may apply to the National consultants register and obtain related services.

[26] Ministry of Economy of the Republic of Lithuania (2015). Green Industry Innovation Programme. Accessed 15 October 2015, http://www.ukmin.lt/web/en/innovations/international_cooperation/green_industry_innovation_programme_nor_financial_mechanism

[27] EEA Grants (n.d.) Green Industry Innovation. Accessed 15 October 2015, http://eeagrants.org/programme/view/LT09/PA21

This project has been put into practice nationwide in 2014 and will run until 2020. Its target audience is SMEs, the planned budget is 1,448,100 EUR.

Lessons from application of the tool

The support measure is still under development and therefore it is not yet possible to identify lessons learnt.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is little use of this support measure in Lithuania. The ESF Project 'Formation of qualifications and development of modular VET system' has been launched in 2010. The objective of this measure is to design ten sectorial qualification standards and sixty modular VET (Vocational Education and Training) programmes for different sectors during 2010-2015.

'Green skills' are integrated into standards and VET programmes. In addition, a VET training programme for environment protection specialists has been designed. It consists of separate modules that later may be used also for training of employees from different kind of companies. The allocated budget for the project is 2.8 million EUR.

Lessons from application of the tool

No information was obtained concerning the implementation of this measure and therefore it is not yet possible to identify lessons learnt.

Development of non-legal standards for products and services

Level of use of the instrument

There is little use of this support measure in Lithuania. The project Eco-Innovations LT was launched in 2014 and it is based on international standards. The measure supports SMEs in implementing processes and organisational eco-innovation which encourages the rational use of resources, ensures the prevention of pollution, as well as applies eco-design measures in production. Supported activities include:

- Implementation of environmental management systems, according to international environmental standards, and (or) production technology and (or) environmental audits, providing the analysis of feasibility of rational use of resources and pollution prevention innovations;
- Product design development through eco-design measures, taking into account economic, environmental and social aspects; sustainable design marketing solutions; registration of such developed product design - benchmarking.

This project has been put into practice in 2014 and will run until 2020. Its target audience is SMEs, the planned budget is 4,344,300 EUR and it is applicable nationwide.

Lessons from application of the tool

The support measure is still under development and therefore it is not yet possible to identify lessons learnt.

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Acknowledgements

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Country Report Luxembourg

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Luxembourg, some measures have been/are being implemented for supporting resource efficiency. Two of the ten support measures are widely used, one is used a little, and for seven support measures there is no national policy in place (see Figure 18 below).

While some measures have been in place for long period of time (for instance, regarding waste management, the SuperDrecksKëscht® was established in 1985), recent measures in favour of resource efficiency have been taken thanks to the impulse of the Luxembourg EcoInnovation Cluster, as part of the wider Luxinnovation initiative. A very interesting – and recent – development is also the release of the study 'Luxembourg as a Knowledge Capital and Testing Ground for Circular Economy' in February 2015.

For brevity, in the following only selected support measures and examples are presented.

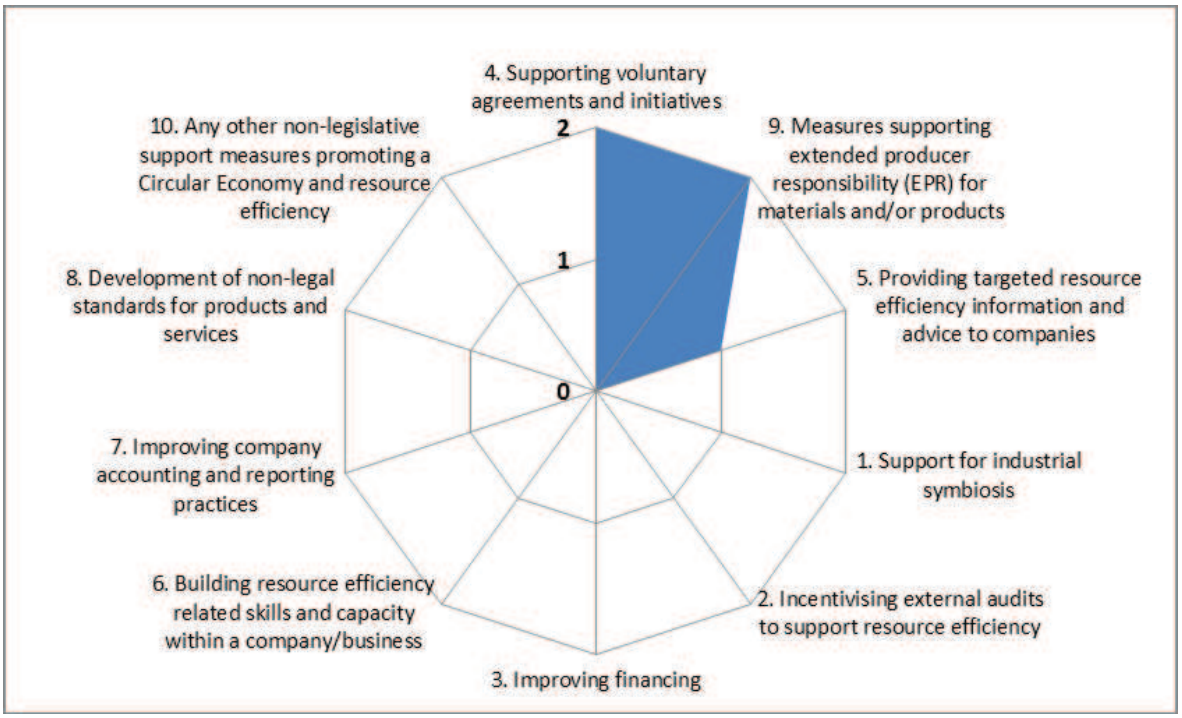

Figure 18: Level of application of Resource Efficiency measures in Luxembourg
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Supporting voluntary agreements and initiatives

Level of use of the instrument

Via the Luxembourg EcoInnovation Cluster, there is wide support for voluntary agreements and initiatives in Luxembourg.

Case box 41: Luxembourg EcoInnovation Cluster

Good practice example: Luxembourg EcoInnovation Cluster

Objective(s): The main objective of the Luxembourg EcoInnovation Cluster is to promote the development of clean energy and technologies and to foster sustainability and innovation in Luxembourg. The Cluster focuses on the following topics: Circular Economy, Mobility, Sustainable Cities and Smart Technologies. The Luxembourg EcoInnovation Cluster is a network that supports the various actors of the Clean Technologies sector with the goal of creating and developing new and sustainable business opportunities, mainly through collaborative R&D and innovation projects.

The specific objectives of the Luxembourg EcoInnovation Cluster are to:

- Diversify the activities of the Luxembourg companies thus allowing them to gain and to develop new capabilities in the field eco-technologies
- Contribute to the development of new environmental solutions in the field of eco-technologies and sustainable construction
- Raise the public awareness for the uptake of "green technologies"
- Build public-private partnerships in order to develop new collaborative projects of common interest
- Encourage the networking between public and private actors on the national and the international level.

When the measure was launched: 2011

Target sector/beneficiaries: The membership of the Luxembourg EcoInnovation Cluster is open to companies, public research institutes and organisations that are active in the field of eco-innovation technologies. The members of the Luxembourg EcoInnovation Cluster are active in many different areas such as:

- eco-construction/eco-materials
- renewable energy sources (biomass, biogas, photovoltaics…)
- eco-design/eco-conception
- rational use of energy

How widely/where the support measure is available: National

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): Many organisations as well as private companies have become members of the cluster. Over 120 companies and over 20 public and private organisation participate in the cluster, pursuing actively its objectives.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): See below (lessons from application of the tool)

Lessons from application of the tool

The Cluster seems to be a success, as many organisations have become Members. It offers an interesting example of a networking and sharing platform joining very diverse types of businesses (ranging from SMEs to large global companies), public authorities, and research institutes operating on a concentrated territory.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is wide use of measures targeting resource efficient waste management and extended producer responsibility, via the national initiative SuperDrecksKëscht®, which started as early as in 1985.

Case box 42: SuperDrecksKëscht®

Good practice example: SuperDrecksKëscht®	
	Objective(s): The main objective of the SuperDrecksKëscht® is to use and implement the latest know-how, in order to realise the most effective sustainable resources management in the ecological and economic sense. *When the measure was launched:* 1985 *Target sector/beneficiaries:* All relevant stakeholders are targeted: administrations and in particular municipalities, the private sector, the general public (consumers, children, schools etc.) *How widely/where the support measure is available:* National
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): The program is considered highly successful and was highlighted as a best practice by the European Commission in the field of waste management, in light of its clear focus, innovative design, replicability, representativeness and effectiveness (see: http://ec.europa.eu/environment/waste/prevention/practices.htm). *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* See below (lessons from application of the tool)

Lessons from application of the tool

Regarding its specific offer for businesses, the strength of the 'SuperDrecksKëscht® fir Betriber' is in providing practical advice and monitoring. The offer addresses institutions in the private and public sector, for instance companies and administrations but also construction sites and residential buildings. Advisors support these institutions by regular visits and training for their staff.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

In Luxembourg, there have been some attempts to provide targeted resource efficiency and advice to companies. These efforts have been undertaken as part of the activities conducted by the Luxembourg EcoInnovation Cluster. One of them is the "ECO-CONCEPTION: Passez à l'acte!" project, an Eco-design project launched by the Luxembourg EcoInnovation Cluster and Resource Centre for Environmental Technologies (CRTE) of the Public Research Centre Henri Tudor. The objectives of this project, which has been running since 2010, are to introduce and disseminate good practice in eco-design amongst companies in Luxembourg and has resulted in the development of a specific software tool: ECOPACT.

Lessons from application of the tool

Along with its objectives in terms of fostering collaboration, the Luxembourg EcoInnovation Cluster provides a set of specialised support services:

- access to practical and technical information related to specific questions on eco-innovation
- advice on national and European funding opportunities for eco-innovation technologies
- value-added information on emerging technologies and markets.

For example, in its January 2015 newsletter, the EcoInnovation Cluster raised awareness among its Members about a new section on the Cluster's website regarding partnering opportunities and technology transfers.

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

It is worth mentioning that the Ministry of Economy of Luxembourg supported an in-depth study in the context of a Circular Economy, showing the potential for Luxembourg as a knowledge capital and testing ground for circular economy. The study was presented by the Ministry of Economy in February

2015. Among other components, the study presents the current situation of the Circular Economy in Luxembourg, and estimates that circularity:

- already supports 7,000 – 15,000 jobs
- is worth 1 billion EUR annually in Luxembourg
- involves large manufacturers such as ArcelorMittal, Eurofoil, Guardian Industries, Norsk, Tarkett, Tontarelli
- is already concretely implemented in building developments like Ecoparc Windhof, by retailers such as Oikopolis, Pall Center and Cactus
- and that Luxembourg leads Europe in automotive leasing, uses building equipment leasing and is starting car sharing.

The study proposes an organisational framework for helping public authorities in Luxembourg and the already existing EcoInnovation Cluster to further harness the potential of circular economy in Luxembourg.

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Acknowledgements

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Country Report Latvia

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Latvia, a few measures have been/are being implemented for supporting resource efficiency in business. None of the ten support measures are widely used, three are used a little, and for the remaining seven support measures there is no national policy in place (see Figure 19below). These measures range from the highly promising 'Green Technology Incubator' mechanism for improving financing of business taking up resource efficiency efforts, tax exemptions for manufacturers wishing to take responsibility for the proper collection and management of their products, to targeted resource efficiency information to businesses through a dedicated web platform.

For brevity, in the following only selected support measures and examples are presented.

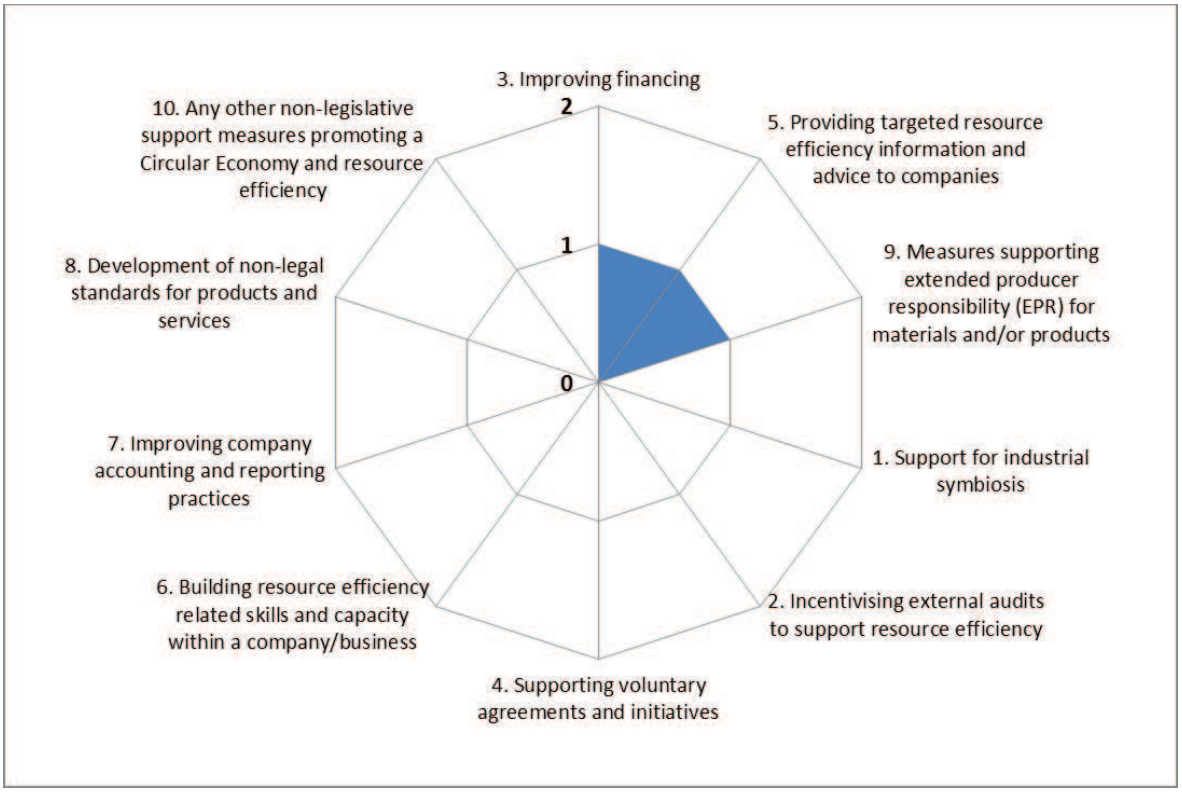

Figure 19: Level of application of Resource Efficiency measures in Latvia
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving financing

Level of use of the instrument

Improving of financing of Latvian enterprises through the 'Green Technology Incubator' mechanism can be considered one of the most significant effort/support measures in Latvia to support resource efficiency in business. The support measure has been applied a little more than a year in the business environment of Latvia and it enjoys a positive take-up. However, the use of this measure is limited,

while the potential for its expansion in the future is significant. The Green Industry Innovation Centre (GIIC) of Latvia is interested to attract technology intensive business ideas with global commercial potential in the 'green' industry.

Case box 43: Green Technology Incubator

Good practice example: Green Technology Incubator

Objective(s): (1) creation of new knowledge-intensive businesses via the 'incubation mechanism' and support to green industry growth; (2) Stimulation and management of knowledge exchange between universities, research organisations and green industry companies; (3) Facilitation of international business and institutional cooperation within green technology sector, particularly with Norwegian partners.

When the measure was launched: Implementation period: 07.07.2014 - 30.04.2016.

Target sector/beneficiaries: A project/enterprise can participate in the Green Technology Incubator if it develops a product, technology or process contributing to:

- Production of renewable energy;
- Production of green (energy efficient) products and materials for buildings;
- Clean transportation;
- Water management;
- Waste management;
- Eco design;
- Or any other improvements in products, technologies or processes in other fields contributing to energy efficiency, lower emissions or lesser consumption of resources.

Allocated budget/resources: Pre-incubation (services in amount of <10,000 EUR) and incubation grants (<140,000 EUR) are available for proof of concept, commercialisation and business development. In addition to grants, the Green Industry Innovation Centre (GIIC) offers a minimum service pack for clients in incubation phase of approximately 36,000 EUR. For Incubation grants (3rd stage), the available total financing is 447,831.55 EUR.

How widely/where the support measure is available: Nationwide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): Results of pre-incubation process: There are 370 ideas received so far, of which 84 ideas have been accepted for the pre-incubation phase. Until March 2016, there will be approximately 15 – 20 companies within the incubation phase.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): The effectiveness of the incubator and other start-up business support mechanisms could be increased by minimising formal procedures and administrative processes.

Some successful examples of companies which have been awarded with grants through the incubation process are:

- Betulin; the technology can be used to obtain betulin from the remains of veneer industry.
- Solid State Architects; Solid State Architects Ltd. is a spin-off company of University of Latvia founded by the pharmaceutical solid-state chemistry research group
- Non-contact liquid metal pump; this is novel non-contact liquid metal pump and stirrer for aluminium furnaces. Increasing overall efficiency 5-10 times. Technology has been developed in Institute of Physics of University of Latvia

Lessons from application of the tool

The success factors of the Green Technology Incubator are summarised below:

a) concentration of relevant and needed competencies in decision making (board of directors):
   - competencies in technologies;
   - competencies in finances;
   - competencies in start-up business and venture capital sector;
   - competencies in international networking.

b) Involvement of independent representatives of stakeholders in decision making (board of directors):
   - three board members are representing interests of shareholders;
   - two board members are independent persons representing interests of stakeholders – venture capitalists, investors.

c) Motivated and competitive core team of the incubator with clear tasks.

However, through the first year of its application, it has become apparent that support mechanisms, like the 'Green Technology Incubator' should be focused on results (developed business models; made prototypes, etc.) rather than on processes, in order to minimise administrative procedures and that the incubator could be more flexible to make decisions.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

In Latvia, targeted resource efficiency information and advice to companies are provided on a voluntary basis through a dedicated website. The web portal 'VIRUMS – Environment, Industry, We - the first Latvian industrial environmental protection Internet Portal' (VIRUMS - Vide, Rūpniecība, Mēs ir Latvijā pirmais rūpnieciskās vides aizsardzības interneta vortāls) aims at disseminating environmental information, building understanding, and involving interested parties in improving their knowledge on various environmental issues, including resource efficiency in production. The portal was created between 2004 and 2006, with EU funding, and is maintained by the NGO - association 'Latvian Pollution Prevention Centre'. The level of use of this instrument is quite limited.

Lessons from application of the tool

The capacity for operating and updating the web platform is a factor of success. Currently, the website is based on voluntary work. LPPC ("Latvian Pollution Prevention Centre") organisation does not have funding and capacity to maintain it, while the demand for such a narrow specific area website is relatively small to be economically justified for further investment in its development.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is little use of this measure in Latvia, especially concerning manufacturers and/or importers/dealers of a specific group of products (e.g. electric and electronic equipment, automobiles, packaging, etc.). However, this measure is quite unique in its application, as it uses tax exemption incentives in order to promote extended responsibility of producers/importers.

Case box 44: Exemption from payment of natural resources tax for environmentally hazardous goods, vehicles, and packaging

Good practice example: Exemption from payment of natural resources tax for environmentally hazardous	
	Objective(s): The objective of this measure is to promote the efficient and economic use of natural resources, limit environmental pollution as well as promote new and environmentally friendly technologies in order to support sustainable economic development and to ensure financial sustainability of environmental protection measures. *When the measure was launched:* 2006 *Target sector/beneficiaries:* Companies engaged in the manufacture, import or trade, receive exemption from payment of natural resources tax (NRT) on vehicles, on packaging, disposable tableware and accessories, as well as on environmentally hazardous goods, including electrical appliances. *How widely/where the support measure is available:* Nationwide
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): For example on the basis of the large waste managers of environmentally hazardous products (AS „Latvijas Zaļais punkts", SIA „Zaļā Josta", SIA „Zaļais Centrs", AS „Latvijas Zaļais elektrons", SIA „Latvijas Elektrotehnikas Apsaimniekošana" etc.) submitted audited reports of 2007 1.6 kg of electrical and electronic waste per capita is collected and 1.5 kg of electrical and electronic waste per capita is recycled.

Lessons from application of the tool

According to Latvian legislation, waste collection is promoted by the exemptions from payment of natural resources tax for environmentally hazardous goods, vehicles, for the first time registered permanently in the Republic of Latvia, and packaging. The system's advantage lies in the fact that the waste manager upon receiving an exemption from payment of the natural resources tax has the obligation to collect and recover a certain amount of environmentally hazardous products, vehicles and packaging put on the market after their use. By applying these principles, waste separation is promoted and the number of separate collection points is increased.

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Country Report Malta

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

A limited number of examples of measures to support resource efficiency in businesses were found for Malta.

One of the ten support measures (Improving financing) appears to be widely used, whilst another two are used a little: Development of non-legal standards for products and services through the Eco-certification for hotels scheme, and Provision of targeted resource efficiency information and advice to companies, e.g. through the 'Investing in Water' project. For the remaining support measures there does not appear to be any national policy in place (see Figure 20 below).

For brevity, in the following only selected support measures and examples are presented.

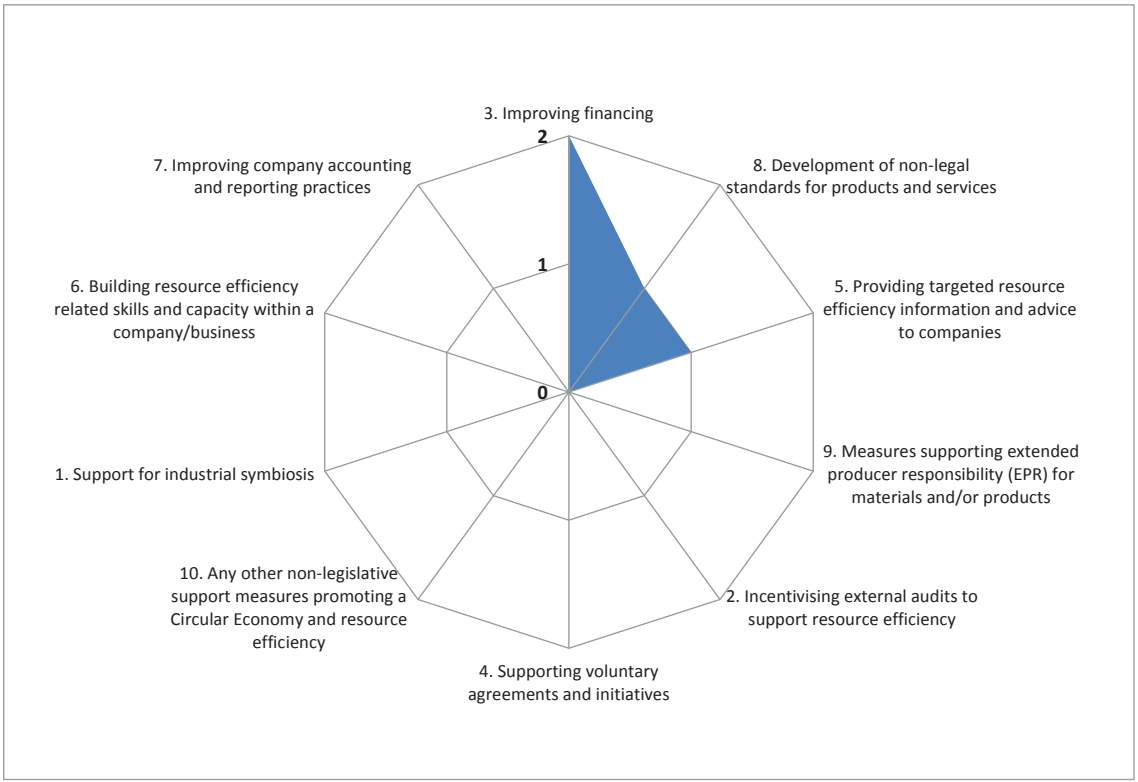

Figure 20: Level of application of Resource Efficiency measures in Malta
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving financing

Level of use of the instrument

A handful of examples were found for the use of financing instruments to support resource efficiency in businesses in Malta. These were largely based on financial support from EU-level funds, which appears to be an important source of financing in the country.

Case box 45: ERDF Innovation Actions Grant Scheme (Environment)

Best practice example: ERDF Innovation Actions Grant Scheme (Environment)	
	Objective(s): The objective was to help SMEs to invest in eco-innovation solutions in support of long-term competitiveness and environmentally sustainable business activities, by the provision of cash grants for 50% co-financing of activities in particular related to: water and air quality (e.g. emission reductions); waste streams (e.g. reduction of waste through reduced use and material reuse/recycling); and resource use (e.g. better use of water resources, substitution of toxic and poorly degradable substances). Grants could be used for plant, machinery, equipment and costs related to the attainment of environmental certification. *When the measure was launched:* The first call for the Grant Scheme was launched in January 2009 and the last payment for the fourth call was carried out in February 2014. An Aid Scheme for the period 2014-2020 is still being discussed, and similar schemes are possible under the ERDF Operational Programme. *Target sector/beneficiaries:* The support measure was available to eligible SMEs. Of the 13 recipients there were 6 micro-, 5 small- and 2 medium-sized enterprises. *Allocated budget/resources:* Grants were in the form of co-financing, to a maximum 50% of total costs and were generally expected to be in the range of €20,000 to €150,000 (Malta Enterprise 2012). A total of 13 projects were awarded grants to a total value €642,339.75.
	Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Although the diversity of projects and limited number of beneficiaries make it difficult to draw general conclusions on effectiveness, some examples of impacts have been identified: • Projects within the construction sector encouraged the reuse of waste material in the manufacture of building materials and led to lower emissions of particulate matter; • A project to install a shed structure at a recycling plant ensured that hazardous and non-hazardous fluids were not spilled into the immediate environment; • Three recycling projects led to increased recycling of WEEE, reduced wood waste and the installation of an oil/oily waste recycling system at a waste water treatment plant; • Other projects reduced the release of harmful chemicals to the environment (e.g. hydraulic oil, volatile organic compounds from laundry equipment); and • Two projects focussed on installing equipment to reduce manufacturing waste (e.g. reducing waste water during a bottling process). *Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):* The grants were administered through a series of competitive calls, run and assessed by Malta Enterprise (grants were awarded to the top ranking eligible applicants). The scheme supported enterprises through co-funding. *Other relevant features/information*: The Grant Scheme was funded through the EU ERDF.

