



DYNAMIX

Decoupling growth from resource use  
and environmental impacts

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# Deliverable 7.4

Report on the results of the  
2nd DYNAMIX Policy Platform:  
“Policy mixes for resource efficiency in Europe:  
Lessons learned and ways forward”  
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## DYNAMIX PROJECT PARTNERS





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# 1 Introduction

## 1.1 About the DYNAMIX project

The project DYNAMIX (Decoupling economic growth from resource use and its environmental impacts) is funded by DG Research of the European Commission under the 7<sup>th</sup> Framework Programme for Research and Development. It has started in September 2012 and will run until December 2015 with the aim to propose policy mixes for achieving absolute decoupling of economic performance from resource use and its related environmental impacts. In so doing, the project uses quantitative modeling and qualitative assessments to investigate the effectiveness of a set of 3 to 5 policy mixes to shift the EU onto a resource-efficient pathway to 2050. Overall, DYNAMIX tackles three sets of questions:

- *Where do inefficiencies in resource use and resource policies currently occur?*
  - What are the underlying drivers? Are there any examples of policy mixes successfully tackling these inefficiencies?
- *How do underlying paradigms affect resource use?*
  - How can new paradigms (e.g. cradle to cradle or product to services) be translated into concrete policy making?
- *What could be three to five of the most promising policy mixes for achieving absolute decoupling?*
  - What potential policy impacts can we see using environmental and economic modeling and qualitative analysis, including an analysis of factors influencing human behavior?

The project will result in clear policy recommendations to provide EU and national policy makers with tangible support towards implementing powerful resource efficiency policies. It will specifically contribute to the EU Flagship Initiative “Resource-efficient Europe”.

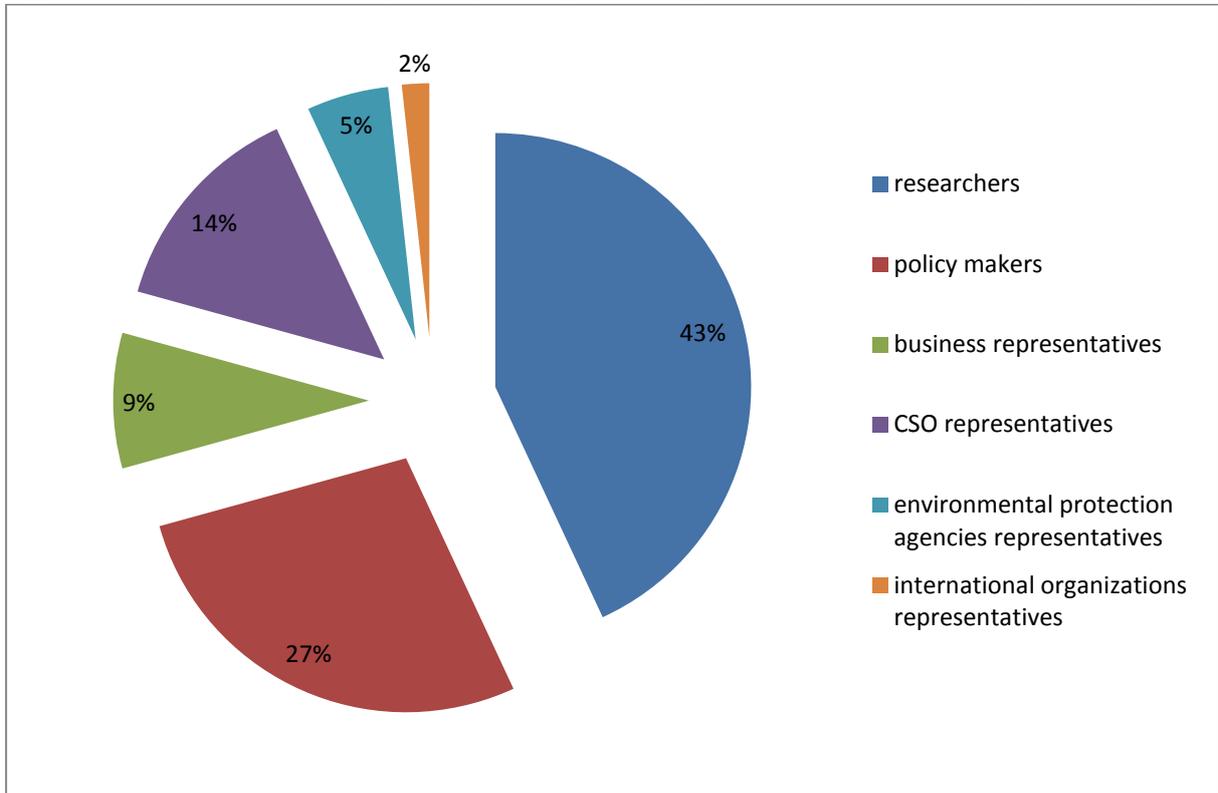
## 1.2 About the DYNAMIX Policy Platforms

Policy-makers and other stakeholders will be involved in a systematic participatory learning process throughout the project. DYNAMIX Policy Platforms provide a regular forum for knowledge exchange and mutual learning. Policy-makers and other experts can thus shape the project’s design based on their needs.

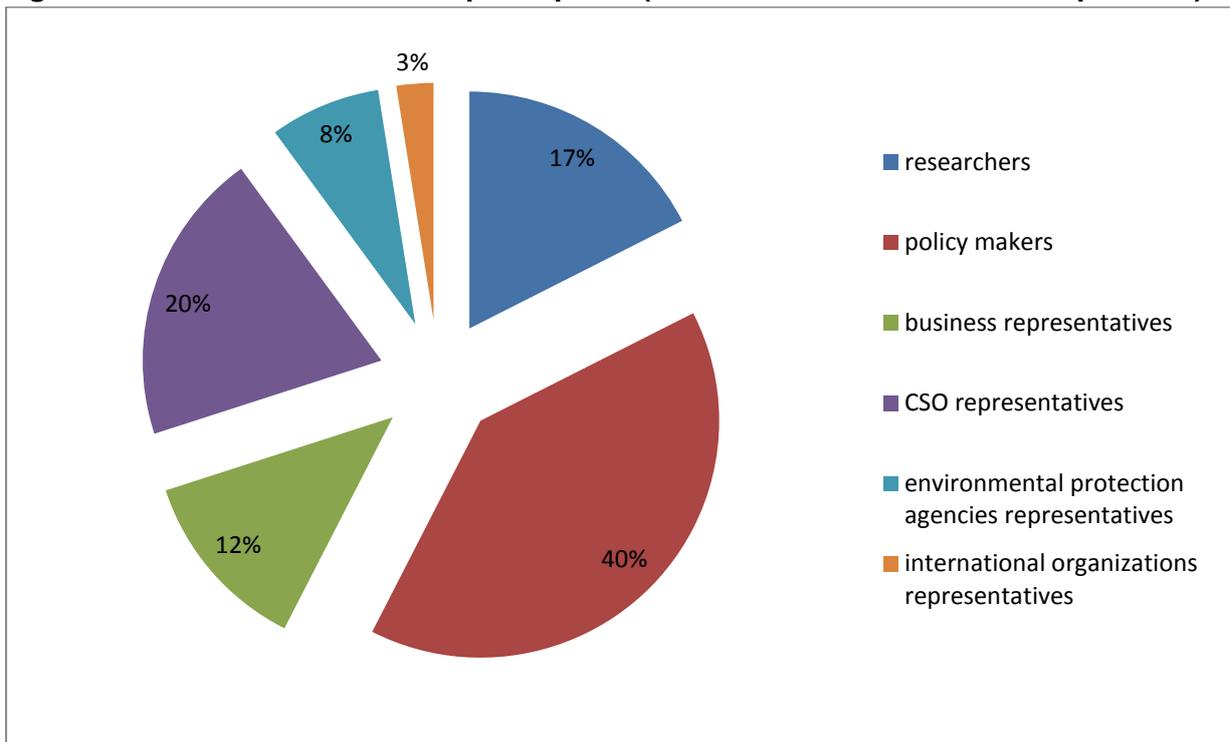
The 2<sup>nd</sup> DYNAMIX Policy Platform, entitled “Policy mixes for resource efficiency in Europe: Lessons learned and ways forward”, took place in Brussels on 24-25 October 2013. In total, 58 participants from 16 European countries attended the event, with the following distribution of institutional backgrounds (Fig.1): 16 policy-makers (27.1% of all participants ); 25 researchers (including 18 DYNAMIX consortium partners), 8 CSO representatives; 5 business

representatives; 3 representatives of environmental protection agencies, and 1 representative from international organizations (plus the conference moderator).

**Figure 1: Distribution of all participants (including DYNAMIX consortium partners)**



**Figure 2: Distribution of external participants (without DYNAMIX consortium partners)**



Through participation and interactive exchange with policy-makers and other experts, the 2<sup>nd</sup> DYNAMIX Policy Platform focussed on:

- findings on resource (in)efficiencies,
- comparative analysis of existing policy mixes on resource efficiency,
- different stakeholders' approaches, resource efficiency paradigms, and
- promising policy mixes for resource efficiency,

in order to provide input for the next steps in the project and thus help the project to address relevant issues discussed by the participants. The 3<sup>rd</sup> DYNAMIX Policy Platform is planned for March 2014.

In the following chapters, we will describe the presentations, discussions and group work results of the 2<sup>nd</sup> DYNAMIX Policy Platform. More information about this event can also be found at the DYNAMIX project website at <http://dynamix-project.eu/dynamix-events>.

## 2 Opening: Recent debates and policy initiatives on resource efficiency in Europe

The opening session of the 2<sup>nd</sup> DYNAMIX Policy Platform provided an overview of current resource efficiency policy debates, topical issues and initiatives in Europe. Furthermore, it linked the work in the project to policy goals and current challenges.

The session comprised two keynote presentations<sup>1</sup>, one by Alan Seatter (Deputy Director General DG Environment, European Commission), and the other by Christian Hudson (Resource Efficiency Policy Expert, Ecologic Institute, Germany).

### Keynote presentation:

**Alan Seatter (Deputy Director General DG Environment, European Commission)**

**“Recent debates and policy initiatives on resource efficiency in Europe”**

In his keynote, **Alan Seatter** focussed on current challenges and factors hampering the proper implementation of resource efficiency policies, and on possible approaches to address the concepts of a circular economy and a green economy in the context of the Flagship Initiative of a resource-efficient Europe and its Roadmap.

Mr. Seatter introduced his speech with the question: *“Why - if resource efficiency is something that everybody wants - has it not happened so far?”*

Mr. Seatter addressed the question by introducing the most urgent issues that are debated within the European Commission:

At first he addressed resource prices, underlining in particular the difference between rising prices and volatile prices of resources. While, in principle, rising resource prices can decrease

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<sup>1</sup> Like for all other sessions, the PowerPoint presentations of the keynotes in Session 1 can be downloaded from the DYNAMIX project homepage: <http://dynamix-project.eu/2nd-dynamix-policy-platform-policy-mixes-resource-efficiency-europe-lessons-learned-and-ways-forward>.

resource use, current volatile resource prices make markets unstable and pose problems with regard to resource supply. Other major issues he addressed related to current resource prices not reflecting the real cost to society and environment and to the absence of a market for ecosystem services.

Secondly, he underlined the necessity to have researchers and policy makers cooperating in order to translate research findings into economic policy. In particular, addressing resource efficiency from an environment perspective has to take into account the response of the economic sector. The issues that should be urgently addressed both from a resource efficiency and economic policy perspective are: (1) free disposal of waste, where there are no costs for its disposal; (2) environmental harmful subsidies (e.g. subsidies on fossil fuels), because taxes and fees affect living costs of privates and companies (e.g. it is difficult to introduce a reform that increases the prices of energy or resources); and (3) many businesses, especially SMEs, do not have the financial and human capital to implement resource efficient activities.

Mr Seatter then proposed some possible approaches to bringing resource efficiency into the economic thinking and economic policy. The most promising actions point toward the identification and creation of appropriate policies for fostering a circular economy and eco-design. He also referred to a proposal to address these issues in a Communication on a circular economy that will be prepared by the European Commission in 2014.

During the **discussion** following his speech, the questions posed by the audience focussed primarily on sustainable consumption and the involvement of consumers and businesses. According to Mr. Seatter, the mechanisms driving consumer's behaviours are still unclear. Usually, labelling and information on products are proposed as solutions to increase consumers' involvement and awareness on their consumption choices. In this context, the Commission is already experimenting to provide information on green markets and green products.

Finally, Mr. Seatter mentioned that companies often struggle to find business models for new green products. In this sense, policies should support alternative business models for a green economy: an example is to move away from ownership and towards leasing or renting of products. In addition, different taxes and innovative business models should be linked to the financial sector to make it more appealing.



**Keynote presentation:**

**Christian Hudson, Resource Efficiency Policy Expert, Ecologic Institute, Germany**

**“Overview on the current work in DYNAMIX and focus of the 2nd Policy Platform”**

In his presentation, **Christian Hudson** gave an overview on DYNAMIX’ scope in relation to the EU resource efficiency policy framework, on the work carried out in the project so far, and on the contents of the 2<sup>nd</sup> Policy Platform.

At first, Mr. Hudson provided definitions of absolute, relative and reframed decoupling (the latter refers to the decoupling of resource use from wellbeing instead of economic growth). In this context, the objective of DYNAMIX is to help identify the most appropriate policies and policy mixes leading to a truly sustainable use and management of natural resources, contributing to societal advances, and fostering the transition towards a circular economy. Thus, proposed policy mixes aim to address absolute and reframed decoupling.

Mr. Hudson then defined the resources that are taken into account within the DYNAMIX project. These comprise all natural resources that are used or modified to create economic value, and all environmental media and processes that can be affected. The DYNAMIX project will, therefore, take into account: abiotic resources (including minerals, metals, and fossil fuels), biotic resources, (including timber, fish, agricultural products and other biomass, land, water and soil), and the environmental media and the ecosystem services linked to them, i.e. land, water, air, soil, biodiversity. He then emphasized that the role of DYNAMIX is to support policy makers to find appropriate policy mixes to enable the transition towards a green economy, as well as to feed into the current discussions on political and economic paradigms. In this context, DYNAMIX looks at the medium-term (2030) and the long-term (2050). The key targets for 2050 taken into account within DYNAMIX are described in the project’s Common Approach (Umpfenbach 2013), accessible under <http://dynamix-project.eu/how-will-we-know-if-absolute-decoupling-has-been-achieved-common-approach-dynamix>.

Mr Hudson then described the work carried out so far in DYNAMIX: (1) Development of a common approach; (2) analysis of relevant drivers for and barriers to resource efficiency; (3) analysis of existing policy mixes that enabled relative/absolute decoupling; (4) analysis and consideration of societal and economy paradigms related to resource efficiency and overall use of resources; and (5) considerations of how to translate paradigms into promising policies and policy mixes.

Mr. Hudson concluded with the description of the various sessions of the 2nd Policy Platform, including: the presentation of case studies of existing policy mixes and comparative analysis of policies, several keynotes presentations to highlight different stakeholders perspectives, the presentation of first evidences on paradigms and pathways towards resource efficiency, and a discussion on appropriate policies and policy mixes for addressing resource efficiency.

### 3 Session 1: Findings on resource (in)efficiency based on real life policy mixes

The main objectives of session 1 were: (a) to present preliminary results from the ex-post case studies analysis carried out within DYNAMIX Work Package 3 “Assessing existing policies and policy mixes”, and (b) to stimulate participants to further discuss on evidences and issues related to presented case studies. The session topic was introduced in a keynote speech by Doreen Fedrigo-Fazio & Leonardo Mazza (both from the Institute for European Environmental Policy, IEEP, Belgium) and followed by a plenary discussion on the case study findings.

#### Keynote presentation

**Doreen Fedrigo-Fazio & Leonardo Mazza (IEEP-Institute for European Environmental Policy, Belgium)**

**“Presentation of case study findings from policy mixes on key resources”**

In their presentation, **Doreen Fedrigo-Fazio & Leonardo Mazza** gave an overview of objectives, methodologies and key facts from the case study analyses undertaken:

An ex-post evaluation of 15 case studies concerning existing policy mixes was conducted over the last few months. The evaluations include both input (resource) and output (impact) oriented mixes, and are meant to inform the development of policy mixes and the modelling of impacts/effects. Resources were prioritized according to the report “*Priority products and materials: assessing the environmental impacts of consumption and production*” (UNEP, 2010). The selection of case studies was based on specific criteria; at first, it was aimed to have a balanced coverage of key resources and to provide more than one case on similar resources in order to compare different approaches. Case studies were then further selected by taking into account different factors such as, type of resource, objective of policy mix, orientation of instruments (dominance of one type of instrument in the policy mix), geographic coverage, successes and failures, potential replicability, cost effectiveness, etc. The

evaluation aimed to deliver assessment of the environmental, social and economic outcomes or effects of the policy mix.