Lessons from application of the tool

The main factor for success of this tool was that the grant scheme used financing from the EU ERDF fund. EU funding seems to be an important source of support for resource efficiency related support measures in Malta, possibly due to the small size of the country which may place limits on the desirability of making large business support investments. The same is true of the BOV (Bank of Valletta) JEREMIE Financing Package, which aimed (amongst other non-resource efficiency-related objectives) to provide financial support for investment in green technology from 2007-2013, and was also financed using EU funds. In addition, the grants were awarded via competitive calls, which should have helped to ensure that the most promising projects were selected for financial support.

One lesson learned is that the beneficiary enterprises linked the funding received to their productive capacity; this fact together with the rather limited take up by enterprises suggests that in the case of

SMEs, the funding provided (although it was the maximum amount allowed) was still insufficient to address market failure.

Development of non-legal standards for products and services

Level of use of the instrument

Some use of voluntary/non-legal standards for products and services was identified. The main example found relates to environmental certification for hotels on the Maltese islands, based on Global Sustainable Tourism Council (GSTC) criteria.

Case box 46: ECO-Certification for hotels

Best practice example: ECO-Certification for hotels	
	Objective(s): National standard for ensuring the environmental, socioeconomic, and cultural sustainability of hotels on the Maltese Islands. The scheme was updated in June 2012 to bring it in line with the GSTC criteria, and is now officially recognised by the GSTC as equivalent to the GSTC criteria for sustainable tourism (including environmental, social, cultural, economic, quality and health & safety criteria). *When the measure was launched:* The scheme was launched by the Malta Tourism Authority in 2002 and is still running. *Target sector/beneficiaries:* Hotels and farmhouses on the Maltese Islands. *Allocated budget/resources:* The allocated budget was €11,000. *How widely/where the support measure is available:* Nationwide (the Maltese Islands)
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In 2013, ECO-Certification represented over 16% of hotel accommodation in the 5-star, 4-star and 3-star categories. Training is organised on at least an annual basis, including the discussion of best practice examples. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* Assessment of the impacts of the ECO-Certification is carried out every two years. The criteria cover aspects including: waste management; chemicals management; energy; water; air quality; noise; and building and green areas. *Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):* Independent third party audits of hotels are undertaken every two years to ensure the scheme's requirements are being met. The Maltese Environment Ministry and Malta Competition and Consumer Affairs Authority (MCCAA) are working to promote the EU Eco label amongst the certified hotels, and are exploring the possibility of a joint audit system with the MTA Eco-certification scheme.

Lessons from application of the tool

One of the success factors for the ECO-Certification standard is the carrying out of periodic independent third party audits of hotels. These take place every two years to ensure that the requirements of the scheme are still being met, which helps to uphold the reliability and value of the standard, making it more attractive to both the hotels that hold the standard and tourists who wish to make informed choices on identifying 'greener' accommodation options.

More generally, tourism is a key economic sector in Malta.[28] The importance of tourism to the country – along with its potential environmental impacts – may have provided extra motivation for the introduction of resource efficiency related measures for the sector. The level of importance and potential

[28] Travel and tourism made a total contribution to GDP of €1,798.8 million (25.5% of GDP) in 2013, and this contribution was predicted to increase by 4.5% in 2014, and to rise by 3.2% per year to reach €2,585.5 million (equivalent to 30.4% of GDP) in 2024 World Travel & Tourism Council 2014).

environmental impact of economic sectors in other countries could help to identify which types of businesses could be the most suitable for the introduction of such measures.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

Some evidence was found of the use of this instrument in Malta. The main example identified was the 'Investing in Water' project, which ran from October 2011 to March 2014. The project helped businesses and hotels reduce their water consumption. This was done through the provision of expert advice on water saving opportunities and how to achieve them. Enterprises also received individual consultations to identify the most relevant solutions for their individual circumstances. In early 2012, the Investing in Water project concluded water audits with around 40 enterprises from various sectors, identifying water saving opportunities and potential solutions.

Lessons from application of the tool

The project was funded through the EU LIFE+ programme, thereby providing another example of the use of EU funds for resource efficiency related measures. In addition, a synergy was achieved with the ECO-Certification scheme mentioned above, since in 2013 the Malta Tourism Authority, Malta Hotels and Restaurants Association and Malta Business Bureau signed an agreement to recognise the water saving initiatives taken by hotels through the Investing in Water project as meeting ECO-Certification award criteria. This helped to facilitate the award of the ECO-Certification label to those hotels. This is therefore an example of how multiple instruments can be mutually reinforcing when it comes to resource efficiency.

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Country Report The Netherlands

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In the Netherlands, three support measure are widely used, while two of the ten support measures are used a little – ranging from state support for voluntary agreements and initiatives through the Green Deals policy support for industrial symbiosis in the form of virtual platforms for networking and skills and technology parks/clusters, to support for organisations to develop resource efficient business models (REBMs) through the Life+ funded REBus project, and a government and industry coalition focusing on capitalizing the benefits of a circular economy (RACE)). For the remaining support measures there is no national policy in place (see Figure 21 below).

For brevity, in the following only selected support measures and examples are presented.

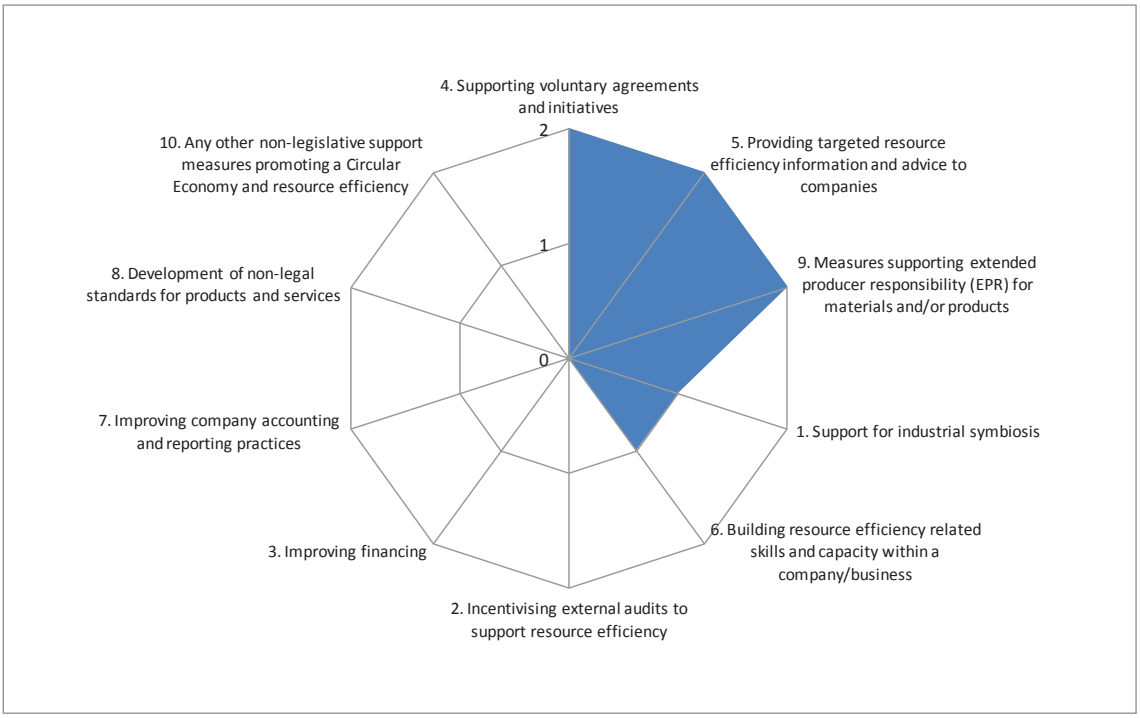

Figure 21: Level of application of Resource Efficiency measures in the Netherlands
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Supporting voluntary agreements and initiatives

Level of use of the instrument

The Dutch government gives support to voluntary agreements through the Green Deals policy (see case box below).

Case box 47: Green Deals Policy

Best practice example: Green Deals Policy

Objective(s): Green Deals are agreements between the Dutch government and other parties. These parties may be companies, civil society organisations and other public authorities. In a Green Deal the central government helps to remove bottlenecks for green plans, mostly with a view to remove non-financial barriers such as regulation and permits. Through the Green Deals approach government facilitates society to bring opportunities for a greener economy to fruition themselves, and hence becomes an enabler for new collaborative partnerships that aim at promoting a greener economy.

The Green Deals started from the theme of energy, but also cover themes such as climate, water, raw materials, biodiversity, mobility, bio-based economy, construction and food.

When the measure was launched: 2011-ongoing. The first Green Deals have been concluded in 2011.

Target sector/beneficiaries: Enterprises, civil society organisations and local public authorities.

How widely/where the support measure is available: Nationally available

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

The first Green Deals have been concluded in 2011. By the end of 2014, 176 Green Deals had been concluded with 1,090 partners altogether. 40 of the Green Deals have reached completion. In the first two years (2011/2012) the most covered themes were energy, bio-based economy and raw materials. The green deals concluded in 2013/2014 were more strategic in nature and also involved a larger number of parties. Results and achievements from these Green Deals encompass, inter alia: erecting 15,000 charging posts for electric vehicles; making 8,100 homes energy efficient; constructing seven LNG tanking stations for lorries and ships and two bunker stations; developing a method for incorporating sustainability in the tendering process for engineering projects; sharing knowledge and experience on factoring biodiversity into investment decisions; and establishing a Community of Practice as a spin-off for the financial sector. For a number of Green Deals, the envisaged actions could not be completed fully because (i) projects turned out to be technically infeasible, (ii) business cases could not (yet) be proven, (iii) funding was insufficient; (iv) wrong parties were involved, or (v) the licence could not be granted. (Directorate-General for Industry & Innovation, 2015)

Furthermore, the Green Deals identified legal and regulatory for green growth and thus enabled their revision or removal, for instance as regards bioenergy (e.g. removing licence requirements for cofermentation and monofermentation plants); electric driving (e.g. allowing public charging post to be fitted with one instead of two intelligent meters), raw materials (e.g. expanding the acceptable materials list in Annex Aa to the Implementation Regulation for the Fertilisers Act, or allowing the use of bottom ashes from waste incineration plants as building material)

A 2013 progress report, analysing the deals concluded in 2011-2012, states that the Green Deals in relation to *raw materials* did contribute to making chains (concrete) more sustainable, to more recycling (bottom ashes, textiles) and to using alternative bio-based materials. A tangible result in the new building sector is the improved achievement of instruments to determine the sustainability of buildings and to improve it. (Rijksoverheid. 2013)

Lessons from application of the tool

Central to all Green Deals are the actions by entrepreneurs themselves: exploring, establishing and strengthening 'innovative activity' with other parties. Cooperation is often needed to effectively achieve the products and to put them on the market (networking). Companies indeed appreciate that the Green Deal approach offers additional benefits, in particular by providing new business opportunities through cooperation with non-usual partners, by enabling new experiments outside the box and because of the direct interaction with one contact point within the central government. Green Deals prove to function as a catalyst in the process. Companies indicate among others that a Green Deal

increases the commitment among the parties involved and accelerates the licensing procedure. The Green Deals also include many actions as to adapting regulation and other actions such as labels, certification and quality systems and the strengthening of the role of the central government as launching customer. Many deals also include activities with a view to explore and establish new financing arrangements and investment funds through combing provincial and private resources (directed towards demonstration and upscaling). Almost all products and services targeted by the Green Deals fall within the stage in which the first practical applications take place and in which the first steps are taken towards upscaling.

Furthermore, unsuccessful Green Deals provide learning experiences so that per Green Deal the lessons learnt are documented thus enabling a) other parties to make use of them, and b) the state to make improvements to the Green Deal Approach. The Green Deal Board has been increased in size to ensure that it represents all green growth domains, thus facilitating the Green Deal Approach by more effectively challenging and promoting it, e.g. through suggesting new Green Deal initiatives.

Support for industrial symbiosis

Level of use of the instrument

Authorities in the Netherlands support (financially or otherwise) all kinds of virtual platforms for networking and skills and technology parks/clusters, though in a rather *ad hoc* manner. There is no tool as such to support industrial symbiosis. The central government has for instance (financially) supported the establishment of platforms such as CSR Netherlands[29] (*MVO Nederland*)[30]. It also supports the establishment of business networks through its Green Deals policy (see section **Error! Reference source not found.** for more details). Local authorities such as Rotterdam and Harlemmermeer have been supporting technology parks or clusters. The municipality Harlemmermeer, for instance, has developed the program *Haarlemmermeer Beyond Sustainability*, with amongst others is the first fully cradle-to-cradle business park.

The Rotterdam/Delta region aims to develop into a circular economy. In collaboration with the municipality and many stakeholders, circular economy pathways have been described for the Energy sector, the Metals sector, the Chemicals sector and the Food and Agricultural sector. The Port of Rotterdam is at the heart of these developments.[31] [32]

CSR Netherlands, set up by the Ministry of Economic Affairs in 2004, is developing a dynamic and fast-growing business network, including among others SMEs and big business. Within its network companies, NGOs, research institutions, education and other public authorities collaborate with each other to translate corporate social responsibility (CSR) directly into market opportunities. In doing this it reaches more than 100,000 entrepreneurs. It gives entrepreneurs practical tips, shows good examples and refers to useful contacts.[33] It has now also become an important network for businesses and other actors in the field of circular economy issues.

Lessons from application of the tool

No specific lessons from the application of the tool were identified or highlighted by the contacted experts.

[29] CSR = Corporate Social Responsibility

[30] MVO = *Maatschappelijk Verantwoord Ondernemen*

[31] Port of Rotterdam and Rabobank. 2012. *Pathways to a circular economy*. Accessed 26 March 2015. https://www.rabobank.com/en/images/Pathways-to-a-circular-economy.pdf

[32] Government of the Netherlands & Het groene brein. 2015. *Knowledge Map Circular Economy*. www.circle-economy.com/wp-content/uploads/2015/03/Knowledge-map-circular-economy.pdf

[33] MVO Nederland, http://www.mvonederland.nl/

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is wide use of this support measure in the Netherlands, prime examples being the EU Life+ funded REBus project and the recently launched Atlas of Natural Capital (see Case box 48 below). REBus (jointly undertaken by Rijkswaterstaat, the executive agency of the Dutch Ministry of Infrastructure and the Environment and WRAP) supports businesses and public organisations to develop resource efficient business models (REBMs) both for implementation on the supply side and for the demand-side procurement (business and public procurement). The focus is on electrical products (ITC), textiles, furniture, carpeting and construction. The most popular business models to date relate to incentivised return, hire/lease, and replacing waste contracts by contracts for recycling. For construction business models including maintenance, finance, and life-cycle-based business models including shadow pricing and Life-Cycle-Costing. The project aims to deliver 30 REBMs with a range of large and small company pilots, achieving 15% resource savings over the project's lifetime. Launched in mid-2013 and still ongoing, in cooperation with Green deal Circular Procurement more than 35 organisations participated in the programme and committed to at least 2 pilots each. Around 60 pilots are under development and 15 pilots receive support through REBus. More than 80 are still in start-up phase. With this approach, Rijkswaterstaat reaches out to some 200 key-players in sectors such as office furniture, IT and textile and achieve significant change.

Case box 48: Atlas of Natural Capital in the Netherlands

Best practice example: Atlas of Natural Capital in the Netherlands

Objective(s): The Atlas of Natural Capital (ANK, http://www.atlasnaturalcapital.nl) pursues the following four objectives: (1) Making natural capital accounting more efficient, and making the opportunity of nature based solutions visible through inspiring examples. (2) Enabling businesses and governments to realize an optimal mix of eco system services (such as biomass, sustainable energy sources, pollination, storage of water, production of food) – and therefore optimal social benefit – in a given area. (3) Meeting the need for accessible information, through freely accessible digital maps with – by the end of 2015 - downloadable supporting data on our ecosystems and the services that they provide; with a wide variety of information, and the possibility for users to ask questions, leave comments and – by the end of this year - discuss issues with each other. (4) Providing information for:

- businesses and governments, to clarify their impact on natural capital (in the Netherlands) and to assist their decision-making;
- businesses, to reduce their negative impact on ecosystems and boost their positive impact, to make (better) use of the services that natural capital can provide and to support annual (environmental) reporting;
- consumers, for intelligent information sourcing, e.g. for use in permit applications;
- volunteers, to obtain insight and operational perspective for community initiatives.

When the measure was launched: Test version 1/1/2015; official launch 22/9/2015. ANK is still under development. Users can contribute to its further evolution.

Target sector/beneficiaries: Business, governments and consumers in the Netherlands. Content also available in English.

How widely/where the support measure is available: 140 maps from a large number of Dutch and international knowledge institutions, freely accessible through the internet.

Lessons from application of the tool

No specific lessons from the application of the tool were identified or highlighted by the contacted experts.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

The Ministry of Infrastructure and the Environment (I&M) in autumn 2014 entered into a coalition with knowledge institutions and industry to set up a programme that explicitly focuses on capitalizing the benefits of a circular economy (RACE).[34] RACE stands for '*Realisatie van Acceleratie naar een Circulaire Economie*' or 'Achievement of Acceleration towards a Circular Economy'.

Within RACE, not only technical aspects (such as circular design and energy neutral recycling) are addressed, but the necessary social and systemic innovation is also tackled. It also focuses on the development of educational programmes and joint communication and knowledge building: 'communication' and 'science and youth' are two of the seven central themes. In fact, RACE is the result of translating the starting points of the Green Deal 'the Netherlands as a circular hotspot' into an actionable program. It consists of among others of the following work packages: 'raising public awareness around the topic of circular economy' and 'involving young people in the transition towards a circular economy'.

More than 100 businesses are associated with RACE and indicated as a circular Best Practice. In addition, an online platform (www.CirculairOndernemen.nl) was launched in June 2015, and already more than 500 participants registered. Nearly 50 businesses completed the Circo-programme, aimed at Circular Design.

Lessons from application of the tool

As the RACE platform was only launched in autumn 2014, it is too early to discuss any results or effects or any lessons learned.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is wide use of this instrument in the Netherlands, as under the Dutch National Waste Management Plan (Landelijk Afvalstoffen Plan LAP) EPR has extensively been regulated for separate collection of certain household wastes in order to promote the closing of circles in transition to a circular economy.

Launched in December 2014, Household und municipal wastes are targeted under EPR. This Plan is in effect nation-wide. A budget of 2 million EUR for the year 2015 was earmarked to promote the circular economy through assisting and fostering EPR schemes, inter alia through the capacity building measure RACE (see section 5 abover) – hence, EPR is part of the approach, but not the main part. The ambition is to reduce the amount of non-separated household waste from 250 kg per capita to 100 kg per capita in 2020. The Dutch waste and recycling industry is cooperating in an additional program focussed on more & better recycling (www.vang-hha.nl).

Lessons from application of the tool

Cooperation and capabilities of the local government, the motivation of citizens to help with collecting wastes separately and the cooperation of value-chain stakeholders were identified as specific factors for success.

[34] MVO Nederland (2014). Nieuwe Samenwerking brengt winst Circulaire Economie dichterbij. Accessed 1 October 2015, http://mvonederland.nl/publicatie/nieuwe-samenwerking-brengt-winst-circulaire-economie-dichterbij

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Acknowledgements

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Country Report Poland

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Overall, Poland supports business resource efficiency only to a relatively limited extent.

Out of ten selected support measures, only one: 'Improving financing' has been identified as used widely in Poland. The main tools in this category involve national public funding from the state budget, EU and other para-state sources such as the EBRD.

There is only a little use of six out of ten support measures: 'Supporting voluntary agreements', 'Providing targeted resource efficiency information and advice to companies', 'Building resource efficiency related skills and capacity within business', 'Development of non-legal standards for products and services', 'Support for industrial symbiosis', and 'Other non-legislative support measures'.

For three support measures there is no national policy in place ('Incentives to external audits', 'Support to extended producers responsibility' and 'Improvement of company and accounting and reporting') (see Figure 22 below).

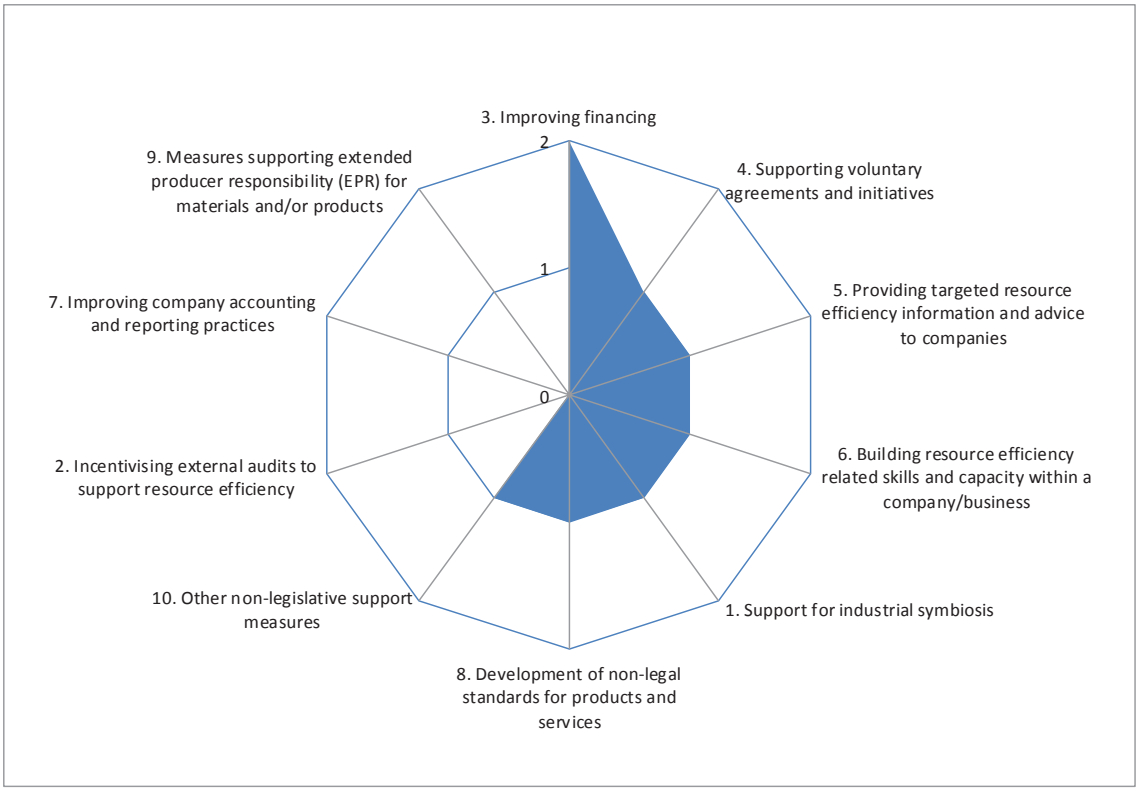

Figure 22*: Level of application of Resource Efficiency measures in Poland*
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving financing

Level of use of the instrument

Our research suggests that there is a wide use of this support measure.

Case box 49: E-KUMULATOR

Good practice example: E-KUMULATOR	*Objective(s):* To create a complex financial tool and support investors who want to improve resource efficiency in their industrial activities. Some specific objectives are: to reduce the consumption of primary raw materials in industry by 1 million tonnes every year; to reduce air pollution (strongly related to the IED standards). *When the measure was launched:* 2014 (original measure) 2015 - 2023 (continuation) *Target sector/beneficiaries:* Industry business sector *Allocated budget/resources:* 250 million EUR *How widely/where the support measure is available:* Polish territory
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): A call for applications was announced on 6 July 2015 and therefore no projects have been implemented so far. However, it is anticipated that by the end of 2017, over 80 million EUR will be spent on new investments and a further 1.2 million EUR on conducting external energy audits.[35]

Lessons from application of the tool

A call for applications under E-KUMULATOR has just been announced (6th July 2015) and therefore, no projects have been implemented so far[36]. However the preparation of the programme was preceded by a broad public consultation with an aim to adapt the offer to real market needs and address the main concerns of Polish entrepreneurs, such as competitiveness, compliance with EU regulation. Support will be allocated in form of preferential loans, and the partial redemption of the loan is tied to efficiency of investment made.

Support for voluntary agreements and initiatives

Level of use of the instrument

Our research suggests that there is a little use of this support measure.

Case box 50: The Polish Cleaner Production Programme

Good practice example: Polish	*Objective(s):* To promote clean production among the business sector through voluntary environmental agreements and a public register of entities committed to clean production and responsible entrepreneurship *When the measure was launched:* The Register was set up in 2002 (ongoing) *Target sector/beneficiaries:* Business sector and local government units *How widely/where the support measure is available:* Polish territory

[35] PARP (Polish Agency for Enterprise Development) (n.d.). Poland's getting greener - Polish eco start-ups and technologies. URL: http://www.web.gov.pl/eng/ecosystem/675_4630_polands-getting-greener-polish-eco-start-ups-and-technologies.html, accessed 08 October, 2015

[36] http://www.nfosigw.gov.pl/oferta-finansowania/srodki-krajowe/programy-priorytetowe/wsparcie-przedsiewziec-niskoemisyjnej-gospodarki/

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): In 2014 there were 54 registered entities including 26 enterprises and one municipality.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): 25 years worth of activity have contributed to creating methodologies for training and implementation of cleaner production strategy and cooperation with industry.