The 15 case studies selected for evaluation were split into 'resource' categories: renewable resources, mineral/metals, land, waste prevention and environmental media.

Ms. Fedrigo -Fazio and Mr. Mazza then presented results for some of the case studies:

- **Sustainable use of wood, Finland:** The objective of the policy mix was to implement sustainable forestry management by reducing deforestation and forest degradation. Relative decoupling was achieved at national level but not at supranational level, as Finland is largely importing wood from Russia. The case study provides a good example to show that burden shift needs to be taken into account.
- **Sustainable levels of fish catch, Iceland:** By introducing a mix of total allowable catches (cap), tradable quotas and a resource tax on fishing, Iceland managed to bring fish stocks back from the brink of collapse while increasing innovation and the profitability of its fisheries sectors.
- **More efficient use of aggregates for construction, UK:** Thanks to the introduction of a landfill tax and an aggregates levy, the UK achieved a trend towards absolute decoupling between construction and primary aggregates consumption over the 1995-2010 period.
- **Conserving rural land, UK:** Due to a set of policies primarily targeting land use planning, the UK managed to control urban sprawl over the past 50 years. The share of land allocated to different land uses in the UK has remained relatively stable in the same time period.
- **Reduction of fossil fuels use, Sweden:** The introduction in 2009 of *An Integrated Climate and Energy Policy* aimed at achieving carbon and energy efficiency and the reduction of environmental impacts. Sweden's decoupling of economic performance from GHG emissions has a mixed result so far, with periods of absolute decoupling (between 1996-2007 and 2010-2011) or relative decoupling (from 1993-1996), or no decoupling (2007-2010). This inconsistent performance will be further investigated to better understand the results.
- **Reducing fertilizer use, Denmark:** Since 1985, Denmark has introduced several National Plans regulating sustainable agriculture and fertilizers. Absolute decoupling between agricultural production & fertiliser consumption has occurred since 1991. Still, decoupling has not happened within sustainable boundaries, as Denmark still suffers from poor water quality.
- **Reducing municipal waste at the local level, Slovakia:** Driven by economic reasons, the Municipality of Palárikovo managed to decrease waste going to landfill and increase recycled and composted waste thanks to a variety of policy instruments, mainly based on a PAYT fee and a huge programme of education and awareness. Relative decoupling between regional GDP and waste generation seems to have occurred since 2000.

Finally, Ms. Fedrigo-Fazio announced that a summary report of the case studies, as well as full case studies evaluation reports will be prepared by the end of November 2013.

#### Plenary discussion of case study findings

The presentation followed by a plenary discussion, involving the participants in table discussion to further debate on learned lessons. The audience indicated the following issues as potentially interesting to further investigate case studies:

- 1) Every assessment should take into account global trade-offs of resources and planetary boundaries issues.
- 2) When can decoupling be considered as achieved?
- 3) When assessing if absolute decoupling has been achieved, it should be checked if there has been any market transformation or if economic growth is stable.
- 4) It was mentioned that the case studies do not highlight the role/impact of the economic crisis (unfortunately, data availability due to the events of the crisis still being too recent). How many lessons can we learn from the financial crisis?
- 5) It was observed that from the case studies presented, there appears to be no 'silver bullet', i.e. a one-size-fits-all solution for a complex problem.
- 6) It was remarked that decoupling of one resource can lead to consumption increases in others, and whether this has been accurately captured in the case studies.
- 7) A discussion of the impermanence of decoupling: it is possible to achieve it under specific circumstances, but this does not assure its permanency over time.

## 4 Session 2: Comparative analysis on resource efficiency policies

In session 2, "Comparative analysis on resource efficiency policies", Patrick ten Brink & Doreen Fedrigo-Fazio (both IEEP) presented preliminary results on policy mixes from the comparative analysis of case studies introduced in session 1. The presentation was followed by an interactive working group titled "Discussion on the analysis of resource efficiency policies". Session 2 also included a presentation by Maciej Bukowki, (President of the Board, Institute for Structural Studies, Poland) about "Quantifying resource efficiency policies- results of ex-post modelling".

### Keynote presentation

**Patrick ten Brink & Doreen Fedrigo-Fazio, IEEP, Belgium**

**"Comparative analysis of resource efficiency policies in Europe"**

In their presentation, **Patrick ten Brink and Doreen Fedrigo-Fazio** (IEEP) provided an overview on the comparative analysis exercise, particularly the objectives and methodologies used to compare case studies, driving decoupling, and preliminary results of the comparative analysis.

Mr. ten Brink introduced different decoupling pathways that progress over time, referred to the case studies already presented in Session 1, and defined the criteria for the comparative analysis. The targets were set in terms of decoupling and the instruments and factors in the policy mix that played a crucial role in achieving absolute decoupling were identified for the different resources categories.

Mr. ten Brink then introduced some preliminary results:

- Information as an instrument is a crucial part of policy mixes for all levels of decoupling.
- Market-based instruments, such as taxes and charges, have proven valuable drivers for addressing relative decoupling, but on their own cannot lead to absolute decoupling within limits.
- Most policy mixes include mandatory requirements, clearly setting out what needs to be done (banned or encouraged activities, levels not to be exceeded) and allocating specific responsibilities (farm, company, installation).
- Identifying rights and responsibilities at individual level helps to ensure higher engagement in achieving results.
- Collaborative approaches appear to work better, especially when partners' specific capacities are optimised.
- Absolute decoupling is only possible with radical innovation, radical consumer demand shifts or regulation requiring bans or setting ambitious limits.
- Absolute decoupling demands that limits are identified and targets are set accordingly.

Finally, Mr. ten Brink introduced the next steps for completing the comparative analysis, including use of feedback from Policy Platform outcomes.

#### **Interactive working group: Discussion on the analysis of resource efficiency policies**

The interactive group work was split into two parts. In the first part, participants discussed 3 questions in small groups at their tables, writing down answers or suggestions on moderation cards which were grouped and pinned on different posters, one for each question. In the second part, the plenary split into 3 groups to discuss the answers and suggestions for each question provided by the participants in the first part. At the end of the interactive session, the groups reported back to the plenary on the 3 questions with key themes and findings from their analysis of the answers to their question.

#### **Reporting session from the poster groups to the plenary**

**Q1. What policy mix choice would you see as appropriate for achieving absolute decoupling respecting environmental limits in the following areas: i) non renewable resources: fossil fuels and other mineral resources; ii) renewable resources; iii) land; and iv) environmental media: waste and wider pollution?**

- Taxes appear in a broad range of policy mix suggestions. Taxes, however, suggest that we can put a value on something, and participants felt that, in certain cases, it is not just about having a tax, but also facilitating lifestyle changes. The suggestion was mentioned to use marketing approaches that already exist to drive consumption towards more sustainable products.
- The role of enforcement was seen as critical.

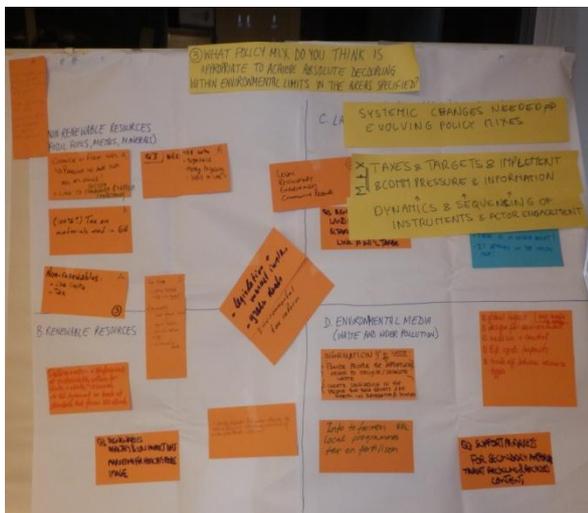
- Environmental Impact Assessment (EIA) and Strategic Environmental Assessments (SEAs) emerged as important in the case of land-use issues.
- The sequencing of instruments and actor engagement is important, e.g. the order of actor involvement, reinforcement of pressure and change, with the particular role/example of community pressure (*which encourages the legal and regulatory aspects in the first place*).

**Q2. What other issues should the team focus on for the scanning across the 15 cases (and wider literature)?**

- Long term impacts in the context of understanding the systemic determinants.
- Slovak case – creating demand for separating waste streams.
- Investment cycles.
- We will be creating new lock-ins with our policy mix recommendations – it is important to reflect on case study lessons, and more broadly in general to help assess whether we are creating the right ones.
- Different levels of policy making – explicit, implicit.
- The dimensions of lifestyles which could lead to misleading data.

**Q3. Can you provide some other potential case examples of resource decoupling and what policy mixes have driven change?**

- The role of market-based instruments (MBIs) in order to have an effect on prices and in encouraging substitution.
- Taxation is particularly relevant in reducing environmental impacts e.g. CO<sub>2</sub> emissions.
- Maybe we have reached a stage where it's important to change in parallel with the citizen – e.g. citizen ability to invest in renewable technologies.
- Need to target on the sectorial level with national governments taking a facilitator role for businesses, but also helping the consumers by providing the infrastructure to make sustainable behaviour easier to achieve.



**Keynote presentation**

**Maciej Bukowski, President of the Board, Institute for Structural studies, WISE, Poland**

**“Quantifying resource efficiency policies- results of ex-post modelling**

In his presentation, **Maciej Bukowski** presented preliminary results from the ex-post modelling carried out within DYNAMIX Work Package 3.

The aim of the case studies was to identify potential success stories that can be adapted in Europe, as well as failures to show which problems can diminish the effectiveness of policies. Mr. Bukowski presented characteristics and preliminary results of the analysis of two case studies, one related to aggregates use in UK and the second one to fertilizers in Denmark. Both case studies are based on physical flows and the analysis is based on generalized Cobb-Douglas production function. The ex-post analysis shows the use of different resources in alternative case of “no policy” or “no structural change”.

Mr. Bukowski then introduced the case studies:

- **UK aggregates:** Due to aggregates extraction which caused externalities such as noise, dust, traffic, visual impacts, ground water, surface water and loss of amenity, the UK introduced a Landfill Tax in 1996, an Aggregates Levy in 2002 and then increased them in 2008 and 2009 respectively. On this basis, 4 different scenarios were modelled assuming different policy assets (with the introduction of single policies, their combination and no introduction of policies) and the estimated output calculated (measured in volume of aggregates use).
- **Fertilizers in Denmark:** Due to its agricultural activities, Denmark suffers from poor water quality. Along with technological progress, the use of inorganic fertilizers increased until they leached into water bodies causing pollution, extensive fish deaths and loss of biodiversity. To face the problem, a policy mix was gradually introduced, starting from 1985, including a ban of direct discharge of fertilizer, regulations regarding rules of fertilizer use and introduction of fertilizer account. On this basis, different scenarios were modelled based on different assumption (with no structural change and no structural change and technological progress), and the estimated output calculated (Output is measured in nitrogenous/ potash fertilizers use per unit of output, labour supply per unit of output, machinery capital stock per unit of output and land development capital stock per unit of output).

Mr Bukowski's concluded that (1) policies that increase the cost of extracting aggregates proved to be successful in increasing productivity of primary consumption of this resource in construction sector and improving the profitability of recycling; (2) in Denmark, significant impacts of structural change on fertilizer use was observed, merely on the substitution of fertilizers by other factors, moreover, broad technological progress increased overall productivity; and (3) in Sweden, fertilizers (especially potash) were substituted by land development.

## 5 Session 3: Stakeholder perceptions and different approaches on resource efficiency

Session 3 aimed at presenting different stakeholders perceptions and approaches towards resource efficiency. It included

- keynote presentations from Cedric de Meeus (Vice-President Government Relations, Holcim) and Karl Edsjö (Project Manager, Electrolux) representing large enterprises,
- keynote presentations from Ms. Birgit Schwenk (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany) and Malgorzata Soltan (Ministry of the Environment, Poland) representing policy makers,
- keynote presentation from Mr. Michal Miedzinski (Technopolis Group – Project leader for the Eco-Innovation Observatory) representing research.

The session was followed by an interactive group work to further discuss the presentations.

### **Keynote presentations: “The business’s view on resource efficiency”**

**Cedric de Meeus (Vice-President Government Relations, Holcim),**

**Karl Edsjö (Project Manager, Electrolux)**

In their presentations on “The business’s view on resource efficiency”, Cedric de Meeus and Karl Edsjö provided an overview on resource efficient activities carried out at Holcim (one of the world's leading suppliers of cement and aggregates) and at Electrolux (worldwide producer of powered appliances for kitchen, cleaning and outdoor use), and on further challenges and needs for improving resource efficiency at business level.

### **Cedric de Meeus (Holcim):**

At first, Mr. de Meeus said that resource efficiency is continuously being improved since decades by Holcim, mainly because the cement and aggregates industry is particularly resource intensive.

He then focused on a promising area for investment by Holcim, namely on the use of certain types of industrial waste and by-products in the production processes (mainly thermal use as fuel in cement kilns) for concrete. In particular, he gave an overview on how the process can be implemented and on the most important factors hampering an appropriate and quick uptake of recycling practices. The reprocessing of waste to feed the cement production chain happens by selecting particular kinds of waste material, typically residual waste that can neither be recycled nor landfilled, but must be incinerated (as it happens for instance with certain categories of plastic waste).

In addition to waste reprocessing, Holcim has introduced the so-called co-processing: bio-waste fraction is employed for the production of the energy, and by-products derived from incineration (typically fly ashes) are reintroduced into the value chain for the production of cement. The objective is to reintroduce by products into the production chain and to get by-products recovery rates closed to 100%. Still, a crucial factor hampering the proper

implementation of such a recovery process is the lack of easy supply of waste and secondary raw materials, as no network for the exchange of industrial by products has been established in Europe as of now. In addition, co-processing is neither part of the European waste management plants, nor part of the waste hierarchy. Thus, a clear policy framework regulating the availability of secondary raw materials, co-processing, and industrial ecology would be strongly needed, especially when considering that there is the potential for a lot of wasted and landfilled materials to be further utilized.

### **Karl Edsjö (Electrolux):**

In his presentation, Mr. Edsjö presented the business view on resource efficiency from the perspective of Electrolux, and focused then on the environmental challenges and on how policy can support resource efficiency at business level.

At first, Mr. Edsjö gave an overview on the resources employed in production chains at Electrolux and on their environmental impacts. For a single appliance, about 2/3 of the costs cover materials and components, while the rest cover services, taxes and depreciation. The product material composition of produced appliances at Electrolux is on average: 60-70% steel, 3-6% aluminium + copper, 25-35% other; mostly polymers, and a small fraction of glass and electronics. About 4% of European steel is employed for producing household appliances, and about 80/90% of the environmental impact of household appliances comes from the use phase.

Mr. Edsjö then presented how resource efficiency is carried out at Electrolux. Resource efficiency is a key issue at the company and is taken into account from different perspectives, addressing in particular: energy efficiency in products and processes, material efficiency in operations, products and at end-of-life, water efficiency in products and processes; chemical management and maintain and improve performance of products. Many EU regulations impact on the product cycle of domestic appliances from different angles (for example, the Energy Directive in the production phase, the Landfilling Directive in the end of life phase, etc).

From a material efficiency perspective, a study from WRAP (the civil society organization set up in 2000 to help recycling take off in the UK and to create a market for recycled materials) identified in 2012 that the optimization could lead to material savings of about 2 % (thus, they are already closed to the optimum). From the recycling perspective, recyclers achieve from 85 to 93% material recovery, basically of waste of electrical and electronic equipment (WEEE). Concerning end-of-life material, household appliances collection is covered by producer responsibility. Electrolux is paying for hazardous and landfilled waste, so there is a high interest in becoming more material efficient. The area with a good potential for improving material efficiency at Electrolux concerns in particular the proper collection of WEEE, and the employment of recycled plastic for the production of vacuum cleaners and other components.

Mr. Edsjö also gave an overview on needs and issues to be taken into account when designing policies targeting resource efficiency. At first, he underlined that energy efficiency and material efficiency are two different issues when considering household appliances. While energy efficiency is achievable mostly in the use phase, is demand driven and can be measured on products, material efficiency is achievable mostly in the production phase and end of life of products, is cost driven and can be measured in the processing phase. In addition, there is no clear method to measure material efficiency on products.