Other relevant features/information: The Polish Minister of Economy chairs the committee awarding the certificates of registration

Lessons from application of the tool

The support to voluntary agreements is still largely underdeveloped in Poland and only very limited evidence could be gathered on the lessons learnt from existing measures application.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

Our research suggests that there is a little use of this support measure.

Case box 51: Service of the National System of Services

Good practice example: Service of the National System of Services

Name of specific support measure(s): Service of the National System of Services (KSU) in the field of environmental protection

Objective(s): Fulfil the market lack of services of a similar nature in the field of environmental protection and support SMEs to adjust to environmental requirements. The measure covered: audit of compliance with environmental law, advisory services on implementing recommendations resulting from the audit and training on free calculators to calculate the fees for using the environment.

When the measure was launched: pilot scheme – since March 2011 to October 2012; systemic scheme – since June 2013 to September 2014

Target sector/beneficiaries: SMEs

Allocated budget/resources: pilot scheme –0.76 million EUR (PLN 3 million); systemic scheme – 0.35 million EUR (PLN 1.5 million)[37]. Pilot services received 100% public financing, whilst the systemic scheme offered max. 70% public financing.

How widely/where the support measure is available: Polish territory

[37] Historical exchange rates taken from http://www.xe.com/currencytables/ (01/03/11 rate for pilot scheme and 01/06/13 rate for systemic scheme).

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): Service of the National System of Services (KSU) in the field of environmental protection: 1,116 clients used the service (pilot scheme – 794, systemic scheme – 322)

Service of the National System of Services (KSU) in the field of energy efficiency management in the enterprise: 372 clients used the service (pilot scheme – 326, systemic scheme - till now 46)

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Service of the National System of Services (KSU) in the field of energy efficiency management in the enterprise: 80% of client declared improvement in the field of energy efficiency.

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome): Service of the National System of Services (KSU) in the field of energy efficiency management in the enterprise and in the field of environmental protection: Properly defined procedures for providing services, properly defined criteria for the selection of providers.

Difficulties in recruiting clients of the services in the field of energy efficiency management were overcome by lowering the threshold of energy consumption as a condition of entering the service by small and micro enterprises to the level of 250 GJ per year.

Lessons from application of the tool

In the field of energy efficiency management the National System of Services proved to fulfil the needs of business sector, 80% of beneficiaries declared that the energy efficiency of their business improved after the intervention.[38] Experience stemming from the system shows also the importance of robust design of procedures for providing services and definition of selection criteria applied to service providers. Initial difficulties in recruiting beneficiaries of the services in the field of energy efficiency management were overcome by lowering the threshold of energy consumption as a condition of entering the service by small and micro enterprises to the level of 250 GJ per year.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

Our research suggests that there is a little use of this support measure.

Case box 52: Eco-friendly business, (pl. Ekologiczny Biznes) – e-learning

Good practice example: Eco-friendly business – e-learning

Objective(s): To increase environmental awareness and to help Polish entrepreneurs, employees and people planning to start-up companies in getting closer to sustainable development.

When the measure was launched: 2012 – ongoing.

Target sector/beneficiaries: Polish entrepreneurs, employees and people planning to start economic activity.

Allocated budget/resources: about 81,000 EUR covered by the European Social Fund.

How widely/where the support measure is available: on Internet. E-learning course published on www.akademiaparp.gov.pl

Lessons from application of the tool

No evidence on the lessons learnt could be found.

[38] http://ksu.parp.gov.pl/pl/oferta_ksu/zarzadzanie-efektywnoscia-energetyczna

Support for industrial symbiosis

Level of use of the instrument

Our research suggests that there is a little use of this support measure.

Case box 53: Nature Partnerships

Good practice example: Nature partnerships	
	Objective(s): To share knowledge and ecological awareness of the business sector active in Natura 2000 protected areas. Specific cooperation between local society, entrepreneurs and investors as a result of "Nature Partnerships" solving local environmental problems, e.g. location of new investments, physical planning, consultations with social partners, local ecological conflicts. *When the measure was launched:* 2012 - ongoing *Target sector/beneficiaries:* Entrepreneurs, farmers, craftsmen, business environment institutions, local government units, public administration units dealing with business activity promotion, NGOs *Allocated budget/resources:* Support is available in the form of e-learning, training, dialogue platforms for business partnerships and promotional activities. *How widely/where the support measure is available:* Poland
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): 20 local 'Nature Partnerships' have been created, several dozen information meetings have been organised for business leaders participating in the initiatives, several national conferences have been organised to exchange views and experience between different business leaders, business support sector representatives and public administrations. The members of the partnerships have issued over 150 recommendations related to economic activity in protected areas, including a set of guidance on improvement of procedures and institutional activities.

Lessons from application of the tool

This is a pilot project co-financed from Cohesion Policy funds. It has initiated collaboration between local entrepreneurs, business environment institutions and public administrations in charge of managing investment in protected areas. One key factor for the project success is multi-media communication channels facilitating knowledge sharing of local and national stakeholders, e.g. an on-line platform of dialogue has been created[39]. Continuation of this project is planned in 2016/17 as a new project: "Business and biodiversity". The main idea of "Nature and economy" will be developed based on results of the "Nature Partnerships "project, with a focus on a dialogue and cooperation between administration, entrepreneurs and citizens living on protected areas.

Development of non-legal standards for products and services

Level of use of the instrument

Our research suggests that there is a little use of this support measure.

[39] http://dialog.gdos.gov.pl/partnerstwa-naturowe

Case box 54: Eco-labelling programme EKO (pl. Program przyznawania oznakowania ekologicznego EKO)

Good practice example: Eco-labelling programme EKO	
	Objective(s): to promote products which have a reduced impact on the environment and are resource efficient in the whole product lifecycle. *When the measure was launched:* 1998 - ongoing *Target sector/beneficiaries:* producer, manufacturer, importer, service provider, wholesaler and retailer of beauty care products, cleaning-up products, electronic equipment, paints, floor coverings, furniture, lubricants, gardening, household appliance and items, paper products, holiday accommodation etc.; Polish and foreign companies *Allocated budget/resources:* own resources; this programme does not belong to any national or European financial support programmes *How widely/where the support measure is available:* The support measure as of EKO is not available in any national or European programs, however there are national or European programs that cover eco-labelling in general. The ecolabel certificate "EKO" confirms the compliance of the product and service with specified ecological criteria. Ecolabel certificate "EKO" is issued in accordance with Commission Decisions establishing the ecological criteria for the award within the European Ecolabel (EU Ecolabel - criteria). It is possible to develop new ecological criteria EKO at the request of and in cooperation with producer groups, stakeholders and other interested parties.
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): 80 certificates issued (2010) *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* 17 years worth of activity have contributed to placing on the market the environmental friendly products and extending the cooperation with industry in the scope of developing new ecological criteria. *Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):* The ecolabel EKO is registered trademark by Polish Centre for Testing and Certification (PCBC S.A.) and is issued only by this organisation. *Other relevant features/information:* There is still unsolved problem concerning a little awareness on the benefits of green products in particular with regard to environment protection.

Lessons from application of the tool

Despite a relatively successful operation of the EKO programme, the awareness on the benefits of green products in particular with regard to environment protection is still limited among the Polish society and business stakeholders.

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National System of Services: http://ksu.parp.gov.pl/pl/oferta_ksu/archiwum_uslug/ochronasrodowiska_uslugasystemowa and http://ksu.parp.gov.pl/pl/oferta_ksu/zarzadzanie-efektywnoscia-energetyczna
(PARP): http://www.web.gov.pl/eng/ecosystem/675_4630_polands-getting-greener-polish-eco-start-ups-and-technologies.html

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Country Report Portugal

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Portugal has implemented a few resource efficiency measures for businesses. One of the ten support measures is widely used, four are used a little, and for five support measures there is no national policy in place (see Figure 23 below).

It seems that measures supporting Industrial Symbiosis have been more successful as there is an electronic negotiation platform promoting the interaction between supply and demand of waste. Further measures identified, reflect the concentrated efforts in supporting voluntary agreements, providing targeted resource efficiency information and building resource efficiency skills within business.

For brevity, in the following only selected support measures and examples are presented.

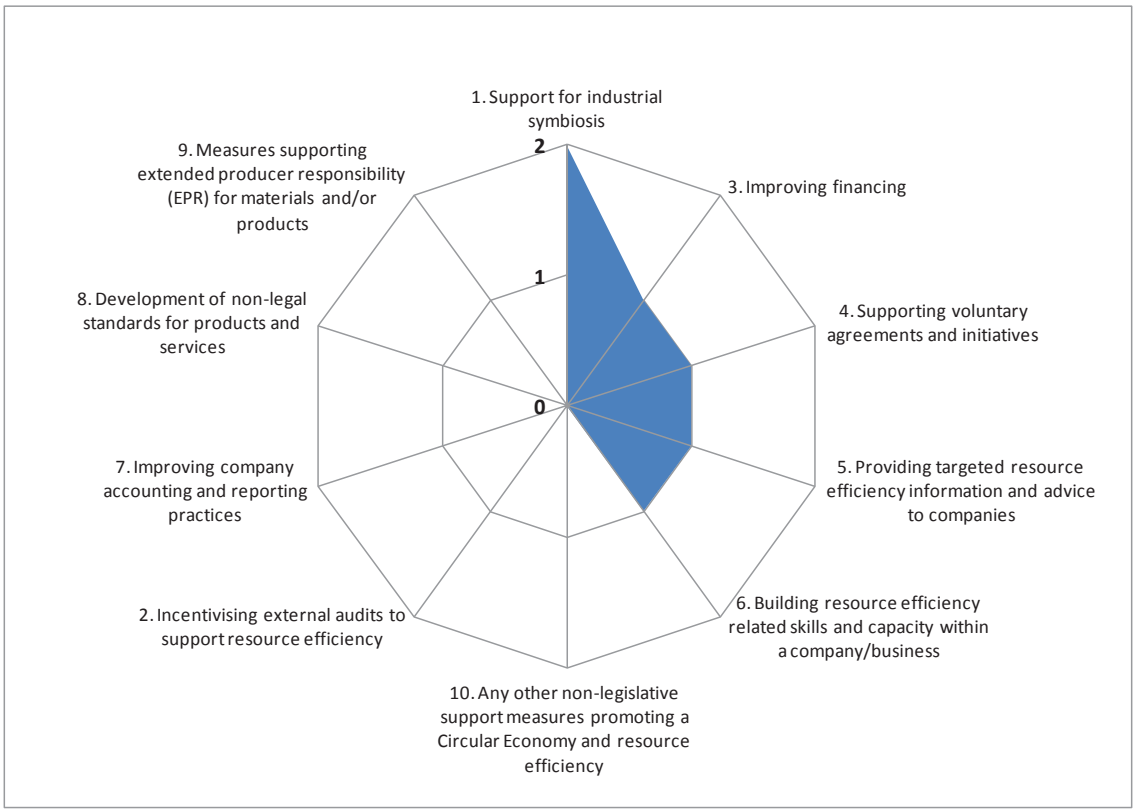

Figure 23: Level of application of Resource Efficiency measures in Portugal
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Support for industrial symbiosis

Level of use of the instrument

There is wide use of this measure in Portugal in the form of an on-line waste trading platform enabling the participation of interested parties nationwide and with a specific focus on industrial waste and waste that can be utilised as a resource.

The *Mercado Organizado de Resíduos* (MOR) - Organised Waste Market has been implemented in 2010 and all companies willing to buy or sell waste can participate (except for hazardous waste). MOR is a voluntary instrument which aims to facilitate and promote waste trading as well as enable its recovery and reintroduction in the economic circle, decreasing the demand for primary raw materials and promoting industrial symbiosis. It consists in the establishment of electronic negotiation platforms that support non-hazardous waste trading, promoting the interaction between supply and demand of waste. Waste producers and operators have access to these platforms in order to initiate orders to buy or sell waste. Managed by private entities, the platforms ensure transparency, provide universal and equal access to all potential users, ensure the timeliness and accuracy of the information circulating within the system, and are subject to confidentiality regarding transactions. (AEP 2011, APA 2013, Mota Mafalda 2010)

According to the Decree-Law No. 210/2009 of 3 September, as amended by Decree-Law No. 73/2011 of June 17, the Portuguese Environment Agency (APA) is entitled to provide a set of financial and administrative incentives both to potential management entities (of the waste market) and to the producers themselves/holders of waste and waste recovery entities. Specifically, APA can provide support to the launch of trading platforms (funding from the revenues of the Waste Management Fee - TGR), registration fee reductions in SIRAPA (the Portuguese Environment Agency`s Integrated Registration System) up to 50%, and potential exemption from licensing of recovery of non-hazardous waste operations, in order to stimulate the creation of trading platforms and foster adherence to these.[40]

Lessons from application of the tool

At the time of its introduction in 2010, there were still quite underdeveloped waste management structures and not very sophisticated flows in the waste market, so the development of the organised waste market (MOR) contributed to a paradigm shift of the concept of waste into secondary material. The MOR played a fundamental role in facilitating waste recycling and recovery operators to access directly industrial waste (secondary raw materials), bypassing the licenced waste management entities and thus closing the loop of industrial symbiosis systems.

It also increased the value of industrial waste by creating opportunities of resource circulation between seller/buyer. Also, the MOR increased competitiveness on the demand side of waste and forced the conventional waste management entities to optimise their operation and use of industrial waste.

Supporting voluntary agreements and initiatives

Level of use of the instrument

There are some voluntary agreements for better resource efficiency in Portugal. One good practice example of voluntary agreement related to the reduction of food waste is '*Menu Dose Certa'*. The *Menu Dose Certa* (Right Serving Menu) is a pilot project tested in the city of Espinho (part of greater Porto) among 2 restaurants in 2008 and expanded to 3 in 2011. The project was supported by the Intermunicipal Waste Management Association of the greater Porto area (LIPOR) and consists a partnership between LIPOR, the Association of Portuguese Nutritionists, the local authorities of Espinho and local restaurants. The project aimed at reducing the production of food waste and, through awareness of the change of habits related to the problem, focusing on economic, environmental and associated health issues related to food waste. In 2011 the project was restructured into *Dose Certa*, where the main goal is not only *Menu Dose Certa* implementation, but also the promotion of good practices regarding waste prevention, during buying, storing food and preparing meals phases.

Lessons from application of the tool

The project started in 2008 with a pilot in the Restoration sector, having as main objective the reduction of food waste (organic waste) from this sector. In 9 lunch periods were served 509 clients, of which 350 chose *Menu Dose Certa*, which corresponds to 69% of the restaurant clients. This corresponds to approximately 48.5 kg/capita/year of food waste reduction, according to the results of the project.

[40] APA – Portuguese Environment Agency, Organised Waste Market. URL: http://www.apambiente.pt/index.php?ref=16&subref=84&sub2ref=670, accessed 21 September, 2015

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is little use of this measure, however the exact extent of take up by businesses could not be determined due to very limited information provided by the national authorities.

In 2001, the National Plan for Preventing Industrial Waste included 21 Sectoral Technical Guides which presented practical solutions and provided technical tools to companies for improving their resource efficiency and reduce waste. The guidelines stressed that quality manufacturing should also be in line with resource optimisation, waste prevention, low environmental impact throughout the life cycle of products. Additionally, eco-design and recyclability aspects of products should be also taken into account in manufacturing processes.

Lessons from application of the tool

No specific lessons or factors of success were identified for this support measure.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is little use of this support measure in Portugal. An example of improving the capacity of companies in resource efficiency is the project PreResi. The project was initiated by two state agencies, the National Institute of Engineering, Technology and Innovation (INETI) and the Waste Institute (INR) and targeted seven selected sectors: Metallurgy and Metalwork; Electrical and Electronic Equipment; Tanneries; Dyes and Coatings; Textiles; Wood and Furniture; Printing. The main objectives of PreResi was to create favourable conditions for the prevention of industrial residues in the selected sectors above. It provided training in industries for the prevention of process residues as well as information workshops and the publication of manuals for each specific industrial sector.

Lessons from application of the tool

No specific lessons or factors of success were identified for this support measure.

References and sources used

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APA - Portuguese Environment Agency (2013), Member States Group on Resource Efficiency - Resource efficiency in Portugal, available at: http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=10270&no=4

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Acknowledgements

- Susana Escária, Foresight and Planning Director at the General Secretary of Ministry of Environment, Spatial Planning and Energy, Tel: + 351 21 323 15 00, e-mail: Susana.Escaria@sg.maote.gov.pt

Country Report Romania

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Romania, one of the ten support measures is widely used: Support for extended producer responsibility (EPR) for materials and/or products. Five of the support measures are used a little, and for the remaining four support measures there is no national policy in place (see Figure 24 below).

The more developed measures are either implemented through third-party organisations or inspired by European Projects and oriented on waste recovery and recycling.

In some cases, the implementation of the measures ends after the pilot phase (for industrial symbiosis for instance), whereas in other cases, the measure is progressively developed throughout the country (e.g. support for EPR, voluntary agreements).

For brevity, in the following only selected support measures and examples are presented.

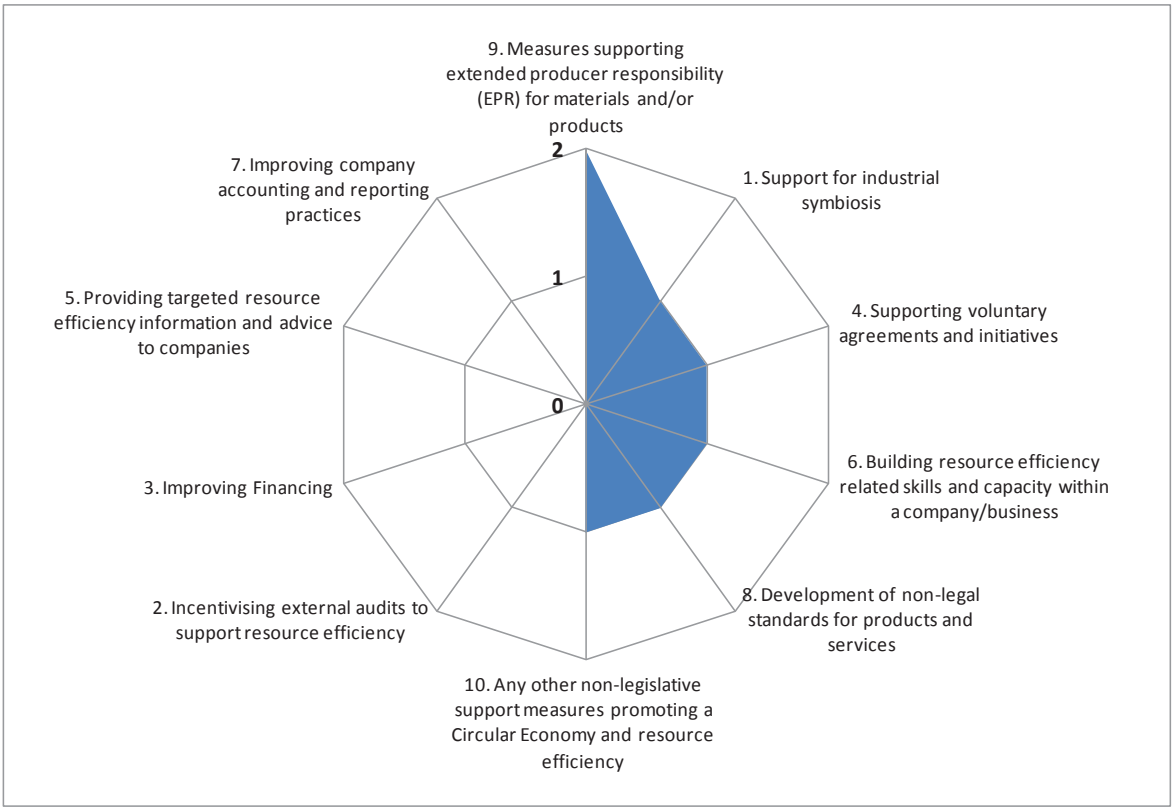

Figure 24: Level of application of Resource Efficiency measures in Romania
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note that the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

There is a wide use of this support measure in Romania. In 2003, the pioneer organisation "Eco-Rom Ambalaje" was established by the industry in order to develop an Integrated Management System and implement and monitor the objectives of the Romanian packaging waste legislation (see case box below). Two possibilities were given to Romanian companies who place household packaging on the market: be part of the Integrated Management System or have their own waste management system.

Case box 55:: "Eco-Rom Ambalaje" interface for packaging waste

Best practice example: Eco-Rom Ambalaje

Objectives:

- Interface between public interest and industry in observing the commitments to reach packaging waste recovery and recycling objectives
- Increase awareness of the importance of separate collection of waste packaging among the population
- Implement and develop a system of separate collection of waste packaging that concern both economic agents and population
- Contribute to the Romanian waste market by facilitating a mix of effective solutions, to moderate dialogues between its clients

When the measure was launched: October 2003

Target sector/beneficiaries: sectors working in the packaging industry

How widely/where the support measure is available: 9 million inhabitants have access to Eco-Rom recycling solutions, nation-wide[41]

Indications of take-up by businesses:

- Membership of companies raised from 81 in 2004 to 2,849 in 2013[42]
- In 2014, 527 partnerships with local authorities were active (92% coverage of all counties)[43]

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

- The collection of packaging waste improved from 800 tons in 2006 to approximately 40,000 tons in 2013
- Overall, approx. 2.6 million tons of packaging waste have been recycled by the organization by 2014, which corresponds to savings of roughly 5.2 million tons of natural resources (crude oil, wood, feldspat, sand bauxite and iron ore)

[41] Eco-Rom Ambalaje (2014). 10 years in the recycling business. Bucharest, June 17, 2014. Accessed 14 October 2015, http://ecoromambalaje.ro/bilant-de-10-ani-in-reciclare-2/?lang=en

[42] Ibid.

[43] Eco-Rom Ambalaje (2014). Population recycled 55% more waste due to industry investments. Accessed 14 October 2015, http://ecoromambalaje.ro/population-recycled-55-more-waste-due-to-industry-investments/?lang=en

Lessons from application of the tool

The organisation successfully implemented the Green Dot Scheme in Romania. One important success factor is that the activities of the organisation are based on partnerships with producers of packaged goods, waste collectors and recyclers, as well as with local authorities and citizens. Further factors for success can be seen in the stakeholder involvement and targeted communication with citizens. For example, one communication action was the 'Town of Recycling' competition[44], encouraging local authorities to enhance their local separate waste collection. In addition, educational programs were launched in primary schools (Green Recycling Laboratory and ECOlimpiada). Furthermore, advice, guides and online tools for waste prevention is offered to member companies, free of charge.

Support for industrial symbiosis

Level of use of the instrument

There is little use of this support measure in the country. Between 2009 and 2011, the concept of industrial symbiosis was tested in one Romanian county (Suceava), with the financial support of the European Programme Life+.

Although several economic operators were involved and the results were encouraging no further replication has taken place since then.

Case box 56: ECOREG (Application of the principles of industrial ecosystems in regional development)

Good practice example: ECOREG

Objective(s):

- ECOREG was launched by the Ministry of Environment and Forests as a pilot project in order to test the applicability of industrial symbiosis in Romania. The initiative is part of LIFE+ EU-Programme, which supports it financially.
- The idea behind the project is to help operators identify innovative methods to re-use waste resulting from other industries.
- The first target is to reduce the consumption of natural resources by 2 to 5% for all involved partners; also to reduce the waste production by 5 to 20% for each partner and increase recycling into secondary materials.
- Other targets involve: economic efficiency, cost reduction, increase in employment, increase of the touristic potential of the region, improvement of public image.

When the measure was launched: The programme was implemented between 2009 and 2011 in Suceava county.

Target sector/beneficiaries: Industrial sector.

Allocated budget/resources: 880,000 EUR

How widely/where the support measure is available: One county.

[44] Eco-Rom Ambalaje (2015). 46 city halls in Romania compete for the "Town of Recycling 2015" title. Accessed 14October 2015, http://ecoromambalaje.ro/46-city-halls-in-romania-compete-for-the-town-of-recycling-2015-title-2/?lang=en

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): 114 synergies were created, involving 13 waste categories (including wood waste, construction and demolition waste, plastic waste and paper waste). [45]

One example includes a wood processing enterprise (SME) redirecting their wood waste (saw-dust) to another SME 18 km away which produces briquettes for bio-fuel. The synergy between the two yields highly beneficial results for both companies.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): See below (lessons from application of the tool)

Lessons from application of the tool

The programme had a positive impact on three pillars: environmental, economic and social. Throughout the implementation of this measure, a total of 114 synergies were created between business actors and over 555,000 tons of waste were recycled.[45]

Other positive environmental impacts were the reduction in GHG emissions by more than 130,000 tons of CO_2 following the replacement of virgin materials with alternative resources. Additionally, an area of 2,558 ha of forest was saved by replacing wood materials by other types of waste.[45]

On the economic side, the project helped businesses reduce their costs and gain economic efficiency through technological improvement and production cost reductions.

From a social point of view, new employment was created and businesses improved their public image.

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is a little use of this support measure in Romania, one key example being the signing of a Voluntary Agreement in 2013 with regard to packaging waste prevention and recycling. In the framework of this agreement, a new service was developed – Sigurec – aiming to improve recycling solutions around the country.

The project is now implemented in 14 major cities in Romania and its deployment will continue progressively in other cities.