Therefore, new policy requirements should be carefully planned before their introduction: as they will shape products design, they should be relevant, measurable on the product and not too complex. In addition, new regulations should take into account the policies that are already shaping the process (i.e. the WEEE Regulation, the RoHS-Regulation On Hazardous Substances and the REACH-Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals,) and provide incentives rather than overly specific rules.

**Keynote presentation**

**Michal Miedzinski, Technopolis Group – Project leader for the Eco-Innovation Observatory**  
**“Eco-innovation and its role for resource efficiency”**

In his presentation, Mr. **Michal Miedzinski** presented the concept of systemic eco-innovation and possible policy pathways for achieving a systemic change.

At first, Mr. Miedzinski gave a general overview on the activities related to resource efficiency carried out by the Eco-Innovation Observatory. The Eco-Innovation Observatory applies an Integrated Information Platform on eco-innovation for business, policy makers and researchers, supporting the EU's Eco-Innovation Action Plan (Eco-AP) and is financed by the European Commission (DG Environment)

Secondly, Mr. Miedzinski introduced the definition of eco-innovation, defined as “any innovation that reduces the use of natural resources (including materials, energy, water, biomass and land) and decreases the release of harmful substances across the whole life-cycle.” According to Mr. Miedzinski, the issue has a high level of complexity: eco-innovation is generally motivated by reduction of costs and cost saving in the process phase, while the diffusion of competitive eco-innovative products and services has to be supported by the identification of new markets and costumers and by resilient business models.

Mr. Miedzinski then introduced the concept of eco-innovation for systemic change. Systemic eco-innovation is defined as a “series of connected changes modifying or creating novel functional systems that result in the reduced use of natural resources and the decreased release of harmful substances across the whole life-cycle” (EIO 2012). Examples of systemic eco-innovations are sustainable mobility, industrial and urban ecology and product-service systems. Mr. Miedzinski also provided some practical examples of benefits and cost-savings from systemic eco innovation and as a result of material efficiency improvements (see also the report “Closing the Eco-Innovation Gap” (EIO 2012). He mentioned the city of Curitiba (Brazil), considered one of the best examples of urban planning worldwide with its transportation system, organized with low-emissions Bus Rapid Transit, and the city of Hammarby (Sweden) and their goal to use energy and waste recycling to provide for the community's own needs.

Mr. Miedzinski highlighted that eco-innovation itself is not just a matter of cost reduction and savings, but rather a matter of “thinking out of the box” in order to propose and create new

ecological models. In other words, a mere focus on products will not be enough. New societal models have to be designed and introduced through the development of process improvement, value chain optimization, sustainability design, and innovative business models. A good mix of these four elements, that intrinsically imply different degree of innovation/social adaptation, will lead to the creation of new societal models.

After the overview on systemic eco-innovation, Mr. Miedzinski gave an overview on how policies can support the transition towards a system change. Systemic change has to be supported by appropriate policies designed to support development, implementation and diffusion of innovations, resulting in long-term sustainability. Due to the complexity of systems, policies should not try to address all the elements of the system, but should instead identify the key factor (e.g. producer responsibility, product sharing).

In addition, proposed policies for systemic eco-innovation should: (1) Assure a level playing field for eco-innovators, based on fair pricing of natural resources and the removal of public subsidies for unsustainable activities; (2) include long-term targets offering a general direction for the short-term actions; and (3) need to dynamically adapt the policy mix providing support for functionally connected incremental and radical eco-innovations.

**Keynote presentations:**

**Birgit Schwenk (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany)**

**Malgorzata Soltan (Ministry of the Environment, Poland)**

**“Member States’ view on resource efficiency policy challenges and needs - Policy instruments and the role of stakeholders”**

In their presentations, Birgit Schwenk and Malgorzata Soltan provided an overview on main approaches, challenges and upcoming activities related to resource efficiency policy in Germany and Poland respectively.

**Birgit Schwenk: “Developing and Implementing Resource Efficiency Policies in Germany”**

At first, Ms. Schwenk gave an overview on Germany’s specific challenges in the area of resource efficiency. Germany has an export-oriented economy with a strong industrial base, which strongly depends on imports of raw materials (about 66.8% of metals are imported). In addition, materials account for 42% of costs in Germany manufacturing sector, and in the last 5 years, a moderate or even dramatic rise in material costs was reported. Thus, Germany has a strong interest in securing resource supply and implement resource efficiency activities.

Resource efficiency in Germany has been addressed in the National Strategy for Sustainable Development (2002) and in the German Raw Material Strategy (2010) until 2012, when the Programme for Resource Efficiency “ProgRess” was adopted by the German government. ProgRess’s mainly aims to decouple economic growth from resource use, to reduce environmental impacts of resource use, and to improve sustainability and competitiveness of German industry. The measures taken into account along the whole value chain concern raw materials supply, production and product design, consumption and closed cycle management.

Ms. Schwenk highlighted then that raw material supply would be still an issue, as the problem cannot be solved just by closing the loop for industrial waste.

Ms. Schwenk then mentioned that ProgRes has a special focus on consulting for SMEs. There are about 23 Mio. SMEs in Europe – they typically encounter barriers to investments and have low awareness for resource efficiency. Consultancy service on resource efficiency to SMEs is taken as a measure and may help them to realise potential gains of ~ €200,000 p.a. per SME.

Ms. Schwenk then gave an overview on lessons learned: At first, the focus on abiotic materials allowed for a detailed programme. However, inter-linkages with other resources and policy areas will have to be treated more thoroughly in the future. Broad stakeholder involvement is important for building consensus, and much can be achieved with information and support, especially when showing economic advantages. Ms. Schwenk finally announced that the report will be revised every 4 years, and further work will be done to develop indicators.

#### **Malgorzata Soltan “Poland’s view on resource efficiency policy challenges and needs “**

At first, Ms. Soltan mentioned that Poland has no strategy specifically dedicated to resource efficiency, but a National Resource Programme for the implementation of the Europe 2020 Strategy was adopted by the Council of Ministers in 2011. The Programme is shaped by EU 2020 objectives and aims at reducing primary energy consumption and CO<sub>2</sub> emissions, ensuring employment, reducing poverty and increasing education.

Ms. Soltan highlighted that this is the first national strategy that integrates the energy and environmental sectors. Key actions for achieving the objectives are related to: the sustainable management of natural resources (including minerals, water, biodiversity and land), security of energy supply (by improving energy efficiency, modernising the energy sector, developing competitiveness on the fuel and energy market and guaranteeing security of imported energy supplies) and improvement of the environment (including water and air protection, rational waste management, boost of the green technologies and change in consumption patterns by education).

Ms. Soltan then presented some results on energy efficiency in Poland highlighting that: (1) The country managed to decouple energy consumption from GDP growth since the 80’s, and (2) that many sectors show a great potential for further improvements in energy. Poland already launched different initiatives in the framework of activities of the National Fund for Environmental Protection and Water Management, promoting energy savings and renewable energy sources for private sectors and investors. More specifically, in 2012 six priority programmes, better known as the “Green Investment Scheme”, were adopted in the area of energy management in public buildings, biomass-fired power plants, agricultural biogas plants, upgrading electricity grid for connecting renewable wind energy sources, low-emission municipal transport and energy efficient street lighting.

Ms. Soltan also provided an overview on upcoming strategies. For instance, the strategy towards effective waste management will aim at increasing national recycling quotas and at defining responsible authorities, while the activities on shale gas exploration will try to partly secure Polish supply of energy and stabilize energy market prices. In conclusion, Ms. Soltan highlighted that for any further improvements, a matter of key importance is effective coordination and communication between different tiers of administration as well as

intensified dialogue between the government and representatives of industrial branches, NGO`s and other stakeholders. In addition, changes in consumption patterns are absolutely needed.

**Interactive group work: different perspectives and approaches on resource efficiency.  
Presentation of group work results & plenary discussion**

The scope of the interactive group work was to further discuss the issues presented within session 3 on “Stakeholder perceptions and different approaches on resource efficiency”. The participants were split in different groups in order to discuss the following points: (1) What was most striking of what you heard in the presentations?; (2) Where are the common grounds and where are the differences in the content of the keynotes?; and (3) Which of the issues raised in the presentations should be addressed in policy and how?

Results from table discussions were grouped and presented to the whole audience. The following points were highlighted:

**What was most striking of what you heard in the presentations?**

- According to the presentation given by Mr. Edsjö, end of life recycling is largely commercially driven. The example of the value of nickel and cobalt in batteries not being high enough to encourage recycling was raised.
- Two of the presentations focussed on fairly large enterprises,-Electrolux and Holcim, but what about SMEs?
- The presentation from Ms. Schwenk on Germany resource efficiency policies focused very much on abiotic resources, whereas biotic resources are acknowledged to be more pertinent to environmental concerns.
- Poland has achieved absolute decoupling in its energy use over the last 20 years – it was surprising to acknowledge this achievement.
- It would be interesting to explore in what way co-processing is better than incineration, which would have possible repercussions for the waste hierarchy.
- Regarding scenarios, participants were interested in the price response to changes over the coming years, and expressed an interest for scenarios in which the possibility that prices go *down* are accommodated for (as well as those where prices go up).

**Where are the common grounds and where are the differences in the content of the keynotes?**

- The industry perspective focused more on energy, while the research and policy speakers focused more on resources.
- Despite the obvious inherent challenges in the endeavour for resource efficiency, the presentations exhibited a high degree of optimism.
- The presentations and discussion were limited in their discussion of the rebound effect; it was felt that this was under-explored, and there are concerns and consequences here that should not be overlooked.
- None of the presentations ventured the suggestion of a system change to fewer products.

- All the presentations called for a more integrated approach, e.g. awareness of whole supply chain.

### **Which of the issues raised in the presentations should be addressed in policy and how?**

- Policies should be able to address changing consumption patterns and lifestyles, systemic approaches, circular economy and substitution, and should support for a holistic view. In addition, policies should take a long term systemic outlook.
- Policies should learn from old ideas and from nature (bio mimicry).
- Policies should take into account value chain approach, where measures are tailored to the various specificities of the different materials.

## 6 Session 4: The role of paradigms and pathways for action

The second day of the 2<sup>nd</sup> DYNAMIX Policy Platform started with Session 4 that aimed at identifying and reflecting upon paradigms and pathways affecting resource use.

The session was kicked-off with a keynote presentation by Robin Vanner (Policy Studies Institute, University of Westminster, UK) on “Paradigms affecting resource use, resource efficiency and decoupling” and was followed by an interactive group work to discuss the role and potential of alternative paradigms in tackling absolute decoupling.

#### **Keynote presentation:**

**Robin Vanner, Senior Research Fellow, Policy Studies Institute, University of Westminster, UK;  
“Paradigms affecting resource use, resource efficiency and decoupling”**

In session 4 on paradigms, **Robin Vanner** presented the findings of work carried out so far as well as the aims and objectives of ongoing and upcoming paradigms work in the DYNAMIX project. After providing a working definition for the term *paradigm* in DYNAMIX, the presentation explored relevant findings from the project’s analysis of inefficiency drivers, current theory of how paradigm shifts occur (including bottom-up and top-down mechanisms of change), and implications for the policy mixes that DYNAMIX will propose.

#### **Interactive group work:**

**“How can we influence paradigms on the ground – reflections on participants’ individual perspectives?”**

The presentation was followed by a 40-minute interactive session, exploring the feasibility and potential impact of alternative paradigm concepts. The exercise sought to use participants’ experience and expertise to explore their current perspectives on, identify barriers to, and

comment on the potential of different paradigms. In small groups of 4-6, participants discussed a sub-selection of three of the following concepts: green growth, circular economy, biomimicry, green economy, transition towns, reliance on markets, and beyond GDP. Participants assessed the concepts' (i) potential to realise absolute decoupling, and (ii) the feasibility of and (iii) any specific barriers to their widespread adoption, drawing on their personal experience and perspectives. Groups were given a 'concept sheet' for each of the three concepts with a brief description of the concept, and questions on impact, barriers and feasibility to discuss and complete together. Participants were also asked to indicate if they personally found a concept particularly compelling, and were referred to as 'champions' of the concept.

Feeding back to the plenary session, participants remarked on the apparent inverse relationship between the feasibility of a concept and its decoupling potential, commenting that concepts with high decoupling potential often focus on lifestyle and consumption changes, which are considered more difficult to achieve. A basic summary of the results of the exercise is presented in the table below, with concepts ranked in decreasing order of combined perceived effectiveness and feasibility.<sup>2</sup>

Concept	Effectiveness	Feasibility	Champion score	Effectiveness + Feasibility
Circular economy	3.8	4.125	1.6	7.925
Reliance on markets	3.25	4	0.5	7.25
Green growth	2.5	4.17	1.8	6.67
Beyond GDP	4.5	2	0.67	6.5
Green economy	3.25	3	2	6.25
Transition towns	3.5	2.25	0.5	5.75
Biomimicry	1.6	4	0	5.625

It is worth noting that while 'green economy' was relatively well advocated by researchers in the exercise, EU and national policymakers championed 'green growth' and 'circular economy' instead. Additionally, while 'reliance on markets' scored highly in terms of perceptions of its effectiveness and feasibility, it attracted notably few champions amongst the stakeholder participants at the Platform. Overall, 'circular economy' and 'green growth' ranked highest in terms of perceived effectiveness, feasibility and their proportion of advocates at Policy Platform 2. Still, some participants nonetheless cautioned how the term 'circular economy' can, at first sight, fail to translate as a promising concept in certain languages.

<sup>2</sup> In the table, the champion score is calculated to be the number of individual champions divided by the total number of groups allocated the concept to discuss.

In general discussion and feedback to the plenary, participants also discussed the paradox of scarcity and how since many resources are not scarce, policy should focus on the decoupling of economic growth from *environmental impact* rather than from resource use. The important issue of whether growth and decoupling of environmental impact can be complementary goals was also raised, with participants divided in opinion.

## 7 Session 5: Promising policies and policy mixes for resource efficiency

Session 5 on “Promising policies and policy mixes for resource efficiency” aimed at stimulating a debate among participants on promising policies and policy mixes for resource efficiency. The session was opened with a keynote presentation by **Tomas Ekvall** (IVL Swedish Environmental Research Institute) and followed by a group work session. Finally, the Policy Platform ended with a panel discussion involving five high-level representatives from different stakeholder groups to debate on greatest challenges, needs and policies to address resource efficiency.

### Keynote presentation

**Tomas Ekvall, IVL Swedish Environmental Research Institute:**

**“Translating paradigms into promising policies and policy mixes”**

In his presentation, Tomas Ekvall wrapped up the basic concepts related to the project’s background in order to provide the participants with necessary information for next group work on “brainstorming on promising policies and policy mixes for resource efficiency”. In particular, the interactive group work aimed at discussing the question “What policy instruments and combinations of instruments would you like to see in the policy mixes we assess?” Mr. Ekvall referred to the definition of decoupling, on resources taken into account within the project and on the project’s targets. Finally, he introduced the criteria to guide participant through the group work. Proposed policy mixes to assess should be: relevant to policy-makers and stakeholders, divergent, consistent with good paradigms, effective, addressing important drivers and barriers, addressing little-managed resources, adaptive, and not sufficiently investigated.

### Interactive working group: “Brainstorming on promising policies and policy mixes for resource efficiency”

**Presentation of group work results and voting for most promising policy mixes**

Participants worked on tables with the purpose to come up with promising policies and/or policy mixes for resource efficiency that should be further explored in DYNAMIX. Ideas and suggestions were then grouped on several flipcharts and presented to the plenary by a

rappporteur from each table. Finally, participants could vote on most promising policy mixes. Participants marked most interesting policy ideas by a green sticker; and controversial policy suggestions by a red sticker.