[45] ECOREG (n.d.). Pilot project on Industrial Symbiosis – studii de caz (case studies). URL: http://www.nisp-ecoreg.ro/studii_de_caz.aspx, accessed 08 October, 2015

Case box 57: Voluntary Agreement with regard to packaging waste prevention and to improve the collection and recycling systems

Good practice example: Voluntary Agreement – packaging waste prevention

Objective(s):

- Voluntary agreement between the Ministry of Environment and Forests and its Partners (distribution and recycling) and businesses in order to develop tools for packaging waste prevention and improving recycling;
- The goal is to increase by 25% the volume of packaging collected;
- As part of the agreement, a new service was implemented for facilitating re-use and re-cycling of household. The service is called "Sigurec" and has developed a few recycling solutions;
- One of these projects involves offering vouchers to clients in several supermarkets in Romania (Carrefour and Cora) when bringing end-of-life home appliances or plastic packaging: for example, for a recycled refrigerator the costumer receives around 20 EUR in voucher, a few eurocents are offered for plastic bottles (1 eurocent) or glass (2 eurocents) and 2.5 EUR for 1 kg of mobile phones;
- Another Sigurec solution is the Sigurec Mobil programme: the collection centre can be contacted via an application in order to collect household packaging waste or WEEE.

When the measure was launched: 2013

Target sector/beneficiaries: Distribution and recycling companies

How widely/where the support measure is available: The initiative was implemented in a few cities (Buzau and Bucuresti) and is expected to spread all over Romania (in Carrefour supermarkets at least).

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits, etc.): 12 cities were involved.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): See below (lessons from application of the tool)

Lessons from application of the tool

The project was first launched in two cities and has now been implemented in 12 other major cities. Through the installation of containers, 450,000 tonnes of plastic and aluminium packaging were collected in one of the pilot cities (Buzau) and around 500 tonnes of WEEE.[46]

The project can be easily implemented elsewhere, due to its attractiveness. The voucher system allows consumers who deliver their end-of-life products to be compensated for their action, and recyclers (or producers indirectly through participation in EPR systems) can increase the collection and use of recyclable materials, thus increasing their output and potential gain from the sales of materials (or use for own production purposes).

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is a little use of this support measure in the country. In 2010, training was provided to managers and employees in order to improve their knowledge on environmental requirements deriving from the various EU Directives, including resource related Directives and Roadmaps (e.g. Waste Framework

[46] See also The Diplomat Bucharest (2015). Recycling in Romania: waste of space? URL: http://thediplomat.ro/articol.php?id=5901, accessed 19 October, 2015

Directive 98/2008 etc.). The project also focused on personalised strategies for mitigating environmental pollution.

The measure was launched by the Romanian Chamber of Commerce and Industry and the National Research Institute.

Around 24 firms whose activities are causing environmental impacts participated in the seminar.

Lessons from application of the tool

No additional information was identified for this measure.

Development of non-legal standards for products and services

Level of use of the instrument

There is a little use of this support measure in Romania, through the application of the European Ecolabel programme.

Lessons from application of the tool

The measure is not very popular in Romania. Since its implementation in 2000, only 25 firms were labelled with the Ecolabel sign. The reasons for this were the long administrative procedures and burdens, as well as lacking statutory obligation to obtain this label.

Several communication actions were led to raise awareness among different sectors about this measure including seminars, media, and brochures. However, those have proven insufficient – only 3 Ecolabelling actions were performed in the last 3 years[47].

Any other non-legislative support measures promoting a Circular Economy and resource efficiency

Level of use of the instrument

Local initiatives are promoting activities in the field of circular economy. Through a project called "QUIB", workshops are designed and orchestrated that bring together designers and small producers in order to assist them in the development of products that promote the circular design of products and the use of innovative materials.

The first 'cradle-to-cradle' workshop was held in 2015.

The project is called "QUIB" and is conducted by an association promoting CSR among companies, financed by the Romanian Government and the European Social Fund.

Lessons from application of the tool

No additional information was identified for this measure.

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[47] However, no figures are available on the total number of requests.

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Acknowledgements

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Country Report Sweden

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Sweden, two of the ten support measures are widely used (including innovative eco-labelling which promotes reuse and repair as well as EPR schemes for waste materials), four are used a little (ranging from support for industrial *symbiosis networks to the* Environment-driven Business Development programme), and for four support measures there is no national policy in place (see Figure 25 below).

For brevity, in the following only selected support measures and examples are presented.

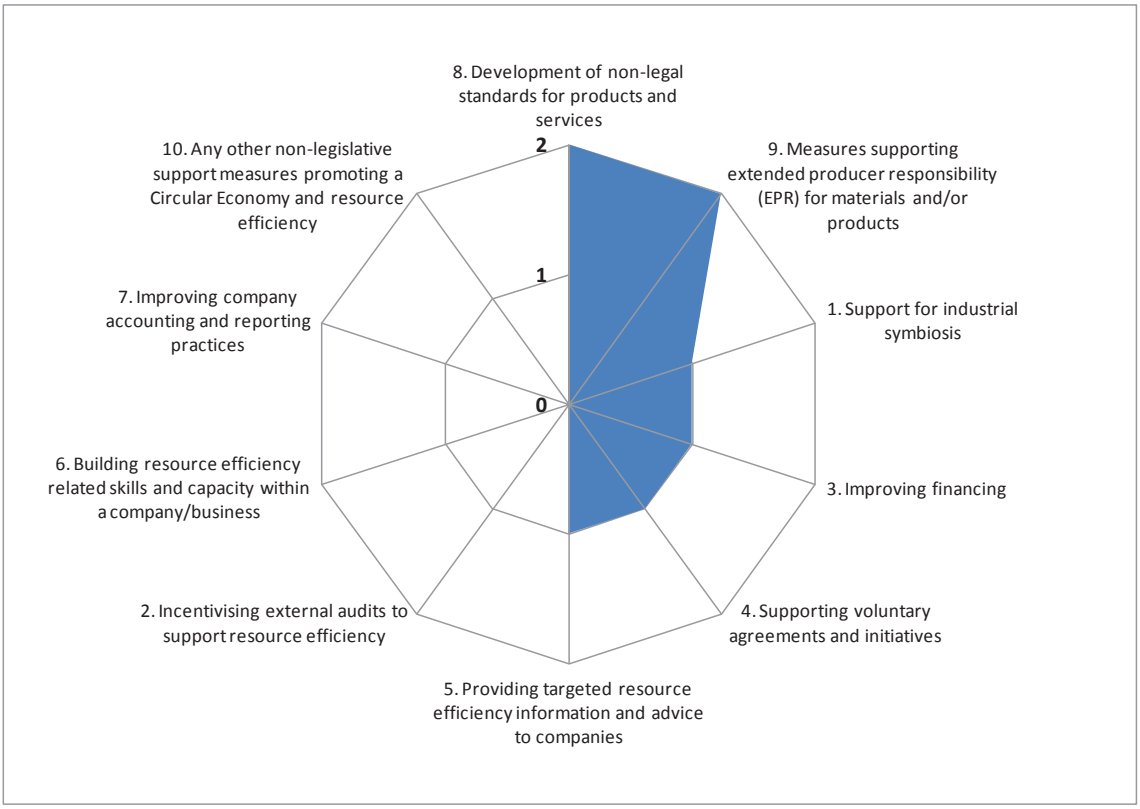

Figure 25: Level of application of Resource Efficiency measures in Sweden
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Development of non-legal standards for products and services

Level of use of the instrument

Eco-labels are a widely used instrument in Sweden. Firstly, the Nordic Ecolabel (Nordic Swan) of the Scandinavian countries is well-established in Sweden. Secondly, the Good Environmental Choice label (*Bra Miljöval*) managed by the Swedish Society for Nature Conservation is available nationwide and can also be found in Denmark, Finland and Norway. A particular feature of the Good Environmental Choice label is that it is not only applied to products, but also to utilities and services, currently marking about 700 products and services. A very interesting recent instrument is the *Miljönär* label by the Swedish waste management and recycling association (*Avfall Sverige*), which is thought

to be the first eco-label promoting reuse and repair (see case box below). In contrast to other labels, it is not carried by the products, but awarded to businesses. Among the companies awarded with the label so far is one specializing on the exchange of children's toys and one offering tools for lending.

Case box 58: Miljönär Label

Good practice example: Miljönär Label	
	Objectives: • Reducing waste by promoting reuse and repair • Prolong the life of products • Inspiring sustainable consumption • Save money by reducing waste • Increase the knowledge of the citizens *When the measure was launched:* in January 2015 *Target sector/beneficiaries:* businesses that extend products' lives (e.g. second hand shops, repair shops, businesses that specialize in lending or borrowing) *Allocated budget/resources:* funded by municipalities *How widely/where the support measure is available:* nation-wide
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): By February, 20 businesses have applied for the label through the official website. Furthermore, several very large businesses have shown interest.

Lessons from application of the tool

Products applying for the Good Environmental Choice label are very carefully scrutinized. Certification under the scheme involves life-cycle analysis. In order to be certain that products continue to deserve the eco-label, inspections are carried out by random sampling, or if it is suspected that something is not right. Any manufacturer who deceives will lose his licence.

The Miljönär Label combines economic and environmental arguments: The certified businesses give consumers the opportunity to save money while at the same time reducing waste and thus saving natural resources and the environment. The instrument tackles the specific problem in Sweden, that while waste collection and recycling are well established, there are still high amounts of generated wastes. Both of the mentioned labelling systems are managed by independent, capable and credible organizations (e.g. in case of the Good Environmental Choice label by a renowned environmental NGO).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

EPR measures are widely used in Sweden. Ordinances on producer responsibility are in place for the waste management of cars, batteries, electrical and electronic products, packaging, paper and tyres. The three first mentioned ones are based on the respective EU directives (Directive 2000/53/EC on end-of life vehicles, Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, Directive 2012/19/EU on waste electrical and electronic equipment). As Sweden is leading in the EU on Waste Electrical and Electronic Equipment (WEEE) collection and treatment, its corresponding EPR scheme is of particular interest and presented in the case box below.

Case box 59: EPR scheme for Waste Electrical and Electronic Equipment (WEEE)

Good practice example: EPR scheme for WEEE	
	Objective(s): minimise environmental pollution *When the measure was launched:* in 2001 (ongoing) *Target sector/beneficiaries:* electronics sector *How widely/where the support measure is available:* nation-wide
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): The industry's service company El-Kretsen, which manages the nationwide collection system in Sweden, has about 1600 affiliated companies. *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* 1.1.1 recycling and reuse rate of 84% 1.1.2 highest collection rate among EU member states (12.2 kg/inhabitant) 1.1.3 highest percentage of WEEE collected/financed in relation to the amount put on the market (69%) among EU member states 1.1.4 100% coverage of collection and treatment costs for household WEEE

Lessons from application of the tool

With the EPR scheme for WEEE, public authorities are responsible for the collection points (such as recycling centres), where the households may leave WEEE without charge. The system is convenient for the households, who can leave the WEEE at the same collection points as other waste. After safe treatment in the recycling stations, recycled parts are turned back to the producers.

Support for industrial symbiosis

Level of use of the instrument

In Sweden, there is a little use of this measure in the form of support for local initiatives. For example, the industrial *symbiosis network in Norrköping (Handelö region) is strongly facilitated by the municipality. The objectives of the Norrköping network encompass the reduction of* greenhouse gas emissions, waste landfilling, fossil-resource dependence and costs for businesses. The energy sector, agricultural sector, waste management sector, paper industry and chemical industry are involved.

Lessons from application of the tool

In order to foster the networking between the participating companies, the business development department of the municipality promoted the development of synergies around steam, e.g. by giving priority to new industries that have a demand for steam. Further success factors were the innovative capabilities and entrepreneurial mindsets of local enterprises. An example for this is the local company Econovy, which is continuously finding ways of turning various waste streams into inputs for productive uses.

Improving financing

Level of use of the instrument

There is a little use of this support instrument in Sweden. For example, the Environment-driven Business Development programme by the Swedish Agency for Economic and Regional Growth (NUTEK, today renamed to Tillväxtverket) aimed to stimulate product and business development from sustainability perspectives. It particularly focused on the competitiveness of domestic small and medium-sized enterprises (SMEs). The measure was launched in 2001 and ended in 2004. In total, NUTEK co-financed SEK 28 million (approximately 2.8 million EUR) for a wide range of projects, while the participating companies invested approximately SEK 50 million (approximately 5 million EUR) in terms of time and money. 390 SMEs participated in the programme.

Lessons from application of the tool

By means of the Environment-driven Business Development programme, about 60 products and services have been made more environmentally sound. Some lessons can be drawn in regard to the procedure of the funding programme. In the initial phase, NUTEK called SMEs for project proposals and received and assessed 161 project ideas. Next, a preliminary study for 54 proposals was conducted. For each preliminary study, NUTEK provided a grant of SEK 80,000 (approximately 8,000 EUR) and, as a result, decided to finance 34 full-scale projects. The programme was run with involvement of various actors: regional development organisations, municipalities, consultants, universities and other research institutions. An average of 12 companies participated in each project. Support for the participating companies included for example counselling on development of environmentally sound products by industrial designers and research on customer needs and requirements. The preliminary studies helped identifying committed companies and minimising the risk of project failures and delays.

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is a little support for this support measure in Sweden. One example is the voluntary agreement between the government and the paper industry on the waste management for office paper including books, forms, copy paper, labels, envelopes, and posters, which was initiated in 1996 and renewed in 2001. The costs of the scheme are covered by the value of waste paper collected and sold as secondary raw material.

Lessons from application of the tool

The success of the measure is linked to the high market value of collected waste paper in Scandinavian countries.

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Acknowledgements

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Country Report Slovenia

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In Slovenia, four of the ten support measures are used a little, while for the remaining six support measures there is no national policy in place (yet) (see Figure 26 below). The support measures used range from improving financing through the Eko sklad (Slovenian Eco Fund) to the establishment of the STENG National Cleaner Production Centre Ltd. (partially through the Slovenian Ministry of Science and Technology) offering nation-wide consulting to companies on cleaner production projects, to a state-funded LIFE+ project linked with extended producer responsibility.

According to the information obtained, the Slovenian government plans to support industrial symbiosis through ESI (European Structural and Investment Funds) and other funding mechanisms in the future.

For brevity, in the following only selected support measures and examples are presented.

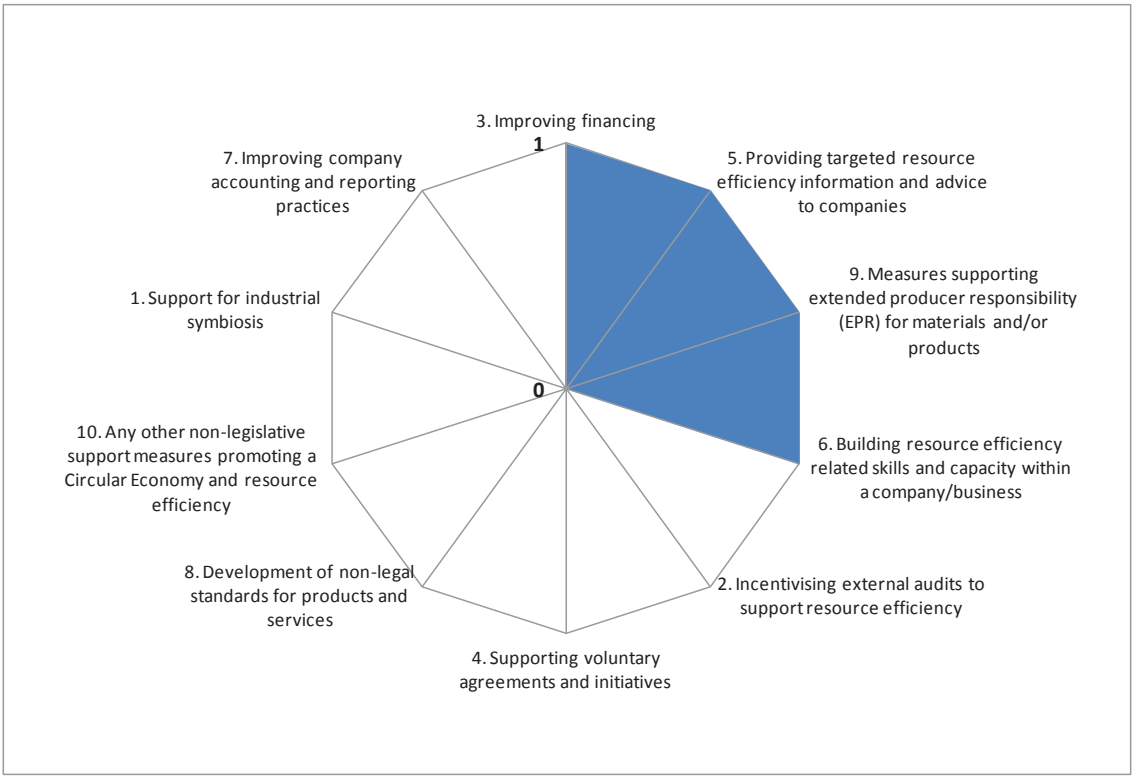

Figure 26: Level of application of Resource Efficiency measures in Slovenia
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Improving financing

Level of use of the instrument

There is a little use of this instrument in Slovenia. The most prominent example is the Eko sklad – the Slovenian Eco Fund. Through the Eko sklad, the government offers soft-loans and non-repayable sub-

sidies (grants) for environmental investments that private entrepreneurs (as well as municipalities and other legal entities) undertake in order to:

(1) Reduce greenhouse gas emissions (e.g. complete renovation of existing buildings with a demonstrated appropriate coefficient of heat loss);

(2) Reduce other emissions to air (e.g. appliances for cleaning the flue gas and exhaust air or connection to gas pipeline or purchase of gas fired combustion plants in the area with excessive air pollution by PM10);

(3) Make waste management more efficient (e.g. systems and equipment for the collection, treatment, recovery and re-use of waste in technological processes);

(4) Improve water protection (e.g. wastewater treatment plant for industrial wastewater or technologies that reduce water pollution in the technological process)

Case box 60: Eko sklad – the Slovenian Eco Fund

Good practice example Eko sklad – the Slovenian Eco Fund

Objective(s): (1) to promote development in the field of environmental protection; (2) to provide financial support for environmental projects (see above)

Launched in 1993(and still ongoing), no specific sectors are *targeted*.

Conditions of allocation of loans are prescribed in each specific public call, but usually refer to:

a) General terms and conditions of Eco Fund
b) The environmental criteria

General environmental criteria, such as the principles of sustainable development, a priority environmental objectives and effectiveness of environmental management: the highest, the appropriateness of technological solutions, the level of vulnerability of the environment (protected areas, reduce emissions into the environment, reducing the consumption of natural resources and energy, environmental remediation).

c) limitations consider state aid regulation

Allocated budget/resources: The financial resources for Eco Fund's soft loans are repayments of loans approved in past years (revolving fund), decapitalisation by the Government. Activities are further cofinanced by domestic and foreign banks (Slovenian Investment and Development Bank and European Investment Bank (EIB)).

Annual allocated budget varies: planned amount is 30 million EUR per year for soft loans, from which about 20 million EUR for legal entities. Total assets of Eco Fund on 31. 12. 2014 was 204.7 million EUR. Total funds spent in 2013 amounted to 49.8 million EUR, of which 29 million EUR were soft loans and 20.8 million EUR were grants (Bijedić 2013).

How widely/where the support measure is available: nation-wide

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

There are more than 400 companies who received the loan from Eco Fund. Signed soft loan contracts for energy efficiency investments in buildings for the period 2008-2012 amounted to 19.796 million EUR for legal entities (Bijedić 2013).

Lessons from application of the tool

The soft loans have a rather modest interest rate of 3-month EURIBOR + 1.5%. The range of loans, from 25,000 EUR to 2 million EUR or up to 90 % of eligible investment costs, makes them attractive to companies of various sizes. The repayment period can last up to 15 years and includes a grace period of up to one year; for purchase of certain equipment and vehicles repayment period is up to 5 years. (Bijedić 2013)

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is a little use of targeted resource efficiency information and advice being provided to companies in Slovenia. One prominent example was the establishment of the STENG National Cleaner Production Centre Ltd. by the University of Maribor, the company Spirax Sarco – and initially by the Slovenian Ministry of Science and Technology in 1997. Since the early 2000s, STENG is not supported by the state anymore, but a fully private company active on an open market.

STENG Ltd. offers nation-wide consulting to companies (targeting all sectors, with a past focus on the food sector and the textile industry) and carries out cleaner production projects aiming to transfer knowledge from universities and research institutes to the industry.

Lessons from application of the tool

Specific factors for success of STENG (which can also be seen in STENG now being fully private run and viable on an open market without government support) include:

- the Faculty of Chemistry and Chemical Engineering, the 'Josef Stefan' Institute in Ljubljana, and the Austrian Institute for Eastern and South-Eastern Europe in Vienna, Department in Ljubljana helped setting up a business plan
- the STENG National Cleaner Production Centre Ltd. is located in the Styrian Technological Park, where basic requirements such as a furnished office, a fax and a copy machine, a telephone and internet were available early on in the 1990ies
- experts of the Spirax Sarco company as well as of the University of Maribor took and still take part in the activities of the centre when needed
- these experts were especially useful in helping to start the business and overcome the first barriers.

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

At the moment there is only little use of governmental non-regulatory support measures for the application of extended producer responsibility (EPR). Partly as an indirect non-regulatory measure co-financing LIFE+ projects linked with EPR can be identified, i.e. the LIFE + project "Slovenia WEEE campaign – Raising awareness of the importance of environmentally sound management of WEEE among identified target groups in Slovenia" (LIFE10 INF/SI/000139). This project ran from October 2011 to September 2013 and was co-financed by the Ministry of the Environment and Spatial Planning with 116.793 EUR. According to project information provided on the website (see URL http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4022), through the various project activities such as

- awareness campaigns in schools, in Slovenian municipalities and on the Internet
- didactic material produced with the assistance of WEEE experts for schools and local communities about proper WEEE management
- open door days at local and regional level, held in cooperation with actors responsible for collection and treatment of e-waste (e.g. local authorities, producers of EEE, major retailers and public bodies)

more than 1,000 tons of WEEE have been collected, and recycled or properly disposed of and the collection rates increased annually by more than 10% during project duration (increase of 8.5% in the first and 11.7% for the second year were recorded).

Lessons from application of the tool

There are no specific lessons emerging from application of the tool.

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Acknowledgements

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Country Report Slovakia

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

Slovakia has a very limited number of policies supporting resource efficiency in business. One of the ten support measures is widely used, three are used a little, and for six support measures there is no national policy in place (see Figure 27 below).

The most relevant measures include notably the EPR schemes for waste (packaging, end-of-life vehicles, batteries and accumulators) and national environmental ecolabel for products and services. Slovak public authorities have also the possibility to require from tenderers in the context of public procurement procedures to provide environmental certifications, although the use of this support measure is quite limited in practice.

In 2010 – 2011, companies from south-west of Slovakia could participate in a survey and training project on opportunities for industrial symbiosis in Slovakia and Hungary. However, there was no follow up to the project.

For brevity, in the following only selected support measures and examples are presented.

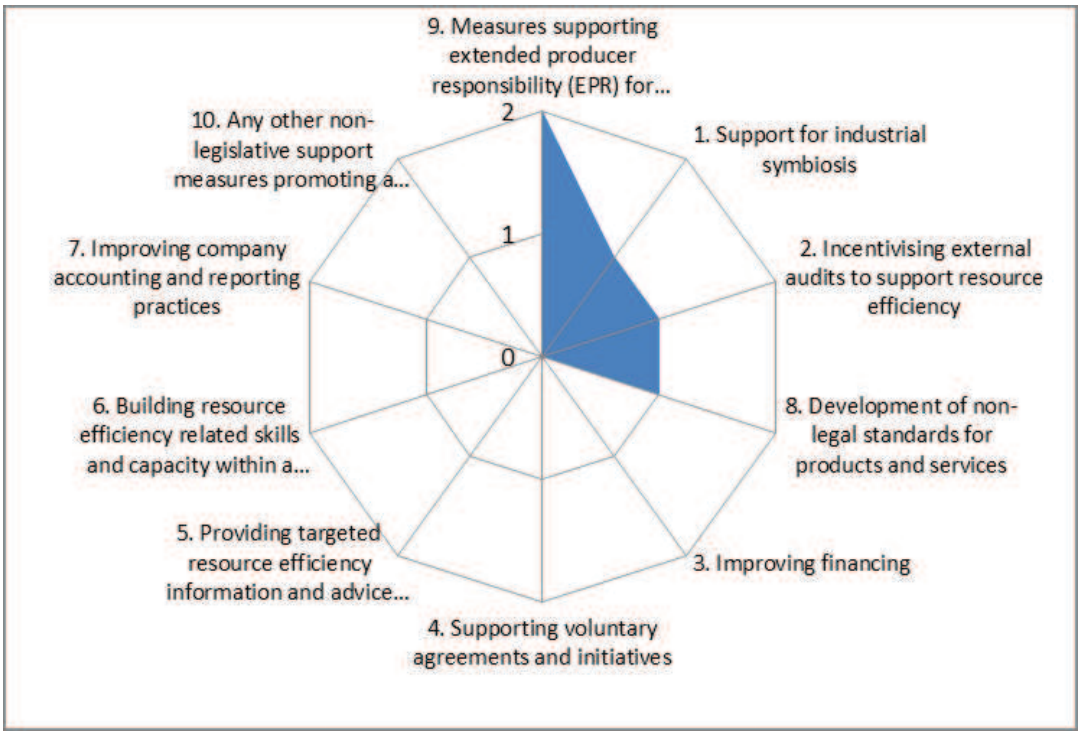

Figure 27: Level of application of Resource Efficiency measures in Slovakia
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure
Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Measures supporting extended producer responsibility (EPR) for materials and/or products

Level of use of the instrument

EPR is widely used in Slovakia. Slovakia introduced EPR schemes notably for packaging materials in 2002. There is also EPR systems in place for waste electrical and electronic equipment (WEEE) (2004), end-of-life vehicles (2002), batteries and accumulators (BaA) (2014).