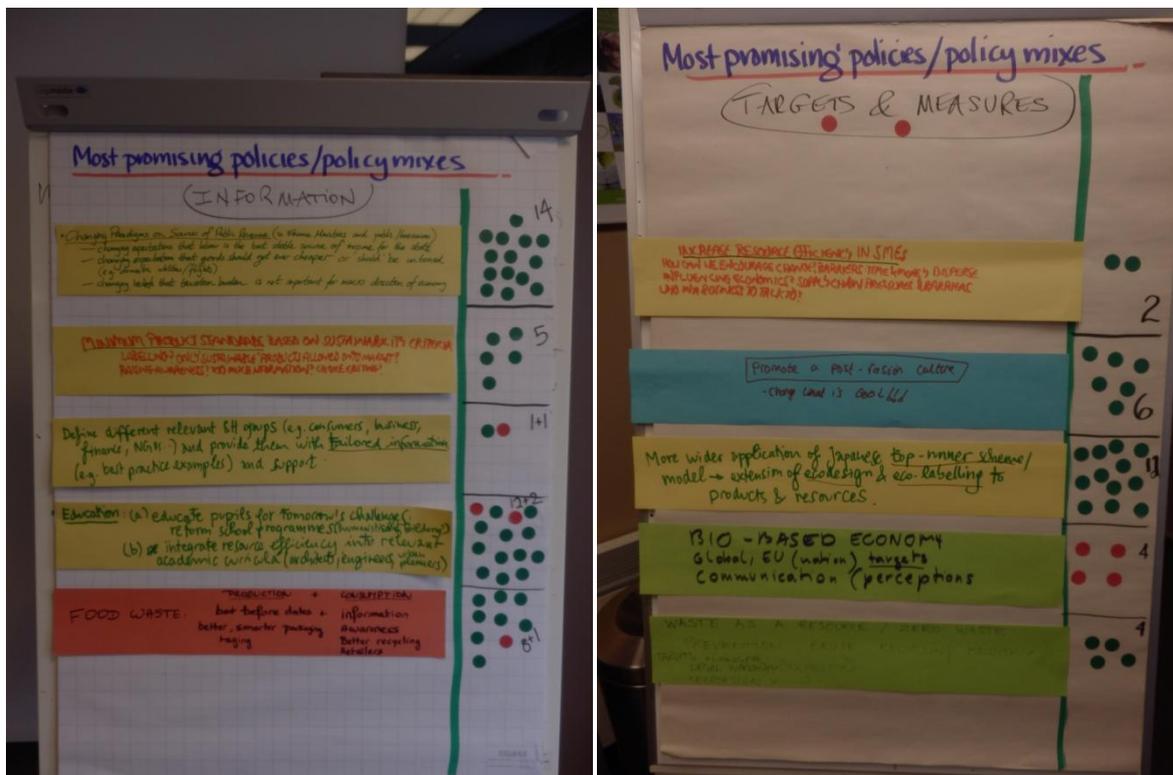
**Presentation of results:**

The outcomes from the brainstorming session were split according to the following thematic groups: (a) targets and measures instruments, (b) information based instruments, (c) market based instruments, (d) regulatory instruments, and (e) mixes of policies.

**Targets and measures instruments:** Participants expressed a clear preference for (1) eco-design and eco-labelling to products and resources, and (2) promotion of post-fashion culture. A debate was held around bio-based economy, but considered controversial by some participants. Some participants stated that to move away from a fossil fuel based economy to a bio-based economy is necessary, while others argued that with a bio-based economy, biotic resources would be overexploited.

**Information based instruments:** This type of instruments was one of the most popular among the participants. They expressed a clear preference for (1) changing paradigms on sources of public revenues (e.g. by changing the expectation that labour is the best stable source of income for the state); (2) education of pupils, reform school programs and integration of resource efficiency into relevant academic curricula; and (3) education on food waste for producers and consumers.

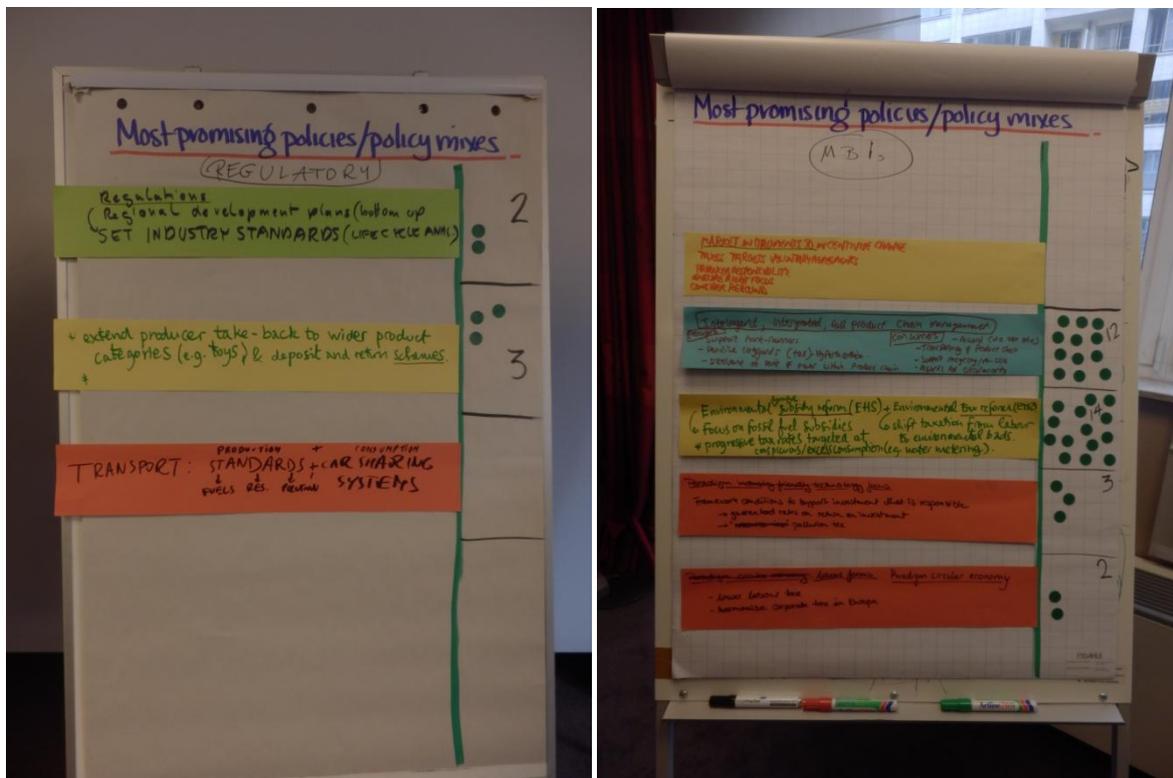
Participants considered (4) supporting activities to relevant stakeholder groups and (5) minimum products standards based on sustainability criteria, less attractive.



**Market based instruments:** This was also one of the most popular types of instruments. Participants expressed a clear preference for: (1) Environmental subsidies reform (EHS) with a focus on fossil fuel subsidies and meant as progressive tax rates targeted at conspicuous or excess consumption; (2) environmental tax reform to shift taxation from labour (“goods”) to resource use or environmental degradation (“bads”); (3) intelligent, integrated, full product chain management focussing on producers (e.g: support of front runners) and consumers (e.g.: by introducing rewards via taxes).

**Regulatory instruments:** Participants did not express a specific preference for regulatory instruments, such as industrial standards, extended producers responsibility, deposits or return schemes.

**Mixes:** Participant did not express a specific preference for overall political strategies, resources action plans or sustainable lifestyle roadmaps.



Ranking (based on received stickers)	Policy/ policy mix	Type	Votes	
			Green stickers	Red stickers
1	Environmental subsidies reform (EHS) with a focus on fossil fuel subsidies / environmental tax reform to shift taxation from labour to environmental bads	Market based instrument	14	-
2	Changing paradigms on sources of public revenues	Information	14	-
3	Integrated full product chain management focussing on producers and consumers	Market based instrument	12	-
4	Education of pupils, reform school programs and integration of resource efficiency into relevant academic curricula	Information	12	2
5	Eco-design and eco-labelling of products and resources	Targets and measures	11	-

**Panel discussion**

***“Most promising policies and policy mixes for resource efficiency”***

The Policy Platform was concluded with a panel discussion titled with five high-level stakeholder representatives: **Carina Vopel** (Head of Unit, Directorate F.1, DG Environment, European Commission), **Henning Wilts** (Research Fellow at the Wuppertal Institute for Climate, Environment and Energy in Germany, Research Group on Material Flows and Resource Management), **Peter Borkey** (Environment Directorate, OECD), **Brigitte Lahm** (Compliance Manager Supplies, Hewlett Packard), and **Leida Rijnhout** (Executive Director, ANPED – Northern Alliance for Sustainability).

Each panellist was invited to reflect in an opening statement on three questions before the discussion was opened to the plenary: (1) What are currently the greatest challenges for

resource efficiency in Europe from your perspective? (2) Which policy mixes is most promising? (3) What is needed to move forward?