Lessons from application of the tool

The measure potentially encourages businesses to design their packaging in a more environmentally friendly way. The main issue is currently to improve selective collection in the whole territory.

The introduction of EPR puts pressures on the recycling sector to build up new capacities and technologies in all sectors.

Support for industrial symbiosis

Level of use of the instrument

There is no structured and permanent measure supporting industrial symbiosis in Slovakia. Between 2010 and 2011, a temporary project on industrial symbiosis was carried out as part of a larger cross-border cooperation project, financed in part by EU and the Slovak government, and organised by Proventus.

The objective of the project was to investigate opportunities and interest of companies in actions aiming to reduce generation of waste through cooperation among businesses. The project was limited geographically to southwest regions of Slovakia. The project included a survey of companies' interest in industrial symbiosis and training.

Case box 61: Project REPROWIS – Reducing waste through industrial symbiosis in Slovakia

Good practice example: Project REPROWIS – Reducing waste through industrial symbiosis in Slovakia	
	Objective(s): Investigate opportunities and interest of companies in actions aiming to reduce generation of waste through cooperation among businesses: the project included a survey of companies' views on the potential of reducing waste from industrial symbiosis. *When the measure was launched:* Project realised between 2010 and 2011. *Target sector/beneficiaries:* In Slovakia, companies from south of Slovakia (Bratislava, Trnava and Nitra regions) were involved. *How widely/where the support measure is available:* Very limited (temporary project, geographically limited, and only included survey and training).
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc): Survey and workshops only. It seems that there is not a follow-up to the project.

Lessons from application of the tool

There was no further follow-up to the project. It might be relevant to build upon this first initiative, for instance by organising similar networking and training events with an aim to create a practical industrial symbiosis business case.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There are no financial incentives for external resource efficiency audits from government in Slovakia. All the environmental management certifications and environmental audits processes costs are fully paid by the applicant.

Slovak public authorities have also the possibility to require from tenderers in the context of public procurement procedures to provide environmental certifications. In the field of green public procurement (GPP), under the public procurement law 25/2006, the procuring authority can require environmental management certification (Standard ISO 14001), or registration in EMAS scheme or relevant means of proof from the supplier of goods, services and construction works.

Lessons from application of the tool

Green public procurement (GPP) still represents a very small portion of the overall public procurement: Based on the GPP monitoring in Slovakia for 2014, 651 public authorities (244 government organisations, 407 regional and local governments) spent over 82 million EUR for goods, services and construction works provided by suppliers with ISO 14001 standards. It represents 4% of the overall expenditures of these organisations. Hence, there is a potential to increase the public spending in green public procurement, notably by requiring tenderers to provide environmental certification.

Development of non-legal standards for products and services

In 1997, Slovakia introduced the national ecolabel "Environmentalne vhodny product (EVP)" – "Environmentally-friendly product", which both producers of products and providers of services can apply for.

Level of use of the instrument

In December 2014, 105 products had the right to use the national eco-label, representing however only 5 companies, 3 of which are from the construction sector. As of February 2015, 46 products and services of only 4 companies, all from the construction sector, held the EVP label, with expiration period for most of them in 2016.

Lessons from application of the tool

The holders of the label have to pay for using it. Therefore, in absence of governmental support, financial and administrative costs to obtain it may represent one of potential barriers for some actors.

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Inventories of the Slovak environmental agency; available at:
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Rozšírená zodpovednosť výrobcov pomáha pri implementácii smerníc:
http://www.euractiv.sk/separovanie-a-samosprava/clanok/rozsirena-zodpovednost-vyrobcov-pomaha-pri-implementacii-smernic-eu-021650

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Country Report United Kingdom

The information presented in this Country report was compiled from various written sources (institutional reports, scientific publications and websites) and expert feedback from relevant Member State officials. The sources can be found in sections References and sources used and Acknowledgments.

Overview of application of the ten measures

In the UK, one support measure (state support for voluntary agreements and initiatives) is widely used, seven of the ten support measures are used a little (ranging from the renowned National Industrial Symbiosis Programme NISP to support for external audits through ENWORKS and providing targeted resource efficiency advice through WRAP's sector guides), and for two support measures there is no national policy in place (see Figure 28 below).

For brevity, in the following only selected support measures and examples are presented.

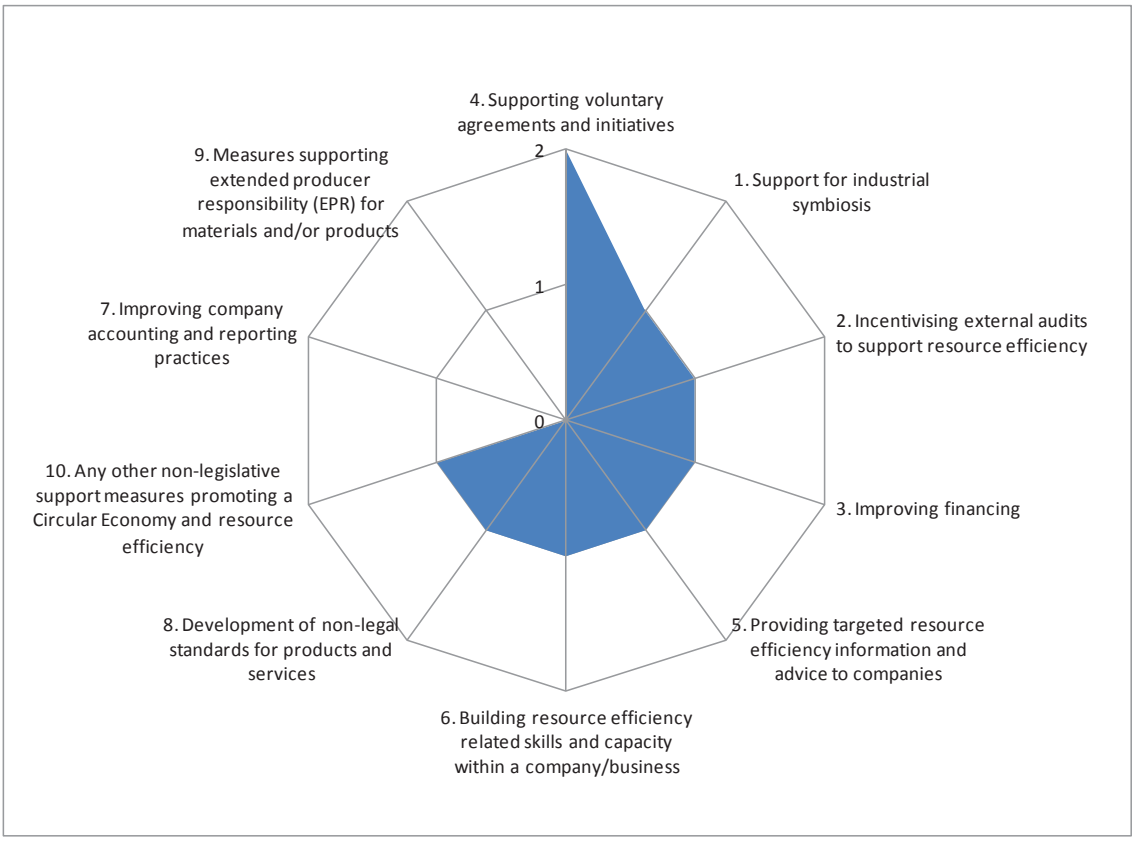

Figure 28: Level of application of Resource Efficiency measures in the UK
0 = No national policy in place; 1 = A little use of this support measure; 2 = Wide use of this support measure Please note: the diagram shows the 10 measures in order of their scope of application clockwise from highest (2) to lowest (0).

Supporting voluntary agreements and initiatives

Level of use of the instrument

There is wide use of state support for voluntary agreements and initiatives in the UK. The most prominent and successful example (see case box below) is the Courtauld Commitment, launched by the UK government's Waste and Resources Action Programme WRAP in 2005 to reduce food and packaging waste in the food and drink (grocery) supply chain. WRAP has also developed several other voluntary agreements in the UK in different industry sectors, e.g.: (i) the Hospitality and Food Service Agree-

ment with the hospitality sector (launched in June 2012 to reduce food and associated packaging waste by 5%, and to increase the amount of food and packaging waste recycled, sent to anaerobic digestion or composted to 70%); (ii) the Electrical and Electronic Equipment Sustainability Action Plan with the UK electrical sector (launched in 2014 to help organisations that design, manufacture, sell, repair, re-use and recycle electrical and electronic products to work collaboratively across the product life-cycle); (iii) the Sustainable Clothing Action Plan (SCAP) with the UK clothing retail sector (launched in 2009 to improve the sustainability of clothing sold in the UK as regards, inter alia, targets on carbon, water, waste prevention and landfill diversion).

Case box 62: The Courtauld Commitment

Good practice example: the UK Courtauld Commitment

Objective(s): ambitious targets to reduce food and packaging waste in the food and drink (grocery) supply chain.

The Courtauld Commitment was launched by WRAP (the Waste and Resources Action Programme, the UK Government's main delivery body on waste and resources) in 2005 and has operated in three phases to date.

Phase 1 ran from 2005 to 2009, and had three targets: to stop the growth in packaging waste by 2008, to cut packaging waste by 2010, and to identify ways to tackle food waste.

Phase 2 ran from 2010 to 2012 and began the move from weight-based targets to new metrics which considered wider environmental impacts. This phase had three targets: to cut the carbon impact of grocery packaging by 10%, to cut household food and drink waste by 4% and to cut supply chain waste by 5%.

Phase 3 started in 2013 and runs until the end of 2015. It has three targets: to cut household food and drink waste by 5%, to cut grocery supply chain waste by 3%, and to ensure there is no increase in the carbon impact of grocery packaging.

When the measure was launched: July 2005, with a first phase to 2010, a second phase to 2012, and a third phase to end 2015. A fourth phase taking the measure to 2025 is under development.

Target sector/beneficiaries: the food and drink value chain, (including households)

Allocated budget/resources: Detailed budget figures are not available. However, the latest WRAP analysis indicates that the benefit to cost ratio of total expenditure during phase 3 of the Courtauld Commitment is over 7 to 1, while the overall return on Defra's funding is nearly thirty times larger than their investment.

How widely/where the support measure is available: available to all companies in the grocery supply chain seeking to enter it

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Phase 1 had over 40 signatories, with 92% of the UK supermarket sector represented. Phase 2 had 53 signatories including the major UK retailers and many of the leading brands in food and drink sale and manufacture, which have over 90% coverage of the UK food and drink (grocery) market (see http://www.wrap.org.uk/sites/files/wrap/CC%20Ph2%20signatories%20list%2012%20Mar%202012.pdf). Phase 3 has 53 signatories (as at Oct 2014).

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Phase 2 helped businesses to (1) Reduce costs; (2) Improve the resource efficiency of products and their packaging; (3) Better position organisations for a carbon-constrained future; (4) Deliver against consumer expectations; (5) Help drive innovation in the sector.

- The Commitment's first two phases contributed to preventing 2.9 million tonnes of waste with a value of 4 billion £; to using 1 million tonnes less packaging; and to decreasing UK annual household food waste by 15% between 2007 and 2012 (DEFRA 2014)
- The carbon impact of grocery packaging was reduced by 10.0% compared to the target of 10%. Grocery packaging weight also reduced by 10.7%. (in the 2nd phase)
- If the phase 3 targets are met, then the 3 phases of the Courtauld Commitment will have led to a 20% reduction in UK household food waste between 2005 and 2015.

In 2013, a third phase of the Commitment was launched, aiming to prevent a further 1.1 million tonnes and bring the reduction of household food waste to 20% since 2007.

In addition to the business benefits, in phase 2, a 3.7% absolute reduction in total household food waste was achieved (270,000 tonnes per year) against a target of 4% (92% of the target was achieved). However, avoidable household food waste reduced by 5.3%. This will have saved consumers £700 million and local authorities £20 million a year in 2012. The carbon savings associated with the reduction in avoidable household food waste amounted to around 930,000 tonnes CO_{2eq} a year.[48]

Lessons from application of the tool

According to the information obtained and analysed, two main aspects served as success factors for this support measure: 1. coordination and support by WRAP, a government funded organisation with expertise in waste reduction. WRAP provides support and guidance to signatories, providing regular updates, website tools, data and evidence, research and resources to support the delivery of the targets. Many of these tools and publications are available on WRAP's website. WRAP also promotes change by facilitating forums, workshops and meetings to encourage the adoption of best practice across the entire grocery sector. Signatories provide data to WRAP on their progress on a confidential basis. WRAP analyses these data confidentially, under the terms of the agreement, and reports the total impact from all the signatories. Much of the data submitted to WRAP is required to meet legal obligations.

2. Working in partnership is crucial to the success of the Commitment. WRAP works in partnership with leading retailers, brand owners, manufacturers and suppliers' influential industry bodies, local authorities, community-based organisations, and many others who sign up and support the delivery of the targets, e.g. the British Retail Consortium (BRC) and the Food and Drink Federation (FDF), the Dairy association.

[48] WRAP (n.d). Courtauld Commitment 2. URL: http://www.wrap.org.uk/node/9297/, accessed 08 October, 2015 (measure 4)

Support for industrial symbiosis

Level of use of the instrument

Despite the international reputation of the National Industrial Symbiosis Programme NISP, the civil service experts from DEFRA interviewed saw only a little use of this support measure in the UK. Some details on the NISP are given in Case box 63 below.

Case box 63: The National Industrial Symbiosis Programme NISP

Good practice example: The National Industrial Symbiosis Programme NISP

Objective(s): to help businesses improve profitability, commercial competitiveness and environmental performance

When the measure was launched: 2005

Target sector/beneficiaries: all interested

Allocated budget/resources: 8 years' investment (£36.8M): 2005-2013. UK Government (FCO) recently funded a small project to the value of £120k, to introduce the IS concept in three countries: Sri Lanka, Egypt, and Peru.

How widely/where the support measure is available: the NISP was national, and now operates regional services in the UK, and globally supports regional and national programmes in over 20 countries.

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits):

More than 15,000 companies have been members of NISP in the UK.

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness): Impact of 8 years' investment (£36.8M): 2005-2013

- Material recovered and reused 47 million tonnes
- CO_2 42 million tonnes
- Virgin materials 60 million tonnes
- Hazardous waste 2.1 million
- Water 73 million tonnes
- Cost savings £1.1 billion
- Additional sales £1.0 billion
- Jobs 10,007 (Manchester Economics and Scott Wilson Business Consultancy 2009)

In 2010, five years into the programme, an independent study of NISP's economic impact (Manchester Economics and Scott Wilson Business Consultancy 2009) found as impact of 5 years' investment (£27M):

- Total Economic Value Added £1.5 - 2.5 Billion (investment multiplier between 53.2 - 88.6)
- £148 - 247 Million direct receipts to Treasury (giving a ROI between 5.5 – 9.1).

Lessons from application of the tool

Specific factors for the success of this support measure encompass (i) a facilitated process with practitioners experienced in (and credible among) industry (actors); (ii) provision of quality data managed by practitioners; (iii) a model for cross-sector engagement of all sectors and all company sizes; (iv) a holistic approach to resources, i.e. including materials, energy, water, staff expertise and capacity, etc.

Incentivising external audits to support resource efficiency

Level of use of the instrument

There is a little use of this instrument in the UK, with ENWORKS' advice, including resource efficiency assessments in businesses, as the most prominent example (see Case box 64).

Case box 64: ENWORKS resource efficiency assessments

Good practice example: ENWORKS resource efficiency assessments	
	Objective(s): (1) to improve the competitiveness and productivity of companies in North West England by reducing their exposure to environmental risk; (2) to reduce CO_2 emissions, water and material usage and divert waste from landfill These goals are to be achieved through direct working with companies, including the supply of resource efficiency assessments, and targeted information. Launched in 2001, the measure targets all interested companies, although support was prioritised to areas thought to have the greatest effect. *Allocated budget/resources:* 8.8 million £ between 2007-2010
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits): • Businesses assisted: 3,655 (2007 to 2010) *Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):* Final Reported Programme Level Outputs (2007 to 2010) • Number of adults undertaking work based training: 838 • Planned and actual cost savings per annum : £77m • Material savings (tonnes): 219,800 • CO_2 Savings (tonnes) : 475,570 • Water Savings (m3) :3,953,530 • Sales increased : £35m • Sales safeguarded: £68m (GHK 2011)

Lessons from application of the tool

Specific success factors identified encompass, inter alia, (1) the sub-regional delivery of business support through a core network of local organisations having a track record of delivering high-quality and effective environmental advice to businesses with in-house teams of qualified environmental auditors; (2) Provision of a bank of specialised consultants to provide sub-regional delivery partners with additional capacity when needed and with specialist skills that are not cost effective to embed permanently in each organisation; (3) integration of ENWORKS into the mainstream business advice and support service as a one-stop contact point for any business with a query about environmental issues and business performance. This helped reducing the previous lack of coordination of advice structures and the inconsistent and incoherent quality of advice; (4) providing firms with information updates on, for example, environmental legislation and regulations, best practice, business case studies, policy developments, etc.; (5) integration of marketing and communications through, for example, the ENWORKS conference, presence on relevant steering groups and committees and the ENWORKS website.

Building resource efficiency related skills and capacity within a company/business

Level of use of the instrument

There is a little use of this support measure in the UK. Trainings form a relevant part of the 'Halving Waste to Landfill' programme, a voluntary agreement allowing businesses to make a public commitment towards reducing the amount of construction, demolition and excavation waste sent to landfill (see Case box 65).

Case box 65: training as part of 'Halving Waste to Landfill' voluntary agreement

Good practice example: training as part of 'Halving Waste to Landfill' voluntary agreement	
	Objective(s): this voluntary agreement aimed to halve the amount of construction demolition and excavation waste going to landfill by 2012. The training was one of several measures in a package to support that voluntary agreement, e.g. delivering 1-2-1 support to assist practices with adopting process and behaviour changes The training aimed at providing Continuing Professional Development (CPD) in-house training (one-hour seminars) to SME architectural practices to design buildings so that they would produce less waste for landfill on demolition. WRAP created and disseminated case studies to inspire good practice; provided example contract clauses to embed the commitment into the organisations' procurement processes; provided benchmarking data, tools, guidance and other training to enable organisations to deliver on their commitment *When the measure was launched:* 2008 *Target sector/beneficiaries:* architectural practices (as part of the construction and demolition sectors)
	Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits): By the end of 2012 when the agreement ended there were 800 signatories, including construction clients, contractors, designers, manufacturers and waste managers.

Lessons from application of the tool

The training was part of a package of measures aiming at changes in practice and expertise in a sector, and so was assisted by and contributed to wider effects.

Providing targeted resource efficiency information and advice to companies

Level of use of the instrument

There is a little use of this instrument in the UK, mainly in the form of sector guides provided by WRAP, through which WRAP supports businesses in improving resource efficiency in various sectors of business. WRAP provides a wide range of tools and publications online to help businesses use resources more efficiently, reduce waste and save money. These include, for instance, an interactive tour of typical business premises (called Green Town) that highlights opportunities for resource efficiency in the workplace; a free online training course for small and medium-sized enterprises/organisations (SMEs), and a Waste Hierarchy Tool where businesses can generate their own tailored publication designed to help them understand the waste hierarchy. In addition, advice by telephone was provided on request, until recently when budgets were reduced.

Lessons from application of the tool

Firms were approached on the basis of their primary interest – cost-savings, rather than environmental benefits. In the sectoral approach, relevant sector firms were identified, approached, and, where they declined to participate, the experts in the government funded co-ordinating organisation were able to put forward evidence-based counter-arguments on the benefits on participation. The implementing body worked with large companies, whose influence on smaller companies (particularly their suppliers) has been found to be the most influential factor in firms changing their resource efficiency.

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Annex IV: Conceptual Framework used

The conceptual framework used aims to simplify the very large number of rather complex issues and factors which are relevant to the potential impact of policy support measures to improve resource efficiency in businesses.

The framework serves to focus the work, to shape the selection of measures to investigate, the issues explored in those measures, and the analysis and presentation of the results to our target audience.

The framework aims to clarify the following factors out of the complexity:

- The potential of a measure to be effective in helping firms improve their resource productivity (and so economic and environmental performance - including increasing jobs)
- The transferability of the measure to different national or sectoral contexts

Evidence base for the framework

The framework is based on:

- Literature on resource efficiency measures and business performance (relevant references are given in section References and Extracts from the Evidence Base and highlighted in brackets behind relevant text sections);
- A first review of
    - policy measure evaluations and research into business drivers for resource efficiency in businesses
    - the nature of some policy measures to shape business' resource efficiency

  in the UK, Germany and the Netherlands. This includes some published academic research.

In this note describing the framework, references are given to the key documents for facts or evidence which we found particularly helpful in forming the framework (i.e. those which added significantly to our existing knowledge or assumptions). The references are given as numbers, referring to short extracts from the documents, which are contained in the numbered extracts, or as hyperlinks to the websites on which the information is easily visible.

Context: the measures taken by firms that policies look to promote

The kind of measures that MS would be aiming at in firms, we consider to be (Ref. 2):

1 Process and Technology optimisation (i.e. in-operation optimisation of process conditions (e.g. input balance, temperature) or technological improvements in specific processes)

2 Manufacturing organisation optimisation (e.g. recycling of waste materials generated in manufacturing, within the manufacturing process)

3 Optimisation in other areas (e.g. stock wastage reduction, waste management (i.e. sales))

4 Staff training

NB: The more advanced efforts to improve resource efficiency - e.g. innovation co-operation for resource efficiency along the value chain (incl. product design), and significant technological innovation for resource efficiency (e.g. the development of new process technologies, or forms of service delivery) are very different in nature to the 4 types of measures above: they require special competences found in only relatively few firms (e.g. employment of so called “industry PhD’ personnel” which contributes to the exchange of research skills and capacities between a higher education institution, i.e. external staff, and skilled firm employees , but needs sufficiently large companies or funding to func-

tion). As a result we would argue they should be outside the scope of this project, although this is an open question for discussion in the Interim Meeting.

Conceptual Framework

The framework is based on evidence (Refs. 1, 2, 3, 6, 10) suggesting that the receptivity to measures promoting resource efficiency is generally low among the majority of the predominantly small and medium-sized firms across the EU, and that the causes of that receptivity should be key considerations in examining both the nature and the potential effect of a measure.

Interest and Capabilities

The key elements in the conceptual model of firms (and measure effectiveness) are therefore: ***Interest*** and ***Capabilities.*** (There is some overlap between these).

Interest and understanding

For non-regulatory measures, (as well as for some regulatory measures) the first barrier to the measures effectiveness is the frequent lack of interest of the firm in engaging in activities to improve resource efficiency. For instance:

- Few firms are interested in the environment, and few understand the concept of resource efficiency.
- Firms can regard input costs as fixed, rather than variable, and perceive suggested reductions in inputs (and input costs, as a main vehicle of many efforts encouraging firms to improve their resource efficiency) as potential constraints on outputs, so the opposite of the profit model the firm has in mind.

Capabilities:

- Very few firms (considering most firms are SMEs) reflect on their business operations, and seek to optimise them (in any aspect, let alone resource management), not having the time, inclination (see interest) or (financial, knowledge, staff) capability to do so.

Framework for impact - factors affecting a measure's potential

Bearing this in mind, the potential effectiveness of a measure to assist a firm depends upon:

1. The (remaining) technological or organisational potential for resource efficiency improvements in a firm
2. The interest in the firm for improving resource efficiency.
3. The width and extent of existing capabilities and constraints in the firm (internal conditions)
4. The nature of the external conditions (economic frameworks, value chain networks, professional networks, innovation support frameworks, market conditions) which impact upon and potentially constrain the firm (‘s capabilities)
5. The effectiveness of a measure to ease constraints or to increase capabilities in the firm (e.g. through incentives)
6. The effectiveness of any other simultaneously applied measures (or other external changes) in easing any constraints or increasing capabilities.

Categorising/Segmenting firms

As the measures to *assist* business with resource efficiency mainly require non-regulatory action, or response, from the firm, the barriers of interest and capabilities are central to the effectiveness of a measure.

However this very important factor varies greatly between firms, implying that the effectiveness of a measure would differ greatly between firms, allowing or necessitating a characterisation of the 'target group' for RE measures. This segmentation of firms can be:

Type A) Firms with interest, capabilities and existing processes for resource efficiency improvements:

> Typically larger firms (including medium sized enterprises) for whom resource inputs or waste outputs are a significant part of their costs, and who have taken some action in the past to optimise resource use and associated costs.

Type B) Firms with potential interest, some capabilities (or permissive organisational structures and cultures) for resource efficiency improvements:

> This would include firms which have staff with some existing, perhaps unused expertise for some forms of resource management; and

Type C) Firms which have no interest or capability for resource efficiency improvements

> This appears to be the majority of SMEs, and larger firms for whom the resources are not (known to be) a significant part of their costs. It includes those many firms who do not take a strategic, reflective approach to their business, and those who do not see a reduction in input costs as easily equating to an increase in profits.

The implication is that, given these differences, different forms of measures are likely to be needed to assist (or induce) resource efficiency in the different types of firms.

- Type A firms may respond to many forms of measures which change the perceived returns on resource efficiency measures - including investment subsidies, or removal of uncertainty over the performance of new technologies, or changes in the norms or internal practices they see as relevant to their business.
- Type B firms may respond to convincing information about possibilities of cost savings, particularly when this comes through persuasive channels (e.g. peer groups or value chains), and from (temporary) increases in their capabilities (e.g. through expert advice) and assistance in improving the pay-back of investments. This is the main target group for most measures
- Type C firms are unlikely to respond to any measures of assistance. They may respond to some regulatory measures, particularly when this is a requirement of their customers and where they become aware of the regulatory requirement and have some assistance and incentives (through forms of enforcement mechanism) to take action.

We propose segregating firms by these categories, and assuming that measures will have different impacts on firms of the different types. The majority of measures will also have been aimed at (or at least taken up by) Type A or B firms.

Conceptual model of routes of influence of measures

To provide a framing for understanding best practice in what is effective at influencing firms, we propose a simplified conceptual model of the factors influencing firms' decisions. This can serve as a way to judge, frame or inform the potential transferability of effective measures, and to prompt deeper consideration of success factors by Member State policy officials.

The conceptual model is based on influences on decision making. These influences are:

- **'Technical Capabilities'** Firms have limited decision making capabilities: in information (e.g. about technologies), time, technical equipment, and knowledge.
- **'Organisational Capabilities'** All decisions about the future are decisions in the face of uncertainty. The decision-making short-cuts (heuristics) used to resolve this uncertainty form the 'culture' or norms of the firm, which is often weighted towards existing practice, and what is known or proven. The organisational/decision making structures within the firm can affect the extent to which decisions are biased. Many, in particular smaller, firms also lack access to fi-

nancial resources and are thus constrained in their capabilities to innovate towards resource efficiency.

- **'Perceptions of Cost-Benefits'** Firms using forms of investment analysis of options look at the financial returns on limited alternatives based on their knowledge of the world. In doing so, they are taking subjective decisions, based on perceptions, (Ref. 4) are often using high-discount rates (for organisational and behavioural reasons).
- **'Norms, Culture and Goals'** Firms are highly influenced by the behaviour, norms and expectations of their biggest customer in particular, but also by customers in general. (Refs. 5, 6, 8) This is the strongest route of influence on many firms, and reflects the prevalent relationships within the firm's 'society'.
- **'Compliance with Regulatory obligations'** Firms' compliance with existing regulation - e.g. waste regulation - is often weak, partly out of lack of knowledge of the regulation and partly due to the nature of enforcement.

The first 3 of these influences are broadly around capabilities, and the last two around interests and motivations. Actual changes to the costs or benefits of undertaking resource efficiency steps has influence on decision makers (when they are aware of those changes) through their perception of costs and benefits during any form of investment analysis.

These influences form the basis for analysing the routes of influence (and therefore potential impact and transferability) of policy measures, as indicated in Figure 1 (below):

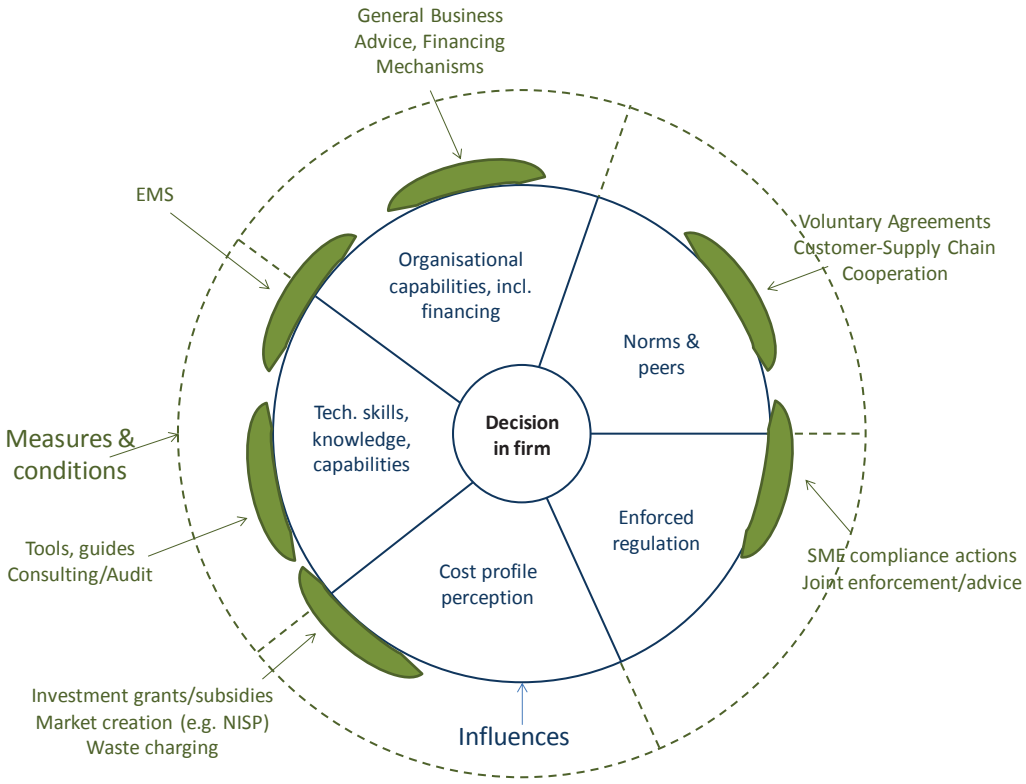


Figure 29: Visualisation of the analytical framework of Influence on firms' decisions to improve resource efficiency

Manner of implementation of policy measures.

Within our framework, the routes of influence suggest that the manner of delivery of the policy measure may be as important in its nature as its content. In particular:

- The route or messenger by which information or examples reach the decision makers in the firm. The visibility, salience, credibility and 'cultural' weight attached to a piece of new information appears to be very depending on this route. (Refs. 6, 7, 8, 9)
- The language used around any piece of information - and whether it fits with the primary interests of the firm's decision makers. (Refs. 6, 7, 8, 9)
- The process by which messages promoting or encouraging change are repeated or re-inforced over time, to bring about change. (Ref. 8)

One example which we have already discussed at the project team internal inception meeting - the creation of an 'official' body for giving advice - e.g. Creation of delivery organisation/capability/knowledge hub/state sanctioned consultancy may be a measure which is more effective that ensuring that adequate consultancy expertise exists in any region, purely because the public service nature of the delivery body makes it more trusted.

Matching Measures to their main likely impacts on decisions in firms.

Based on the simple framework above, we can add practical context and classification to measures being used in Member States, by matching them to the channels through which they may induce improvements in firms.

Clearly, some measures operate through more than one route of influence - indeed this may be a key success factor (more than one lever is pushed at the same time).

Table 12: Examples of measures for different routes of influence on firms

Route of Influence on Firms	Measures currently or recently used (UK, DE, NL)
Changing norms, cultures and goals	Sectoral agreements, agreements with large firms over their value chains (e.g. green deals in NL) GPP (particularly for large public projects - e.g. in construction) Networks, or waste clubs
Changing the salience, incentives from and ease of compliance with regulation	Integrated enforcement and compliance support (as promoted by DG ENV) Effective inclusion of resource management (e.g. waste minimisation) requirements in environmental permitting (e.g. BAT). Development of standards for products and services (e.g. minimum efficiency standards)
Changing the perception (which includes the objective reality) of costs and benefits of action	Targeted investment subsidies, performance bonuses, tax rebates, innovation fund. Technology Verification by a public/publically sponsored body Creation or facilitation of new markets - e.g. NISP, recycling markets (e.g. through collection infrastructure or services). Measures changing relative prices (e.g. EHS, EFR)
Improving the technological, knowledge or skills capabilities of firms	Offer of 'approved', subsidised or free consultancy services Offer of decision making tools, or guides to im-

Route of Influence on Firms	Measures currently or recently used (UK, DE, NL)
	proved resource management (e.g. online) Offer of training for resource management/optimisation Offer, or subsidisation of Environmental Management Systems Establishment of RE networks or platforms for exchange Electronic or physical sending of information on potential, best practices or available support.
Increasing the organisational capabilities of firms to optimise their business performance	Generic management performance advice [Not seen as naturally within scope]

References and Extracts from the Evidence Base

This Annex contains - in rough, cut and paste format, the most pertinent parts of the research which has added to our knowledge of the influences on firms' decisions to engage in resource efficiency (especially SMEs). Text in *small, italic* font is pasted verbatim from the sources specified (Ref. …).

The bulk of the evidence comes from the UK, which has (over the last 10 years) engaged most deeply in this research.

Factors influencing firms in UK

Ref. 1 "*Development of a Competence Framework for Business Resource Efficiency*" 2011, published by WRAP (UK) based on work by Entec and Brook Lyndhurst

This research looked at the competencies that SMEs would need to engage in RE - so effectively at the barriers which stopped them taking measures. Research was based on literature review and on questionnaires (and some interviews).

On interest and capabilities, it found:

- Few firms understood or cared about the concept of 'resource efficiency'. Firms would look at it in different way - as cost reduction, 'process efficiency', the 'way things are done' in a firm.
- RE measures by firms were usually ad hoc, rather than strategic. Mainly because most firms didn't have a strategic approach to their business, but ran things in an ad hoc way.
- Cost is the driver where RE is undertaken (or potentially customer pressure).
- As improvements tended to come on reflection about past practices, or by staff from different organisations, firms older than 20 years were more likely to have taken RE measures. Those less than 20 years old were less reflective.
- Firms primarily cared about customer service or product quality. They regarded input costs as fixed, rather than sources of potential cost reduction, and linked input costs to quality of output and volume of output. Messaging about reducing input costs was sometimes seen as negative for this reason.
- Some firms who had worked on their RE believed that they had sufficient information about their resource management - and these were then unwilling to hear external expertise.
- Larger manufacturing, printing etc firms (those which use resources) are the ones which have taken most action on RE. [probably ties to benefits of doing so, and capabilities]

Ref. 2 "*Guide to Resource Efficiency in Manufacturing*" Greenovate/REMake project (2012)

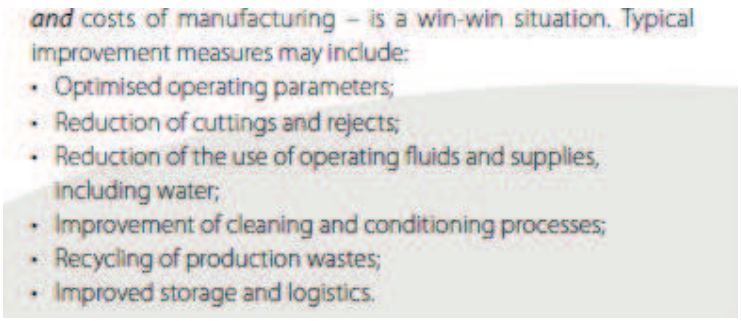
On types of measures taken by firms, the report highlights results from DE on the measures which firms in DE have taken to improve resource efficiency. The most often taken - so those with greatest potential, or ease of being taken - seem to be:

- *Process and Technology optimisation*
- *Manufacturing organisation optimisation*
- *Optimisation in other areas*
- Staff training

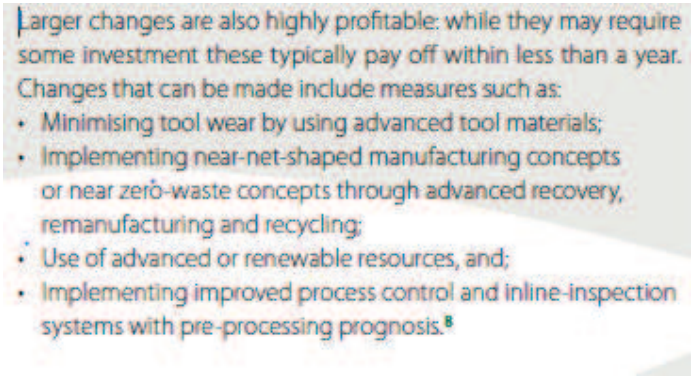
Optimisation of external processes (e.g. in value chain) and product redesign were much less often taken.

However, these figures come from the analysis of 100 case studies under the German Material Efficiency Programme. There might be selection bias in both the case study creation and the selection by REmake.

The report does highlight the kind of steps which firms would take - which is a relevant starting point for analysis:


and costs of manufacturing – is a win-win situation. Typical improvement measures may include:

- Optimised operating parameters;
- Reduction of cuttings and rejects;
- Reduction of the use of operating fluids and supplies, including water;
- Improvement of cleaning and conditioning processes;
- Recycling of production wastes;
- Improved storage and logistics.


Larger changes are also highly profitable: while they may require some investment these typically pay off within less than a year. Changes that can be made include measures such as:

- Minimising tool wear by using advanced tool materials;
- Implementing near-net-shaped manufacturing concepts or near zero-waste concepts through advanced recovery, remanufacturing and recycling;
- Use of advanced or renewable resources, and;
- Implementing improved process control and inline-inspection systems with pre-processing prognosis.[8]

It also lists some of the available tools for self assessment (particularly in Germany) for firms to be helped with RE.

The report pushes (and contains case studies for) the use of green vouchers as an inducement mechanisms for firms to take advice on how to optimise their resource efficiency. These are a form of subsidy mechanism (e.g. 50% or even 100%) for expert advice, with some payment upfront to help companies with cash flow, and - usually - the final report (and payment) assessed by a central, public body.

Refs. 3 to 8, UK's Defra's "*Business Waste Prevention Evidence Review*" 2012

This set of reports covers in detail the behaviours, and policy interventions which have or could be used in the UK to increase 'waste prevention' , based on 1000 relevant published documents. 'Waste prevention' in this context includes almost all forms of resource productivity improvements by businesses (e.g. reducing inputs). Extracts below come from the *Review Overview Report*, on the page numbers given.

Ref. 3 On behaviours and motivations (p.14):

- ***The overall prevalence of business waste prevention behaviour is uncertain.*** *Survey data on business waste prevention behaviour gives mixed indications of prevalence. There is some evidence that awareness of and perceived importance of waste prevention or resource efficiency increases with size of business.*

- ***Motivations for and barriers to business waste prevention are not fully understood.*** *No studies were found that had used a systematic or theory-based approach to examine the behavioural drivers of waste prevention in business, including the relative importance of different drivers. We do not have a full understanding of the motivations for and barriers to business waste prevention although inferences can be made from the weight of evidence for different aspects.*

- ***Cost is an important influencing factor although the true costs of waste are not always transparent to businesses.*** *Poor conceptual understanding of waste prevention by businesses appears to be at the root of a number of the identified barriers – particularly those related to understanding of and attitudes towards costs and cost savings.*

Ref. 4 On costs savings and their perception

- *(p.14) Two key aspects likely to influence business decision-making with respect to waste prevention are potential cost savings and the implementation costs of changing processes. Businesses – especially SMEs - may not be able to judge either accurately. Because businesses tend to associate 'waste prevention' with an 'end-of-pipe' issue and not with improvements in efficiency and productivity, they often fail to appreciate the full embedded costs in waste. (Waste prevention offers larger financial and CO2 savings than diversion since it eliminates not only disposal costs, but also un-necessary raw material manufacturing, processing, shipment etc. One study in the retail sector estimated that savings of £627 per tonne from prevention compared to £70 from diversion.) In turn, this can create sceptical attitudes to the idea that they can make net financial savings through waste prevention.*

- *(p.35) Waste prevention could, however, save the industry far more money than does landfill diversion. The true cost in wasted raw materials, energy, labour and other inputs before retail is at least £500/t -* ***Lee, P. and Willis, P.*** *Waste arisings in the supply of food and drink to households in the UK. Banbury : WRAP, 2010. id 819."]*

- *(p.35) The evidence base does not provide a good understanding of how considerations around cost savings and investment interact with other behavioural drivers, including social aspects such as corporate ethos and culture.*

Ref. 5 On culture:

- ***Corporate culture and leadership can drive waste prevention.*** *The evidence suggests that corporate culture can play a key role in facilitating or inhibiting waste prevention within businesses, especially in SMEs. The prevailing collective attitudes, values and norms embedded in structures and processes appear to be more powerful driving forces than individual attitudes, values and norms: people's behaviour in the workplace tends to conform to the corporate culture.*

- *Backing from business leaders can validate the decisions made by managers and the way operations are run by staff. While the evidence suggests that leadership and a positive corporate culture can motivate business waste prevention, it is not clear whether these factors act as actual motivators – driving waste prevention – or as facilitators or enablers.*

Ref. 6 On manner of engagement with SMEs in waste prevention:

A number of generalisations can be made about SMEs based on the evidence reviewed (though it needs to be borne in mind that the SME definition covers a diverse array of sectors and company sizes, and much of the literature is concerned with the smaller SMEs):

Key barriers relate to negative attitudes, awareness and understanding of waste prevention (in particular related to the 'true' cost of waste), lack of resources (staff capacity, skills and expertise, and access to capital), lack of external pressure and a sense of powerlessness with respect to both customers and suppliers.

Key motivations relate to positive attitudes of the owner-manager, cost saving opportunities and compliance with legislation/regulation.

There appears to be no 'silver bullet' in terms of how best to engage SMEs on waste prevention, although there is some evidence that supply-chain initiatives can be effective in addressing some of the barriers highlighted above.

The language of policy, regulation and communications plays an important role here in framing how businesses think about what they should be doing. (p.15)

While a number of case studies have been developed by business support programmes to help businesses understand the benefits and investment costs of undertaking waste prevention, these are sometimes criticised by business as being too generic.

[N.B. Defra's *Improving Communications with SMEs* contains clear, but simple pointers on effective along the lines we already know.]

Ref. 7 On Communication (p. 25)

- ***'Cost' is an effective 'hook' in communications*** *but the effectiveness of this approach is heavily influenced by a lack of understanding and scepticism towards cost-saving opportunities from waste prevention, especially in SMEs (discussed under Attitudes & Behaviours). Even where waste prevention is a key objective of communication, businesses may not recognise that waste prevention goes beyond recycling or compliance with legislation – actions they may already be taking. However, the evidence does not tell us how prevalent this perception is amongst businesses. Waste prevention needs to be clearly framed so as to speak to different business audiences.*

- ***Distant, mass communications (such as email, online) alone seem to have limited traction or influence on changing behaviours****; businesses generally appear to respond better to some form of direct (such as face-to-face, telephone) contact or support, in particular SMEs. 'Word of mouth'*
- *networks appear to enhance the effectiveness of information. Existing business advisors and trade associations can be important sources of information for SMEs.*

- ***Generic messages or information are not popular with business.*** *Communications need to be supported by messages on how to implement change within specific business processes and target the specific needs of different types of businesses, as well as senior management and operational staff, in a 'joined-up' way. This is likely to be more effective as part of a long-term engagement programme.*

- ***Communications can be costly****. No comprehensive evidence on return on investment and value for money with regards to waste prevention communications has been found within the scope and timing of this project. It is not clear whether this is because it is not widely measured, or because this information is not made public.*

Ref. 8 On Particular Measures for Business Support:

On Sustainable Procurement:

The 'greening of supply chains', where collaborative partnerships between suppliers and customers are established, provide "significant opportunities to control resource flows and environmental impacts … and can identify opportunities for innovation and develop resource-efficient solutions" (3 p. 4). As a 1998 article in the journal Supply Chain Management points out, the crude size of a procuring organisation can be a misleading proxy

for power in a trading relationship; power instead "appears to be that associated with a firm's ability to innovate and become a source of new ideas for its trading 'partner(s)' " (6 p. 92). Voluntary agreements, like Courtauld, have been successful because they promote an innovative and inclusive approach to procurement while setting time-limits on results.

An organisation's procurement decisions can prevent waste in two distinct ways depending on whether procurement is used primarily as:

- *A tool for **internal change**: an organisation chooses to buy, or switch to (3 p. 25), an existing product or service which results in less waste being produced, normally within its own operations. Examples include procuring: reduced, reusable or returnable packaging; remanufactured products; a service instead of a product (or leasing) (4 p. 41); or services in a closed loop. Alternatively, the organisation may decide to go without the product or service altogether, again preventing waste.*

or:

- *A driver of **external change**: an organisation collaborates with, or influences, an existing supplier to change the latter's processes or products so as to reduce waste. The waste reduction normally occurs in the supplier's operation, or elsewhere in the supply chain. Crucially, the supplier's behaviour has been changed. A cascading effect along an entire supply chain can result.*

While both forms of procurement prevent waste in the supply chain, the evidence reviewed here indicates that it is use as a driver of external change that offers the greatest potential – especially when one or more large organisations in the same sector implement a common purchasing strategy. By contrast, simply switching to a different, less wasteful product or service without attempting to change the behaviour of an existing supplier is likely to have less impact.

Having received significant promotion by the public sector, sustainable procurement and supply chain management is being adopted by a growing number of private companies, especially larger ones such as multiple retailers, automotive manufacturers and large construction contractors (especially when the client is a public body – for example in the construction of schools or hospitals). However, waste prevention in the supply chain is rarely an explicit objective.

On Voluntary Commitments (p. 23):

- *Voluntary Commitments include CSR and customer pressures, a desire to engage with national policy, the opportunity to make financial savings and the implicit 'threat' of legislation should they refuse to participate. Few barriers to involvement were found except perhaps a lack of capability within individual companies to fulfil their commitments. In terms of behavioural aspects, much of the evidence centred on enablers: key success factors included the engagement of sector leaders and relevant trade associations."*

- *Commitments and voluntary agreements have been most successful in industries where a few large companies dominate the sectors and can drive change across entire supply chains. Commitments are perhaps therefore most likely to work when applied to other sectors and products with similar structural conditions. Larger players seem more inclined to act in unison as they have greatest power and opportunities to cut waste in their own operations and elsewhere in the supply chain. Smaller companies appear less likely to sign up for commitments or indeed respond to any forms of voluntary intervention. However, change is still likely in smaller firms, albeit at a slower pace, as an indirect result of the engagement of the sector leaders.*

On Waste Minimisation Clubs (p. 27)

Waste minimisation clubs are a group of businesses within the same sector or a given geographical area that work together to achieve savings in waste minimisation, as well as some aspects of clean operations and product design. In addition to providing varying levels of training and consultancy support to participating companies, waste minimisation clubs provide members with the opportunity to share knowledge and experience through club meetings and events. However, numerous schemes have a 'virtual' existence, where no physical meetings take place at all – membership of the club simply gives preferential access to other resources, such as consultancy.

***Well managed clubs have the potential to provide significant cost savings – in excess of £10 saved for each £1 invested**. Waste savings per club can range from a few thousand to hundreds of thousands of tonnes annually,*

depending on the number and type of business involved and the duration of the club activity. There is some evidence that a maximum number of 20 participants and a life-time of at least 2-3 years achieve the best outcomes.

Overall, clubs appear to work particularly well when:

- *delivered by a lead organization with the necessary skills and expertise to facilitate running the club, and supported by a range of strategic partners, working together to provide financial and other support*
- *recruitment is underpinned by a strategic marketing strategy that uses a range of tools and channels, puts message of cost savings at the forefront and reflects industry specific interests*
- *frequent communication and close relationships between the lead organization and its members, as well as amongst members is taking place*
- *services are tailored to the audience- sector or multi-sector- and provide a combination of one to one/handholding support, training and interaction to encourage peer learning.*

Evaluations of the East Anglian Business Club (10), betre (11) and Canadian Enviroclub (12) show that waste minimization clubs can have a positive impact on changing attitudes and behaviours, but results are indicative at best. This is an area that might benefit from further ***research to better understand the social dimension of what motivates businesses to engage in waste prevention clubs****, what are the* ***key success factor****s within member businesses that influence how knowledge gained in the clubs is applied, and* ***the benefits it brings in terms of catalysing wider behaviour change.*** *This could include pre and post action research with participants of current waste clubs to evaluate motivations and barriers in more depth.*

On Other Forms of Business Support:

A significant number of programmes and initiatives currently running are aimed at improving the environmental performance of businesses. Such business support comes in many forms including:

- *The provision of help-lines for advice;*
- *creation and dissemination of guidelines and other tools for self-analysis;*
- *the auditing of facilities and practices;*
- *technical assistance in implementation; and*
- *organisation of networks*
- *and application for finance.*

Even though the instruments and tools applied may differ, all these business support initiatives share some elements: Ambition to achieve a win-win situation for business and the environment; involvement of public bodies or trade associations; supply driven i.e. promoted by those offering support; and voluntary participation as opposed to mandatory involvement.

- ***A large number of reports has been identified, showing that business support programmes are generally effective in helping companies to prevent the generation of waste.*** *This is reflected not only by the reported figures in evaluation reports, but also by business surveys stating that they find business support in general as beneficial.*

- ***Reduction of cost is a main motivator of companies to accept offers of support.*** *However, evidence suggests that many companies do not recognise the true costs of waste and are thus not susceptible to joining waste minimisation programmes under current mechanisms.*

- ***Even though businesses demand support in environmental matters, the response to the offered support programmes is generally low.*** *Many business support organisations report an unwillingness of companies to fund their activities, even though they report significant cost savings achievements by the companies.*

- *Based on the reviewed reports, voluntary support programmes alone are insufficient to transform industry practices. Business support for waste prevention is predominantly embraced by companies already engaged in environmental issues.*

Factors influencing firms in DE

Ref. 9 "Möglichkeiten zur Steigerung der Ressourceneffizienz in kleinen und mittleren Unternehmen" 2013, by Engelmann, Liedtke & Rohn, published by Friedrich-Ebert-Stiftung

This study focused on the opportunities of SMEs in Germany to increase resource efficiency and discusses the possibilities and limitations of different instruments. Research is based on literature review and the findings of three expert workshops.