**Henning Wilts:** Mr. Wilts mentioned that one of the reasons why we still face resource inefficiency is related to an inconsistency of European policies, leading to completely different directions. He mentioned the example of Germany: in spite of the three key actions set by the EU Roadmap 2020 on housing, food and mobility, Germany still promotes policies that foster reduced VAT for regular meat, tax reduction for commuting or incentives for building houses.

Another challenge mentioned by Mr. Wilts regards the problem of waste, which from a resource efficiency perspective is a source, but from an environmental perspective is not always considered completely secure and clean. Besides, the amount of eco-innovative products introduced in the market keeps growing, but 99% of them are still unsustainable. According to Mr. Wilts a theoretical framework on how to design policy mixes and on how to efficiently combine the variety of policy instruments is missing.

Moving to the second question, Mr. Wilts mentioned product services (e.g. leasing blue jeans in Holland) as the most promising policy tool to move toward in a resource efficient society. He pointed out, however, that currently no policy instrument is tackling the issue.

In addressing the third question, Mr. Wilts mentioned that we are still lacking a clear vision for resource use in 2050, and that is necessary to widen the discourse beyond Europe and especially to developing countries.

**Peter Borkey:** At first, Mr. Borkey mentioned that there is a clear lack of a theoretical framework for resource efficiency. Most often, policy mixes already in place do not look at synergies, interactions or contradictions that may exist within different instruments. But looking at the market failures hampering resource efficiency would be crucial in a policy learning environment. Mr. Borkey then mentioned the strategy developed by OECD, targeting 4 big themes: The first theme is related to green reform and market-based instruments on environmental harmful subsidies: the instruments usually applied involve a cost on the economy and society that have to be taken into account. The second theme regards innovation, playing a crucial role for resource efficiency: innovation policies are important as they can accelerate the process of moving towards a low carbon emissions society. The third and the fourth themes regard the possibility to measure well-being instead of GDP and distributional issues of well-being.

Mr. Borkey concluded by stating that we lack policy mixes that can ease the transition, are acceptable for the society, (meaning that they are able to accompany the structural change), are protecting less well off parts of the population that could be affected by the introduction of certain taxes.

**Birgitte Lahm:** Ms. Lahm addressed the questions from the perspective of a large IT company (Hewlett Packard). At first, she mentioned that HP is trying to address social and environmental issues by changing the company's mindset and in order to address policies in a more holistic way, thus to get a global view on the problem. Ms. Lahm pointed out that a lot of policies already exist, but they are often too generic and broad

to address problems properly; according to Ms. Lahm, there is a clear need to set more specific targets and clear definitions when focussing on resource efficiency.

Secondly, Ms. Lahm mentioned that Hewlett Packard is redesigning its entire supply chain in order to be more resource efficient. Still, it is necessary to get to the point where an increasing number of companies commit themselves to improve their production patterns towards resource efficiency as well as more consumers to change their consumption patterns by choosing more environmentally friendly products.

In this regard, Ms. Lahm pointed out that: (1) Communication is a key element to engage producers in order to share best practices and to show environmental and financial gains; (2) it is necessary to change consumers' concept of what is fashionable and desirable in order to switch preferences towards eco-products. Concerning the latter point, Ms. Lahm gave the example of an eco-printer, produced by HP made out of bioplastic derived from corn, that did not receive any attention from the market because it was aesthetically less attractive.

**Leida Rijnhout:** Ms. Rijnhout addressed the questions from the perspective of an NGO. Main concerns of ANPED are global justice and fair use of resources. According to Ms. Rijnhout, we clearly have to switch our societal paradigms to achieve more sustainable lifestyles. She insisted that it would be crucial to get used to limit ourselves on resource use, to stay at the level of what is enough and sufficient. Still, to adopt new lifestyles does not necessarily mean to "go back into the caves", but rather to identify new values to be "happy with less". Ms. Rijnhout also suggested that this is a political discussion, and that it is important to have a multilayered approach in order to consider all the societal aspects of the problem.

According to Ms. Rijnhout, another major challenge is represented by the overexploitation of resources in southern countries: many developing countries suffer from social and environmental damages caused by resources extraction to satisfy the consumption needs of developed countries ("resource curse").

Many campaigns started to be launched, promoting the slogan as "leave oil in the soil, coal in the hole, and gas under the grass", that aim at stopping overexploitation of resources in developing countries.

Finally, Ms. Rijnhout underlined that, in spite of many initiatives targeting resource efficiency, we have not observed any real progress. Thus, the main challenge is to identify what is blocking us and why no real change is occurring, by keeping in mind that (1) sustainable development is a political issue, and (2) social conflicts are already there.

**Carina Vopel:** Ms. Vopel mentioned at the beginning that all the individual policy instruments discussed and proposed during the Policy Platform are – at least to some extent - already existing or considered by the European Commission.

The European Resource Efficiency Platform is already working on a mix of information, market based and regulatory instruments, and will release a series of policy recommendations in June 2014. In relation to policy implementation, Ms. Vopel underlined the importance of a "carrot and stick" approach, meaning that instruments, such as taxations and levies, have to be compensated by incentives to provide the right signals to the market.

Secondly, Ms. Vopel addressed the issue of having not made a real change addressed by Ms. Rijnhout. Ms. Vopel argued that actions are scattered in many areas, thus there have already been different improvements, but they are not so evident. Any paradigm change will not happen immediately and will not be immediately evident, but still it is important to keep going in the right direction.

Ms. Vopel then addressed the issue of “new carbon economy” as the new paradigm, arguing that having policy targets is good to define the policy avenues, but the benefit deriving from the target will depend on the specific taken measure and on the common efforts.

She finally mentioned that the EU will be issuing a communication on resource efficiency and circular economy next year, aiming to move away from a linear economy towards a closed-loop society and focusing on more integrated approaches.

The panel was followed by a **plenary discussion** where following points were highlighted:

- It was stated that resources price often does not reflect the reality and excludes real environmental and social cost. Tackling the problem has primary importance to target resource efficiency, but an increase of resources price encounters resistance from industries.
- It was argued that sustainable development issues have to be debated on a global scale and goals set at global level, thus a common trajectory is needed to move towards the same direction. Still, and as it emerged recently during the Rio+20 Conference, BRIC countries have a strong need for further development and strongly oppose resource use limitations.
- To shift from the concept of growth to a function/performance economy, and to link bottom-up with top-down initiatives for achieving a more sustainable world, it is important to: (1) rethink our needs and limits, (2) see where it is possible to optimize the policies, (as many issues are still approached from a very sectorial/silo perspective), and (3) to guide SMEs towards a circular economy and to create business opportunity for a service economy (e.g. by substituting selling with leasing). Concerning the last point, it was argued that businesses are still not prepared to that and the whole economic thinking has to adopt new ideas. In addition, guidance, good legislation, clear businesses cases and financial aids may be necessary to support the transition.
- The reliability of the concept of absolute decoupling as a measure for resource efficiency was questioned, arguing that it could be not useful or acceptable (e.g., when considering the example of the economic crisis in 2008 and its effects in terms of resource use and decoupling on the EU Member States). In response, it was argued that (1) a more sectorial approach could be a possible alternative, (2) we may need to consume less, but it is not easy to move away from growth, (3) resource efficiency as relative decoupling is a weak compromise, therefore, we have to make sure that something goes down in absolute terms, and that (4) it is important to communicate and show good examples where change has occurred (e.g. save money and save the planet).

***Martin Hirschnitz-Garbers, Ecologic Institute, Germany***

In the closing speech, Mr. Hirschnitz-Garbers summarised key lessons learned from the second policy platform. He thanked all participants for taking part in and actively contributing to the event and informed that the DYNAMIX consortium will use the results of this Policy Platform in their further work. Mr. Hirschnitz-Garbers also informed the participants about the upcoming DYNAMIX newsletter, the 3<sup>rd</sup> Policy Platform planned for March 2014 and the webinars in 2014 and 2015. All keynote presentations' PPT slides and the event report are available online at the DYNAMIX website: <http://dynamix-project.eu/2nd-dynamix-policy-platform-policy-mixes-resource-efficiency-europe-lessons-learned-and-ways-forward>.



**Participants of the 2<sup>nd</sup> DYNAMIX Policy Platform, Brussels, 24-25 October 2013**