On barriers hindering SMEs to introduce RE measures in Germany (from these we can derive the routes of influence of measures), pp. 15-31

- Limited access to financial resources
- Lack of knowledge (e.g. about resource- effective technologies)
- Lack of time
- Lack of awareness about the problem of resource scarcity
- Lack of qualified employees
- Networks along value chain are not existent
- Missing policy incentives
- Uncertainty of framework conditions
- Unwillingness to change
- Organizational structures are hindering change
- Lack of internal communication
- Short-term objectives are more important than long-term visions
- dependence on customers' wishes
- High bureaucratic effort linked to applying for financial support
- lack of acceptance of external consultants
- shortage of qualified advisors for SMEs (often consulting large enterprises is more attractive; in other cases qualification on RE often lacking)

On success factors for the implementation of policy measures (p. 56, 57)

According to the study, an aversion against external (business) consultants hinders many firms to take advantage of support programs. In this regard, the promotion of programs by industrial and commercial chambers as well as associations at the regional or local level gives legitimacy and therefore was found to be a success factor. In Germany, especially the *VDI Centre for Resource Efficiency (VDI ZRE)* and the *Resource Efficiency Network* are perceived as central contact points.

In addition, a large number of programs are perceived as not being specifically targeted to the needs of SMEs or to certain sectors. One important aspect here is to argue with cost savings, and not with ecological benefits. Moreover, the way of presenting information is a decisive factor for getting a company's attention to RE measures. For example, short films on best practice examples have proven to be very successful. However, a certain number of companies will not be reached by this type of measures - these "sceptics" or "passives" are satisfied with the status quo and strictly shying the effort of increasing their resource efficiency.

Ref. 10 „Umsetzung von Ressourceneffizienz-Maßnahmen in KMU und ihre Treiber“ 2011, published by VDI Centre for Resource Efficiency

This nation-wide study was conducted to identify the barriers and motivational factors in the decision-making process of SMEs to make use of public support programs to increase resource efficiency in Germany. Background is the perceived low acceptance of support programs. Research is based on interviews.

On the interest of firms to engage in activities to improve RE (p. 20, 21)

According to the study, the most important factors for SMEs to participate in support programmes for RE are

- an increase of competitiveness
- a positive impact of investment in RE on costs
- satisfaction of customers' demands

In contrast, of minor importance to the companies are taking steps in preparation for resource scarcity and positioning the company as ecologically responsible. Moreover, the smaller the company is, the more important are the factors simple application process, the size of the funding amount as well as the expected decrease of costs. This evidence suggests that for the communication of support programs, business considerations such as competitiveness, costs and consumer demands play are of more relevance than ecological aspects.

Factors influencing firms in NL

Ref. 11 PBL (2013) *Vergroenen en verdienen. Op zoek naar kansen voor de Nederlandse economie*, Den Haag: Planbureau voor de Leefomgeving.

http://www.pbl.nl/sites/default/files/cms/publicaties/PBL-2013-Vergroenen-en-verdienen-1061.pdf

This report contains a short chapter on the motives for businesses to green their activities / embrace resource efficiency and the barriers that prevent companies to take measures.

What drives businesses to start greening their activities / embrace RE?

1. Increasing prices of raw materials
2. The opportunity to enter new markets (to enjoy first mover advantage)
3. Reputation and licence to operate (holds in particular for multinationals)

What kind of businesses engage in greening their activities?

Several Dutch multinationals are at the forefront of greening/RE such as Unilever, Philips, AKZO and KLM Air France. The picture for SMEs is more diverse. On the one hand a significant number of SMEs are behind in terms of greening. A major cause for this is that smaller businesses lack time, knowledge and money. SMEs are often less known to the public and are as a result less prone to naming & shaming. SMEs are less strategy-oriented. SMEs pay less attention to global developments such as scarcity of resources (KPMG 2013). At the same time innovation is often brought about by smaller companies (WRR 2008).

What keeps companies from taking measures?

1. Unstable policies, lack of long term vision and obstructive regulation
2. Laggards slow down leaders
3. Insufficient price incentives (e.g. current low carbon price in the EU ETS)

4. Lack of suitable finance arrangements slows down innovation
5. Need for tailor-made support from public authorities

Information on Measures, Implementation of Measures and Lessons Learnt in UK, NL and DE

Application of Measures in the UK

Source 1: Telephone interview with Julia Turner, WRAP (January 2015)

1. WRAP takes a sectoral approach to targeting its business RE measures.
It has offered reactive advice - i.e. on being contacted by interested firms - but this is being wound down.

2. To generate interest from business for this sectoral approach, WRAP contacts companies, then engages with refusnik potential participants on their reasons why they wouldn't benefit from participating (e.g. "my customers couldn't care") where WRAP believe these reasons not to be true.

3. In their sectoral agreements, e.g. with the RE retail agreement - the Courtauld 2025 - WRAP has asked businesses what they think is possible, and where WRAP can offer expertise to facilitate change. Sometimes WRAPs provides expert advice on innovation - e.g. how packaging could be reduced.

4. WRAP has found that the influence of large customers is one of the distinguishing features between companies that engage with RE and those that don't.

5. Only in Wales is resource saving advice delivered together with energy saving advice.

NB: For more information, on policy measures, we could look at:
Waste Prevention Cost Benefit Analysis produced by Defra, which appraises existing and potential policy measures, and
The Waste Prevention Evidence Review, where they find SMEs act like their biggest customer.

Source 2: UK WRAP website, http://www.wrap.org.uk/category/what-we-offer/business-support

This website describes the types of measures which are offered in the UK to directly help business. These fall into the categories:

- Case studies
- Communications support
- Events
- Funding
- Good practice guidance
- Market information
- Media briefings
- Publications
- Quality protocols and standards
- Regional Partnership Managers
- Reports
- Resources

- Technical support
- Tenders
- Tools, templates and apps
- Training
- Voluntary agreements

Comment

WRAP has very grand, wide ambitions - for circularity, eco-innovation and zero-waste.

This site shows the waste management, including waste reduction is still the main route in for them into RE.

The site therefore points to measures by which firms can reduce waste, and how recycling can be improved, including infrastructures and technologies.

With our own classification, we distil the following categories of policy measures as being supplied via WRAP:

- Collection of expertise and best-practice on RE measures and practices in business (by sector)
- Creation of tools and guidance to assist in assessment of RE potential, justify intervention and guide intervention.
- Collection and transfer of information on technological opportunities for RE
- Convening, leadership and provision of expertise to support sectoral agreements, and collective action on RE (e.g. in packaging in the retail sector) - a role that provides some justification/culture change functions, and may facilitate greater change through promoting demonstration of concepts (within the firm at to others)
- Collection of market-relevant information, to assist businesses engaged in recycling and waste reprocessing
- Offer of (subsidised?) consultancy on opportunities for RE, firm by firm.

  e.g. "***Rethink Waste*** **can help you to:**

  - *Understand how much waste your company produces*
  - *Understand how much this costs*
  - *Identify simple ways to start reducing waste, and save money*
  - *Measure the waste reduction and cost savings you have made"*

Source 3: Other UK websites:

In addition to WRAP, the UK has:

- Zero waste Scotland (which used to be WRAP so covers the same areas)
- The Energy Saving Trust; and
- The Carbon Trust
- The Centre for Remanufacturing and Reuse
- The National Industrial Symbiosis Programme - web-page

Comment: The first 2 have had their budgets cut and now try to offer services commercially.

The last has had its budget cut and now survives on occasional facilitation and international contracts

The Carbon Trust is independent, though used to get central public funding.

Energy Savings Trust website

This site showcases the kind of work which they do. It covers:

- Validating and certifying the performance of certain technologies or offers from companies (mainly to help them win customers)
- Providing advice on reducing energy efficiency - particularly in:
- Transport fleets, energy supply - including driver training, fleet management services.
- Field trials of new technologies
- On-line tools for calculating potential savings - including modelling of performance (e.g. of new buildings)
- Paid engagement with customers e.g. tenants (previously perhaps this was offered for free?)

Application of Measures in DE

Source 1: "German Ressource Efficiency Proagramme (ProgRess)" (2012) by the Federal Ministry for Environment, Nature Conservation and Nuclear Safety

The rationale behind Prog.Ress is that the availability of raw material is seen as essential for the German economy. Moreover, Germany is dependent on imports, especially on metals and minerals. Increasing RE is promoted as an option to reduce this dependency. The strategy focuses on efficiency in resource extraction, efficiency in processing of raw materials and recycling. The strategy's goals include to support R&D and stimulate innovation.

In Part II of the strategy, strategic approaches to increase RE in Germany are presented. The most relevant approaches and measures for businesses can be found under chapter 2, "Raising resource efficiency in production". These encompass:

- *Approach 3: Boosting innovation and competitiveness by strengthening efficiency advice for companies*
- *Approach 4: Development and dissemination of resource- and energy-efficient production and processing methods*
- *Approach 5: Information on and promotion of the use of environmental management systems*
- *Approach 6: Innovation through the integration of resource efficiency into product design*
- *Approach 7: Integration of resource conservation into standardisation*

Furthermore, the integration of waste issues is a central topic in ProgRess. This is elaborated in chapter 4 with the following focuses:

- *Approach 12: Reinforcing product responsibility*
- *Approach 13: Optimising collection and recycling of resource-relevant bulk wastes*
- *Approach 14: Ban on illegal exports, supporting waste recovery structures in newly industrialising and developing countries*

Overall, the most prominent instruments used by the German government to promote RE in businesses are information and consultation services, support for R&D, promotion of environmental management systems such as EMAS, development of standards, adaption of regulation.

Application of measures in the NL

Source 1: ECN. 2013. *Resource Efficiency: What does it mean and why is it relevant?*

http://www.ecn.nl/docs/library/report/2013/o13004.pdf

Several policy initiatives are undertaken in the Netherlands which have potential to become components of an integrated resource efficiency policy framework.

- *Broadly **strong generic policies**, instruments and legislative framework on the promotion of **RD&D**, **patents**, and **innovation** in general. Some generic instruments are notably targeted at SMEs.*
- *Implementing **advanced waste disposal and recycling policies** and regulations*
- *According to the OECD, with regard to **fiscal greening** the Dutch fiscal system is relatively well advanced. Even so, quite some scope exists to make further progress.*
- *The '**Topsectoren** (top sectors)' **innovation policy** focuses on stimulating RD&D in 9 sector domains, including green technology domains. As regards the assessment procedures for proposed research activities, there is scope for putting more emphasis on resource-saving innovations.*
- *The '**Green Deals' policy** seeks to accommodate voluntary green commitments by the private sector. Resource efficiency is to be integrated in the approval procedure to ensure 'greener' deals. Stronger carrots and sticks could make these deals more committing.*
- *Quite some emphasis is put on the **bio-based economy**. As the Netherlands has large, resource-intensive, basic industries, ample scope exists for resource-saving innovation. For example, oil and natural gas as industrial feedstock might be substituted by biomass for certain applications. This type of biomass-based innovation warrants more policy attention.*
- *Effective stimulation of **more sustainable (resource-efficient) lifestyles** as well as **sustainable production and consumption** needs to be stepped up. The educational system can enhance both more knowledge and more awareness and deliver more knowledge workers on resource efficiency; resource efficiency needs to be integrated appreciably better into Dutch transport- and energy infrastructure as well as land use planning practices.*

Source 2: PBL (2013) *Vergroenen en verdienen. Op zoek naar kansen voor de Nederlandse economie*, Den Haag: Planbureau voor de Leefomgeving.

http://www.pbl.nl/sites/default/files/cms/publicaties/PBL-2013-Vergroenen-en-verdienen-1061.pdf

The report mentions some policy initiatives.

The 'Green Deals' policy

Green deals are deals between several involved partners mostly with a view to remove non-financial barriers such as regulation and permits. Within this approach steps have been taken to identify and adapt obstructive regulation.

In the future more attention should be paid to other themes than energy, such as water, raw materials, mobility, biodiversity, biobased economy, construction and food. In the next phase anchoring and dissemination of ideas and solutions should become centre stage.

Green public procurement

The national government has made its procurement policy 100% green, i.e. all procurements by national authorities conform to the minimum criteria for sustainability.

However, this policy needs to be taken to a next level. Imposing minimum requirements does not promote innovation that goes beyond these minimum requirements and does not advantage businesses that go further. Therefore innovation-oriented procurement should be put central.

Top sectors policy

The top sectors policy is the instrument in the Netherlands to promote innovation. With this policy the Dutch government aims to further strengthen its top sectors. Nine top sectors have been identified. Some topics such as the bio-based economy relate to several top sectors. Government, business, universities and research centres need to cooperate within this sector to promote innovation. The policy is focused on good preconditions rather than subsidies. Next to subsidies tax rebates are being used.

The Netherlands needs a stronger and green innovation policy. The top sectors policy should be focussed more on eco-innovations and valorisation.

Source 3: Ministry of Infrastructure and the Environment (Ministerie van Infrastructuur & Milieu)

Green deal

http://www.rijksoverheid.nl/onderwerpen/duurzame-economie/green-deal

In a Green Deal the central government helps to remove bottlenecks for green plans. It might do this in several ways:

- The government might commit to adapt regulation. For instance with a view to reduce the administrative burden for the businesses.
- The government might act as a mediator. For instance to bring together businesses.
- The government might help looking for finance. For this purpose an innovation fund has been established: *Innovatiefonds MKB+*, which provides credits and venture capital for innovation. Tax deductions for R&D costs are another option. Furthermore the government investigates whether fiscal incentives can be improved.
- The government might also help to enter new (foreign) markets for green technologies, e.g. by organising green trade missions.

Source 4: Ministerie van Economische Zaken (Ministry of Economic Affairs)

http://www.rijksoverheid.nl/ministeries/ez

Annex V: Long list of measures to support business resource efficiency

Table 13: Long-list of measures to support business resource efficiency

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
1a	**Industrial symbiosis: (financial) support for physical technology parks/clusters**	Co-ordination services - Industrial Symbiosis schemes supporting cross-sectoral efficiency improvement + Incentivising action through economic instruments	(Financial) support (e.g. from governments, chambers of commerce) to create locations to exploit industrial symbiosis opportunities This would help realise the potential for industrial symbiosis (e.g. use of wastes from one sector as raw materials for another)	Organisational capabilities, incl. Financing; Improving the technological capabilities of firm; Changing the perception (which includes the objective reality) of costs and benefits of action	company, local, regional (chambers of commerce) and national (NISP) level	extraction, processing, manufacturing, consumption/use, after-use	Support for industrial symbiosis can take the form of funding (i.e. to support technology parks/clusters via CP) as well as TA and information services to encourage symbiosis	UK NISP programme; Kalundborg EcoPark in Denmark
1b	**Industrial symbiosis: virtual support for networking and skills**	Co-ordination services - Industrial Symbiosis schemes supporting cross-sectoral efficiency improvement	Support (e.g. from governments, chambers of commerce) to create virtual links/networks between businesses/ sectors and offer skills/knowledge development	Changing norms, collaborating with peers; Improving the technological capabilities of firm; Changing the perception (which includes the objective reality) of costs and benefits of action	company, local, regional (chambers of commerce) and national (NISP) level	extraction, processing, manufacturing, consumption/use, after-use		

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
2a	**Incentivising external Audits to support resource efficiency (paying or handing out vouchers for audits)**	Consultancy services, including audits + Incentivising action through economic instruments	Audits by approved external experts help the company identify existing potential for saving costs by saving energy/material needs the provision of audits free of charge/the financial support does allow a larger number of mainly smaller firms to make use of auditing	Improving the technological, knowledge or skills capabilities of firms; Changing the perception (which includes the objective reality) of costs and benefits of action	company level	processing, manufacturing	It will be important to distinguish between general energy audits and audits with a function of supporting resource effciciency - i.e. also looking at material flow audits. There are also links to EMS, given auditing elements with EMS. Care needed to distinguish measures to avoid double counting.	in the German federal state of North Rhine-Westphalia the Efficiency Agency handed out vouchers for resource efficiency business advice so that the companies making use of this offer did not have to pay for the consultancy services
2b	**Incentivising external Audits to support resource efficiency (providing tax rebates to companies that have been audited)**	Consultancy services, including audits + Incentivising action through economic instruments	Audits by approved external experts help the company identify existing potential for saving costs by saving energy/material needs Audited companies can be certified and this certification can be proof to state bodies for tax rebates	Changing the perception (which includes the objective reality) of costs and benefits of action; Improving the technological, knowledge or skills capabilities of firms	local, regional, national	processing, manufacturing		

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
2c	**Incentivising external Audits to support resource efficiency (taking up the need for resource efficiency audits as one beneficial criterion for Green Public Procurement routines)**	Consultancy services, including audits + Incentivising action through economic instruments + Market creation, e.g. through green public procurement	Audits by approved external experts help the company identify existing potential for saving costs by saving energy/material needs Audited companies can be certified and this certification can be proof to state bodies for GPP routines	Changing norms, cultures and goals; Changing the perception (which includes the objective reality) of costs and benefits of action; Improving the technological, knowledge or skills capabilities of firms	national, regional	processing, manufacturing, consumption/use		
3a	**Supporting companies in establishing Environmental Management Systems (EMS) (having a certified EMS could become one beneficial criterion for Green Public Procurement routines)**	Consultancy services, including audits + Incentivising action through economic instruments + Market creation, e.g. through green public procurement	Companies may not have the personnel, skills or money to set up an EMS which in turn helps identify RE / cost savings potential Establishing an EMS may become prerequisite for being audited or may become subject to auditing Companies with certified EMS can be preferred over other companies in GPP routines	Improving the technological, knowledge or skills capabilities of firms; Changing norms, cultures and goals;	company, local, regional, or national	processing, manufacturing, consumption/use	All EU Member States have EMS in companies; the question is more one of whether these are useful for resource efficiency objectives and being encouraged for that purpose	

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
3b	**Supporting companies in establishing Environmental Management Systems (EMS) (through providing free of charge exernal advise and/or training of staff)**	Consultancy services, including audits + Incentivising action through economic instruments + Provision of training to remove skills gaps	Companies may not have the personnel, skills or money to set up an EMS which in turn helps identify RE / cost savings potential Establishing an EMS may become prerequisite for being audited or may become subject to auditing	Improving the technological, knowledge or skills capabilities of firms; Changing norms, cultures and goals;	company, local, regional, or national	processing, manufacturing, consumption/use	All EU Member States have EMS in companies; the question is more one of whether these are useful for resource efficiency objectives and being encouraged for that purpose	
4	**Fostering the development of and reporting on key performance indicators (KPI) for resource efficiency in companies (providing incentives to companies reporting on those or setting performance standards that require monitoring of KPI)**	Incentivising action through economic instruments + Market creation, e.g. through green public procurement + Removal of technological uncertainty, e.g. the setting of performance standards	resource efficiency related KPI could give companies that monitor and report on them advantages through tax rebates, GPP benefits or even ratings on financial markets and hence could improve capital inflow through positively affecting investors' choices	Changing the perception (which includes the objective reality) of costs and benefits of action; Improving the technological, knowledge or skills capabilities of firms	company, local, regional, or national	processing, manufacturing		

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
5a	**Financing - providing targeted subsidies to companies undertaking resource efficiency improvements (e.g. tax breaks, rebates or concessions for investments)**	Incentivising action through economic instruments	Companies' efforts to improve resource efficiency will be incentivised through financial savings and hence be rewarded/made more attractive	Changing the perception (which includes the objective reality) of costs and benefits of action	national, regional, local	extraction, processing, manufacturing, consumption/use, after-use		
5b	**Financing - bonus-malus or feebate (e.g. reduced VAT) schemes for certain products adhering to performance standards or being labeled**	Incentivising action through economic instruments	Companies' efforts to improve resource efficiency will be rewarded through improved sales of labeled/certified (according to performance standards) products receiving a rebate (e.g. reduced VAT) while less efficient products are charged additionally and are made more expensvie (consumption oriented measure)	Changing the perception (which includes the objective reality) of costs and benefits of action	national	extraction, processing, manufacturing, consumption/use, after-use		French Bonus-Malus Scheme for cars with certain CO2-emission limits
5c	**Financing - low-interest loans to SMEs for investments into resource efficiency**	Improving financing opportunities, e.g. improved bank loan systems/conditions	Companies receive low-interest loans for investments into resource efficiency, e.g. infrastructure, machinery, etc.	Changing the perception (which includes the objective reality) of costs and benefits of action	national, regional, local	extraction, processing, manufacturing, consumption/use, after-use		

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
5d	**Financing - encouraging private equity funding (e.g. through setting up green bonds for resource efficiency measures of companies)**	Incentivising action through economic instruments + Market creation, e.g. through provision of infrastructure, green public procurement	Issuing of a tax-exempt bond incentivises purchasing such bonds and hence investing in more resource efficient companies allowing them to flourish over less resource efficient competitors Green bond will require certain criteria to have investments/plans qualify for Green bonds	Changing the perception (which includes the objective reality) of costs and benefits of action	national	processing, manufacturing		Green Bonds used for brownfield site development; also developed by World Bank for climate change mitigation project investments "Strategic Framework for Development and Climate Change"
5e	**Financing - encouraging public-private-partnerships**	Incentivising action through economic instruments + Market creation, e.g. through provision of infrastructure, green public procurement	Public-private-partnerships provide additional funding to state funding and also release creativity/potential of the private sector in funding and finding solutions PPPs could be encouraged through providing tax breaks for companies/private entities joining PPPs	Changing the perception (which includes the objective reality) of costs and benefits of action; Changing norms, cultures and goals	national, regional, local	extraction, processing, manufacturing, consumption/use, after-use		Public-Private-Partnerships in Estonia for waste management would be an interesting example for achieving much without any EU funds

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
6a	**Support for voluntary agreements and covenants (encouragement/invitation to meetings by and hosted by state)**	Removal of policy uncertainty	Voluntary agreements bring state bodies and companies or several businesses together, dedicated, but not obliged to (other than by mutual trust and expectations or by "looming regulatory action in the background") improve/take certain issues forward companies may go for voluntary agreements in an attempt to pre-empt/prevent legislative action As they are not legally binding, they are easier to achieve, but also easier to ignore, and may foster creative potential of businesses	Changing norms, cultures and goals;	company, local, regional, or national	extraction, processing, manufacturing, consumption/use, after-use		In the UK, WRAP (99% funded by government and EU) has achieved 1.1 million tonnes reduction in packaging & supply chain waste through voluntary 'Courtauld Commitment' for retailers; also work to support new plastic bottle recycling technology, helping to create new market for recycled plastics. (see http://www.wrap.org.uk/content/our-progress)

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
6b	**Codes of conduct/ voluntary initiatives by producers/ retailers (e.g. voluntary product labeling or voluntary corporate disclosure or increased voluntary collaboration between actors along a supply chain such as retailers and suppliers) (encouragement/invitation to meetings by and hosted by state)**	Removal of policy uncertainty	Voluntary action on resource efficiency taken by individual producers or groups of producers, e.g. voluntary product labelling, corporate disclosure, collaboration between actors along a supply chain e.g. retailers and suppliers Such actions show that initiatives can come from businesses themselves, either willing individuals or groups	Changing norms, cultures and goals; preventing or assisting enforced regulation; Changing the perception (which includes the objective reality) of costs and benefits of action	company, local, regional	extraction, processing, manufacturing, consumption/use, after-use	voluntary agreements/covenants, codes of conduct and "voluntary" product labelling	e.g. Tesco (UK supermarket) efforts on reducing food waste and reducing environmental impact more generally (e.g. goal to be a zero-carbon business by 2050)
7a	**Providing targeted resource efficiency information and advice to companies (e.g. (Online) offer of information on improving resource efficiency, best practices, available support programmes, etc.)**	Information provision and support + Consultancy services, including audits and recommendations for firms	Tailor-made information by public(ly funded) bodies available for all interested through local information hubs or platforms	Improving the technological, knowledge or skills capabilities of firms	regional, national	extraction, processing, manufacturing, consumption/use, after-use		in the German federal state of North Rhine-Westphalia the Efficiency Agency provides relevant information to companies

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
7b	**Providing targeted resource efficiency information and advice to companies (e.g. financial support for making use of advice)**	Information provision and support + Consultancy services, including audits and recommendations for firms + Incentivising action through economic instruments	The provision of advice and targeted information (e.g. sector or technology specific) free of charge/the financial support does allow a larger number of mainly smaller firms to make use of advice Tailor-made information by public bodies available for all interested through local information hubs or platforms	Improving the technological, knowledge or skills capabilities of firms	company	processing, manufacturing	similar to providing external audits	in the German federal state of North Rhine-Westphalia the Efficiency Agency handed out vouchers for resource efficiency business advice so that the companies making use of this offer did not have to pay for the consultancy services free of charge provision of RE advice to SMEs (e.g. Chamber of Commerce in Paris with EU and national money)
8a	**GPP - spending power and procurement criteria/guides**	Market creation, e.g. through provision of infrastructure, green public procurement	Government spending power on certified (labeled) products or services will need procurement routines/ criteria to balance cost/price of products/ services with resource efficiency criteria GPP thus benefits companies offering the certified/labeled products/services	Changing norms, cultures and goals; Changing the perception (which includes the objective reality) of costs and benefits of action	local, regional, national	extraction, processing, manufacturing, consumption/use, after-use	A key issue will be to differentiate GPP per se and GPP with a specific aim of resource efficiency linked to processes and products	German National Competence Centre for Sustainable Public Procurement

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
8b	**GPP - ecolabels**	Market creation, e.g. through provision of infrastructure, green public procurement	Ecolabels in the first place allow consumers (e.g. public procurement bodies) to make informed choices	Changing norms, cultures and goals; Changing the perception (which includes the objective reality) of costs and benefits of action	regional, national	extraction, processing, manufacturing, consumption/use, after-use		German Blue Angel label
9	**Labelling/certification - traceability along value chains for company procurement**	Information provision and support + Market creation, e.g. through provision of infrastructure, green public procurement	public bodies or PPPs could foster the recognition of labelled and certified processes/products in company procurement provisions along value chains	Changing norms, cultures and goals; Changing the perception (which includes the objective reality) of costs and benefits of action	company	extraction, processing, manufacturing, consumption/use, after-use	linked to voluntary agreements	
10	**Green skills - capacity building within/of the company itself (encouraging resource efficiency in curricula for vocational training, further education, etc. for future / current employees)**	Provision of training to remove skills gaps, e.g. training on how to undertake resource efficiency audits in a company + Incentivising action through economic instruments	Public(ly funded) bodies or PPPs foster the integration of RE issues in existing or the development of new curricula for off- and on-the-job training and for vocational training Such training for current employees may be provided free of charge	Improving the technological, knowledge or skills capabilities of firms	company, regional, national	extraction, processing, manufacturing, consumption/use, after-use	linked to financing when provided free of charge linked to auditing when company internal staff is trained as auditors	integration of RE in dual apprenticeship and engineering studies in German Regions (e.g. Neue Effizienz Wuppertal)

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
11a	**Improving accounting rules (e.g. payback times, integrated environmental and economic and social accounting) at corporate level**	Information provision and support + Provision of training to remove skills gaps + Removal of policy uncertainty	Public(ly funded) bodies or PPPs foster the revision of accounting rules as voluntary agreements and/or develop new training for accountancy	Changing norms, cultures and goals; Changing the perception (which includes the objective reality) of costs and benefits of action	company	extraction, processing, manufacturing, consumption/use, after-use		
11b	**Accounting - national level**	Green Accounting	National accounting (i.e. material flow accounts) and measures to support corporate (environmental profit & loss, EP&L) accounting to contribute to development/ reporting for national level accounts	Norms & peers; organisational capabilities; Changing the perception (which includes the objective reality) of costs and benefits of action	company, national	extraction, processing, manufacturing, consumption/use, after-use	National accounting (i.e. material flow accounts)	
11c	**Accounting – company level**	Green Accounting	Company-level Environmental Profit and Loss Accounting (EP&L)	Norms & peers; organisational capabilities; Changing the perception (which includes the objective reality) of costs and benefits of action	company	extraction, processing, manufacturing, consumption/use, after-use	Corporate Environmental Profit and Loss Account (EP&L) (e.g. as used by PUMA)	

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	matched to relevant factors influencing firm's decision-making?	measure applied at company, local, regional or national level?	Stage of resource efficiency /circular economy value chain addressed	comment	examples
					company, local, regional, national	*extraction, processing, manufacturing, consumption/use, after-use*		
12	**Development of standards for products and services (e.g. minimum efficiency standards)**	Removal of technological uncertainty + Market creation	Legally binding/set performance standards foster innovation to adhere to standards and thereby help create new markets (e.g. linked to national export initiatives of companies fulfilling the standards)	Changing the salience, incentives from and ease of compliance with regulation	national	manufacturing, after-use	linked to GPP	lighter vehicles standards => measures linked to technological changes, derived from consumers' or designer's perspective
13	**Regulations on waste management => EPR as a mix of legal/mandatory plus economic instrument**	Removal of policy uncertainty		Changing the salience, incentives from and ease of compliance with regulation	national	processing, manufacturing, consumption/use, after-use		

Annex VI: Criteria for selection of a short-list of key support measures

Based on our understanding of the purpose of the study, on the analytical framework drafted and on the literature on the factors influencing firms and the range of measures currently in use, we suggest the following set of criteria for the selection of ten of the most important support measures out of the long-list of measures suggested to stimulate resource efficiency action by business:

1. Potential scale of impact (e.g. those that address large/important/polluting business sectors as this would help identify 'quick wins', or those that could have the biggest/most beneficial impact on an EU scale) ***[low, medium, high]***;
2. Potential to address important barriers / avenues to business RE improvements (e.g. which aspects of the analytical framework *'Technical Capabilities', 'Organisational Capabilities', 'Perceptions of Cost-Benefits', 'Norms, Culture and Goals', 'Compliance with Regulatory obligations'* [see section 4) 'Conceptual model of routes of influence of measures' of the analytical framework] are targeted? Contributions to first-order learning (single-loop learning)[49] vs. second-order learning (double-loop learning)[50])***[low, medium, high for aspect x, y, z]***;
3. Potential to benefit
    - market performance (e.g. improved access, market share of existing markets, and new markets)
    - cost performance (e.g. reduced inputs costs)
    - innovation: development and diffusion of novel products, processes and forms of co-operation and service delivery.
    - employment (e.g. greening of jobs and new green jobs) ***[low, medium, high for aspect x, y, z]***;
4. Interrelation of the measures
    - Degree of independent impact of this measure (e.g. measure's potential impact as stand-alone or independent of employment of further measures)
    - Complementarity to other measures (e.g. measure's potential to complement (an)other measure(s) in terms of being ancillary or supportive for synergies or being able to address potential unintended consequences of some measures) ***[low, medium, high]***
5. Potential transferability/adaptability of the (type of) measure across Member States (Potential of the measure to be adaptive to national and regional level contexts and also adaptive over time in a dynamic efficiency way) ***[low, medium, high]***;
6. Administrative capacity of public authorities needed to implement the measure ***[low, medium, high]***;
7. Cost of implementation for the state/the company ***[low, medium, high for state or company]***;
8. Relevance and appropriateness for (beneficiaries)

[49] An "incremental adaptation of the established premises that improves the existing competences and standard operating procedures, while maintaining and adapting the status quo." (Victor J. García-Morales & Antonio J. Verdú-Jover & Francisco Javier Lloréns, 2009), p. 569).

[50] Double-loop learning indicates "learning achieved at the level of rules, insights and principles, or learning that results in changes in the values of theory-in-use and strategies […] [and] encourages double-loop feedback, which (like the single loop) allows existing errors to be detected and corrected but (herein lies the difference) connects those errors to the organizational values and norms, changing values." (*Ibid*, 569).

- SMEs
- larger companies ***[low, medium, high]***;

9. Measure applied at company, local, regional or national level? ***[national, regional, local, company]***
10. Stage of resource efficiency /circular economy value chain addressed ***[extraction, processing, manufacturing, consumption/use, after-use]***;

The above criteria reflect the need for making several choices in this project as regards further investigations and analyses. This relates, inter alia, to the potential scale of impact, to the (relevance of the) barriers addressed, the potential of the measures to foster first-order or second-order learning (i.e. the focus of the measures to improve existing processes and routines vs. creating more fundamental changes within the firm). Hence, in the discussions with the Commission during the interim meeting, we will need to discuss the extent to which we investigate measures which form part of 'mainstream' or generic business advice programmes run by public authorities with no particular interest in the environmental outcomes vs. those with a specific focus on allowing for more fundamental changes leading to resource efficiency improvements. E.g. it may be that one step to increase the resource efficiency of business is to increase the entrepreneurial and marketing skills of business advisors on resource efficiency in a Member State, and that these skills are supported by the central national business improvement programme.

When applying these criteria to select measures for the short-list and hence for further investigation in the project, the entries per measure for the first eight main criteria will be used to separate potentially more from potentially less promising measures (i.e. by preferring measures which score high under the criteria 1-5 and low under the criteria 6 and 7). In addition, the criteria 8 - 10 will be used in order to separate out or balance, as much as needed, measures with different beneficiary focus, value chain focus and level of administration applying the measures in order to achieve widest possible coverage alongside promising potential of the measure.

Table 14: Proposed criteria set for the selection of a short-list of measures to support business resource efficiency

Support measure	brief description of the measure	matched to relevant factors influencing firm's decision-making?	9. Measure applied at?	10. Stage of resource efficiency /circular economy value chain addressed	1. Potential scale of impact	2. Potential to address …							3. Potential to benefit ...				4. Interrelation of the measures		5. Potential transferability/adaptability of the (type of) measure across Member States	6. Administrative capacity of the public authorities needed to implement	7. Cost of implementation for …		8. Relevance and appropriateness for …	
						Technical Capabilities'	Organisational Capabilities'	Perceptions of Cost-Benefits'	Norms, Culture and Goals'	Compliance with Regulatory obligations'	first-order learning	second-order learning	market performance (e.g. improved access, market share of existing markets and new markets)	cost performance (e.g. reduced inputs costs)	employment (e.g. greening of jobs and new green jobs)	innovation	Degree of independent impact of this measure	Complementarity to other measures			state	company	SMEs	Larger companies
			company, local, regional, national level	*extraction, processing, manufacturing, consumption/use, after-use*	*low, medium, high*	*low, medium, high*												*complementary to measure ...*	*low, medium, high*						
M1																								
M2																								
M3																								
M4																								
M5																								
M6																								

M7																									
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Annex VII: Short-list of key measures to support business resource efficiency

Table 15: Proposed short-list of key measures to support business resource efficiency

consecutive No.	Support measure	type of support measure (from Kick-off Meeting and ToR)	brief description of the measure and justification of its importance for supporting resource efficiency in business	9. Measure applied at company, local, regional or national level?	10. Stage of resource efficiency /circular economy value chain addressed	1. Potential scale of impact	2. Potential to address … Technical Capabilities'	2. Potential to address … Organisational Capabilities'	2. Potential to address … Perceptions of Cost-Benefits'	2. Potential to address … Norms, Culture and Goals'	2. Potential to address … Compliance with Regulatory obligations'	2. Potential to address … first-order learning	2. Potential to address … second-order learning	3. Potential to benefit ... market performance (e.g. access, existing and new markets)	3. Potential to benefit ... cost performance (e.g. reduced inputs costs)	3. Potential to benefit ... employment (e.g. greening of jobs and new green jobs)	3. Potential to benefit ... innovation	4. Interrelation of the measures Degree of independent impact of this measure	4. Interrelation of the measures Complementarity to other measures	5. Potential transferability/adaptability	8. Relevance and appropriateness for … SMEs	8. Relevance and appropriateness for … larger companies	6. Administrative capacity needed to implement	7. Cost of implementation for … state	7. Cost of implementation for … company
						low, medium, high													*complem. to measure…*	*low, medium, high*					
1	**Financing;** encouraging private equity funding (e.g. through setting up green bonds); encouraging public-private-partnerships; low-interest loans to SMEs; improving access of SMEs to funding by pooling loan demands of many SMEs to create larger loan demands more easily given out by banks	Incentivising action through economic instruments + Market creation, e.g. through provision of infrastructure, green public procurement	Companies receive low-interest loans for investments into resource efficiency Tax-exempt bonds incentivise purchasing such bonds and hence investing in more resource efficient companies Public-private-partnerships provide additional funding to state funding	national	processing, manufacturing	high	high	medium	medium	medium	low	high	medium	high	high	medium	high	high	high	basically all requiring and working together with financing	high	high	high	high	medium	low

2	**Development of standards for products and services;** relate to Ecodesign directive and look for interesting MS cases (e.g. minimum efficiency standards)	Removal of technological uncertainty + Market creation	Legally binding/set performance standards foster innovation to adhere to standards and thereby help create new markets (e.g. linked to national export initiatives of companies fulfilling the standards)	national	manufacturing, after-use	high	medium	low	medium	medium	high	high	high	high	medium	medium	high	high	medium		high	high	high	high	high	high
3	**Support for voluntary agreements**; e.g. support through encouragement/invitation to meetings by and hosted by state, or codes of conduct and covenants (examples to look at include the Dutch Green Deal; also look at voluntary product labelling or voluntary corporate disclosure or increased voluntary collaboration between actors along a supply chain such as retailers and suppliers)	Removal of policy uncertainty	Voluntary action on resource efficiency taken by individual producers or groups of producers, e.g. voluntary product labelling, corporate disclosure, collaboration between actors along a supply chain e.g. retailers and suppliers Such actions show that initiatives can come from businesses themselves, either willing individuals or groups	company	extraction, processing, manufacturing, consumption/use, after-use	medium	medium	low	medium	high	medium	high	high	high	high	medium	medium	medium	high	all fostering RE issues	medium	high	high	medium	low	high
4	**Industrial symbiosis;** e.g. financial support for physical technology parks/clusters or virtual support for networking and skills	Co-ordination services - Industrial Symbiosis schemes supporting cross-sectoral efficiency improvement + Incentivising action through economic instruments	(Financial) support (e.g. from governments, chambers of commerce) to create locations to exploit industrial symbiosis opportunities or to create virtual links/networks between businesses/ sectors and offer skills/knowledge development	company, local, regional (chambers of commerce) and national (NISP) level	extraction, processing, manufacturing, consumption/use, after-use	medium	medium	medium	high	high	medium	high	medium	medium	high	medium	high	medium	high	audits, EMS, financing…	high	high	high	medium	medium	low

5	**Providing targeted resource efficiency information and advice to companies;** e.g. online offer of information on improving resource efficiency, best practices, available support programmes, or financial support for making use of advice)	Information provision and support + Consultancy services, including audits and recommendations for firms + Incentivising action through economic instruments	The provision of advice and targeted information (e.g. sector or technology specific) free of charge/the financial support does allow a larger number of mainly smaller firms to make use of advice Tailor-made information by public bodies available for all interested through local information hubs or platforms	company	processing, manufacturing	high	high	medium	medium	medium	low	high	medium	medium	high	medium	high	medium	high	financial incentives like tax rebates, audits	high	high	high	medium	medium	low
6	**Improving accounting rules;** e.g. consideration of longer payback times, integrated environmental and economic and social accounting	Green Accounting + Information provision and support	Company-level Environmental Profit and Loss Accounting (EP&L) Public(ly funded) bodies or PPPs foster the revision of accounting rules as voluntary agreementsand/ordevelop new training for accountancy	company	extraction, processing, manufacturing, consumption/use, after-use	high	medium	high	high	high	low	high	medium	medium	high	medium	high	medium	high	financing mechanisms, incentives	medium	medium	high	medium	low	high
7	**Green skills - capacity building within/of the company itself;** e.g. encouraging resource efficiency in curricula for vocational training, further education, etc., incentivising or requiring development of curricula for RE	Provision of training to remove skills gaps, e.g. training on how to undertake resource efficiency audits in a company + Incentivising action through economic instruments	Public(ly funded) bodies or PPPs foster the integration of RE issues in existing or the development of new curricula for off- and on-the-job training and for vocational training Such training for current employees may be provided free of charge	national, regional, local, company	extraction, processing, manufacturing, consumption/use, after-use	medium	high	low	low	high	low	high	high	medium	medium	high	high	medium	high		high	high	high	medium	high	low

8	**Incentivising external Audits to support resource efficiency;** e.g. paying or handing out vouchers for audits, providing tax rebates to companies that have been audited or taking up the need for resource efficiency audits as one beneficial criterion for Green Public Procurement routines.	Consultancy services, including audits + Incentivising action + Market creation, e.g. through green public procurement	The provision of audits free of charge/the financial support does allow a larger number of mainly smaller firms to make use of auditing Audited companies can be certified and this certification can be proof to state bodies for tax rebates or for GPP routines	national, regional, local, company	processing, manufacturing, consumption/use	medium	medium	low	high	high	low	high	medium	high	high	low	low	medium	high	2a, 2c, GPP,…	high	high	high	high	medium	low
9	**Regulations on waste management => EPR as a mix of legal/mandatory plus economic instrument;** to broaden up to cover any legislative or encouraging support to improve supply chain perspective between producing and end-of-life	Removal of policy uncertainty		national	processing, manufacturing, consumption/use, after-use	high	medium	medium	high	medium	high	high	medium	medium	medium	medium	medium	high	high	financing mechanisms, incentives	high	high	high	high	high	medium
10	**Support measures (not legislation) fostering re-use and repair for a Circular Economy;** including preventing obsolescence, extended warranties, re-use, repair, remanufacturing, business models	Information provision and support + Provision of training to remove skills gaps + Removal of policy uncertainty		national	processing, manufacturing, consumption/use, after-use	high	medium	medium	high	medium	high	high	medium	medium	medium	medium	medium	high	high	financing mechanisms, incentives	high	high	high	high	high	medium

Annex VIII: Questionnaire template for pre-filling and inquiring Member State responses

Policies for supporting businesses in improving their resource efficiency[51]

A European Commission project

Dear all

We are contacting you about a European Commission project that is gathering examples of support measures that could be replicated more widely across the EU, to bring economic and environmental benefits. (For more details, please read the accompanying 2 page project description.)

***We are looking for your help** in verifying and adding to the information on **support measures for businesses** in your country. Please could you take 10-15 minutes to check the information and questions below.*

- *Ten types of support measures are detailed in the following questionnaire sections. The one page fiche gives a single example for each type of measure.*
- *We would like to hear about measures in your country which have been successful, and the **reasons for their success**. Perhaps the measure: worked through existing business networks; or talked to the firms using language which matched the interests of the firm. Perhaps it changed goals or current working practices of firms, or changed the awareness of, incentives and ease of compliance with regulatory requirements. Any data on the costs/budgets or successes from the measures are appreciated. Add hyperlinks if they allow us to see additional information.*
- ***We invite you to amend the examples already provided (or add new examples), comment on the level of application of the measure, and highlight any insights/lessons learned** for each of the 10 measures. All information is welcome.*

We have tried to make your response easier** by suggesting some information in this questionnaire, based on a literature and web review. We have also ordered our questions so that the measures which we have found most interesting come first. Please feel free to focus your efforts on these highlighted measures if you have limited time. **You do not have to fill in every box for every measure.

Thank you for your time and efforts. Please send your replies to xxxxx, @ yyyyy, by zzzz.

*We will use the information to produce a report for circulation around EU Member States, describing examples that could be considered and adopted elsewhere. The information gathered is also relevant for ongoing discussions on the Circular Economy and Resource Efficiency. The intention is to present a of the report at the **Commission's Expert Group on greening the European Semester on 7 September**.*

As the measures cover a range of issues, you may want to circulate around colleagues. We would encourage a single response if possible, but understand this is not always possible.

Finally, this is meant to be a survey picking out examples to be learnt from, it is not meant to be a comprehensive picture of all resource efficiency measures.

Please turn to the next page for the examples, information and questions...

[51] 'Resource efficiency' refers to ways in which businesses, and the economy as a whole, can produce equal (or more) value, with fewer physical resource inputs (which saves costs and often reduces environmental impacts). Measures aimed only at energy efficiency are outside the scope of our study.

Support Measure 1: Support for industrial symbiosis

Explanation of the support measure:

Measures that support industrial symbiosis aim to enable the sharing among industries of services, utility and by-products/resources (including reuse of waste from one industry by another industry) in order to add value, reduce costs and make environmental improvements. This may include financial support for technology parks/clusters, and/or virtual support for networking and skills. For example, the UK ran a central government supported 'Industrial Symbiosis Scheme' between 2005 and 2013, which generated sufficient resource savings to deliver three times as much revenue in additional tax income as it cost the state: http://www.nispnetwork.com/.

Q1a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

Name of specific support measure(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Objective(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

When the measure was launched: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Target sector/beneficiaries: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Allocated budget/resources: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

How widely/where the support measure is available: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Are there other examples, which you find more successful?"

Q1b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q1c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 2: Incentivising external audits to support resource efficiency

Explanation of the support measure:

The aim of external resource efficiency audits is to provide support to businesses to help them identify and make resource efficiency improvements. Governments may provide incentives for such audits e.g. by offering government payments or vouchers, providing tax rebates for companies that have been audited for resource efficiency, or including resource efficiency audits as one beneficial criterion for Green Public Procurement processes.

Q2a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

Name of specific support measure(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Objective(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

When the measure was launched: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Target sector/beneficiaries: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Allocated budget/resources: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

How widely/where the support measure is available: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Are there other examples, which you find more successful?"

Q2b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q2c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 3: Improving financing

Explanation of the support measure:

Financial support can be an effective way to encourage resource efficiency in businesses that might not otherwise have the capacity to make resource efficiency improvements. We are particularly interested in the following types of financing, which can offer improved support for resource efficiency:

- Encouraging private equity funding (e.g. through setting up green bonds for resource efficiency measures of companies);
- Encouraging public-private partnerships;
- Low-interest loans to SMEs for investments in resource efficiency;
- Improving SME access to funding by pooling loan demands of groups of SMEs to create larger loan demands that may be more readily approved by banks/lending institutions.

Q3a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

Name of specific support measure(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Objective(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

When the measure was launched: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Target sector/beneficiaries: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Allocated budget/resources: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

How widely/where the support measure is available: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Are there other examples, which you find more successful?"

Q3b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engage-

ment; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q3c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 4: Supporting voluntary agreements and initiatives

Explanation of the support measure:

The aim of voluntary agreements (VAs) or initiatives is to encourage resource efficiency in groups of businesses by creating shared goals. In this way, businesses may become more motivated and committed to take steps towards greater resource efficiency. Governments might support such agreements/initiatives e.g. by encouraging the development of codes of conduct/covenants (between businesses, or between businesses and government), offering support for the development of voluntary product labelling, voluntary corporate disclosure or voluntary collaboration between actors along a supply chain, or by hosting meetings/discussions between businesses.

Q4a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

Name of specific support measure(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Objective(s): text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

When the measure was launched: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

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How widely/where the support measure is available: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

Are there other examples, which you find more successful?"

Q4b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q4c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 5: Providing targeted resource efficiency information and advice to companies

Explanation of the support measure:

In some cases, the provision of targeted information/advice to companies on resource efficiency can help to encourage improvements. Online information on improving resource efficiency, support for sharing of best practices between companies, virtual or 'in person' support and advice programmes, and financial support for implementing advice all have the potential to help.

Q5a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

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Are there other examples, which you find more successful?"

Q5b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q5c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 6: Building resource efficiency related skills and capacity within a company/business

Explanation of the support measure:

If a company lacks the skills to improve its resource efficiency, it will be trapped in using existing methods. Governments use various skill and capacity building tools to remove this barrier, e.g. by encouraging the inclusion of resource efficiency issues in curricula for vocational training or further education. Skills related to resource efficiency (sometimes called 'green skills') can be defined as any knowledge, abilities, values and attitudes that are needed to develop and support a resource-efficient society. They are useful in all sectors, not just for 'green jobs', since they can help to adapt products, services and processes to environmental challenges and regulations.

Q6a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

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How widely/where the support measure is available: text in black font and not italic; if no text, then add a question in black font and bold, e.g. **When was the measure launched?**

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Q6b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

Effectiveness (impacts/achievements on resource efficiency; cost-effectiveness):

Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q6c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 7: Improving company accounting and reporting practices

Explanation of the support measure:

Existing accountancy and business reporting rules can fail to capture and illustrate progress on resource efficiency. Sometimes they can reinforce practices which reject investments in resource efficiency with longer pay-back times. Changes to accountancy and reporting practices which better allow resource efficiency measures to be seen as beneficial for business may help businesses to change. (These could include integrated environmental, economic and social accounting (environmental profit and loss, EP&L)), Governments can support change, either through supporting work by accountancy bodies, or through prompting change in reporting practices.

Q7a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

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Are there other examples, which you find more successful?"

Q7b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

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Specific factors for success (e.g. capacities of the implementing organisation; stakeholder engagement; features of national context; barriers and how they were overcome):

Other relevant features/information:

Q7c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 8: Development of non-legal standards for products and services

Explanation of the support measure:

Standards for products and services can help producers with greener products to differentiate them from less environmentally-friendly alternatives, as well as allowing consumers to make more informed purchasing choices. Common voluntary (e.g. sector-wide) standards such as minimum efficiency standards, requirements for use of recycled materials in new products, or application of eco-labels, can therefore help to generate and spread resource efficiency improvements.

Q8a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

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Are there other examples, which you find more successful?"

Q8b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

Indications of take-up by businesses (e.g. number of sign-ups, grants issued, website hits etc):

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Other relevant features/information:

Q8c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 9: Measures supporting extended producer responsibility (EPR) for materials and/or products

Explanation of the support measure:

One of the aims of applying extended producer responsibility (EPR) to materials and products is to reduce the amount of waste generated, and to encourage the use of specific types of waste as a resource/raw material. Together, waste regulation, EPR and other economic instruments can help to support more circular supply chains between the production and end-of-life phases of a product. Governments may in some cases take steps to offer additional, non-regulatory support for the application of extended producer responsibility.

Q9a Use of this support measure in your country:

Our research suggests that there is:

Choose an item.

in your country. ***Do you agree with this assessment? If not, please select from the drop-down box above.***

We have identified a few examples of this support measure being applied in your country of which we think the below one to be most interesting. Could we ask you to verify, correct and add to this description?

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Are there other examples, which you find more successful?"

Q9b We are particularly interested in the **lessons learnt** from the use of this support measure in your country, which could be useful for other countries considering implementing the measure. *Please verify, add to or correct the following research*:

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Other relevant features/information:

Q9c Information and contacts:

Please list here any useful references, hyperlinks or people for us to contact for more information:

Support Measure 10: Any other non-legislative support measures promoting a Circular Economy and resource efficiency

There are undoubtedly many non-legislative measures in use that do not fit into any of the previous categories, but nevertheless provide support for the creation of a circular economy and improvements in resource efficiency. Examples could include support for re-use and repair, measures to prevent the (premature) obsolescence of products, provision of extended warranties/guarantees, or schemes to support alternative business models such as leasing, shared ownership or exchange of services.

Are there any other such support measures in your country that would be useful for our research? If yes, please briefly describe these and the lessons learnt from their use below – thank you.

Contact details:

For some of the cases we would welcome exploring with you further the benefits, and insights on what helps to drive those benefits. Please provide your contact details if you would be happy for us to contact you again:

Name:

Organisation:

Title/function:

Email:

Telephone:

Skype:

Would you like to receive a copy of the final study report in autumn 2015 (by email)? Yes / No

For further information on the study, please see the 2 page project introduction sent with this questionnaire.

Thank you for your time and efforts!

Please send your replies to xxxxx at: yyy