Towards an Eco-Efficient Europe

This Newsletter summarises the key findings of the EPC's Task Force on resource efficiency and eco-innovation. Our findings and recommendations are based on the Task Force's discussions, input from the participants and the Copenhagen Economics study *Eco-Innovation and Resource Efficiency: Gains from Reforms*. The Task Force partners were ABB, Central Denmark Region, the European Climate Foundation, General Electric, Microsoft, Oracle, Philips, the Province of Limburg and Suez Environnement. The background paper and economic study commissioned for the project can be downloaded from the EPC website: www.epc.eu (Programmes > Europe's Political Economy > Eco-efficiency)

What is eco-efficiency?

Eco-efficiency stands for doing more – or the same – with less. It means resource efficiency: using and reusing resources more efficiently throughout our economy. It is about eco-innovation: developing and using products, processes and other solutions that contribute to efficient use of resources. It enhances resource productivity and generates more value from the use of resources. It means not wasting valuable materials.

Eco-efficiency is a key component of green growth and a greener economy. It is time to recognise the value of resources – like energy, water, land and raw materials – as the basis of well-being and economic growth in Europe. It is time to utilise the knowledge-economy, generate new ecological know-how and get greener goods and services on the market and in use.

Rationale for action: delivering on Europe 2020

Eco-efficiency could be the next European success story. It can help to deliver the objectives of the 'Europe 2020' strategy, drive smart, sustainable and inclusive growth, and boost Europe's competitiveness.

Resource efficiency, investment in greener products and services, new business models, more efficient city planning and transportation systems, using new and existing technologies, and developing internal and external markets for eco-efficiency can bring enormous benefits. Eco-efficiency can boost businesses' productivity and competitiveness on the global market. It can help to improve finances in the public sector. It can offer EU citizens significant gains, ranging from jobs to health benefits. It can stimulate interest in the European project. And it can help to deepen the internal market, which is Europe's main driver of competitiveness, security of supply and sustainability.

Europe faces a serious challenge

The **world's middle-class is expected to increase by three billion by 2030**, thus creating unprecedented demand for global resources, which will also affect Europe.

Raw materials including energy imports account for around 30% of EU imports, worth over **€500 billion a year**.

Global competition for resources is already seen in **increased prices** and **reduced security of supply**, which hinder growth.

Europe produces **three billion tonnes of waste**. **As only 40% of solid waste is recycled**, valuable materials are continually wasted.

Europe's **internal market:**

- Does not support a circular economy, in which resources would be recycled and re-used.
- There is no efficient pull for trade in resource-efficient, low-carbon goods and services.
- The market for renewables in the EU is under-developed.

The global race to develop new technologies is on:

- **Developing countries** have overtaken developed economies in financing renewable energies.
- **China** is now the largest manufacturer of solar PV, supplying almost 40% of all solar PV worldwide.
- In the **US**, new financial investment in renewables increased to €19 billion in 2010.
- **Tariffs and non-trade barriers** make it difficult to get European solutions to the global market.

Europe needs a positive project with benefits

The economic crisis and citizens' disillusionment with the EU are serious challenges for Europe. Europe needs a project that can help to reconnect European policymakers and citizens behind a common goal. A project that can provide a much-needed source of new growth at a time of economic crisis. A project that can re-stimulate interest in European integration and the internal market. A project that can boost Europeans' welfare and well-being.

Creating an eco-efficient Europe and promoting internal and external markets for greener products and services has the potential to be that project. If the EU, member states, the public and private sectors start working together – and involve consumers in the process – then achieving an eco-efficient Europe will help to deliver the objectives of the 'Europe 2020' strategy, drive smart, green and inclusive growth, and boost Europe's competitiveness.

Hans Martens, Chief Executive, EPC

Call for action: Europe cannot lose this game

"With the growing world population and the growing number of people stepping up to the middle class, our planet is simply becoming too small to provide us with the resources we need. We therefore need to use resources much more efficiently. The economic impact of resource scarcity is enormous and **we have to ensure that the EU and European companies are at the forefront of the transition to green growth and efficient use of resources**. Future companies will have to be sustainable or they simply won't be there at all. The question is not 'if' our industries must become more sustainable, but whether they are making the transformation rapidly enough to survive internationally."

Gerben-Jan Gerbrandy MEP, Rapporteur on the resource-efficiency roadmap

Jean-Louis Chaussade, Chief Executive Officer, SUEZ ENVIRONNEMENT

"In a world where natural resources are finite, **only economies that are built on smarter and more efficient use of resources will prosper**. Waste management, recovery and recycling as well as management, protection, saving, and re-use of water resources are an integral part of this process. The Commission's roadmap on resource efficiency is a fundamental driver towards the establishment of a circular economy and must be followed with action."

Henrik Brask Pedersen, Head of Department, Central Denmark Region

"**Regions can play an important role in greening Europe's economy**. They can help to grow and create demand for more eco-efficient products and services. They host greener businesses and can help to create greener jobs. To build on this potential, we need to apply green public procurement and look for new ways to cooperate with the private sector."

Harry Verhaar, Senior Director Energy & Climate Change, Philips Lighting

"Cities are affected by global challenges, such as population growth and unprecedented urbanisation. However, cities are also an excellent platform to implement sustainable solutions. In Europe, **one key area for action should be the existing infrastructure in our cities**, **with special attention given to renovating public buildings**, which account for 60% of lighting-based electricity use. Solutions exist: new LED lighting can help to create safer, more resource efficient and more livable cities. Creating a better city image and environment will attract citizens, businesses and visitors, and thus help European cities to meet sustainability challenges while becoming a springboard for the modern Europe that we aspire to create."

Bastian Fischer, Vice-President, Industry Strategy, Oracle Utilities

"The smart grid is crucial for a smart energy future and to meet 2050 energy efficiency targets. It will provide utilities with a new wealth of data intelligence and insight into customer usage patterns, and allow for better planning of conventional and renewable energy supply chains, and optimisation of the network.

However, **we still have a long way to go to make the smart grid a reality**. One key issue will be guaranteeing privacy and enhancing customer confidence. "

"Despite and because of the savings we all have to make in Europe, we have to continue to make our economy more sustainable. For example: we have worked together with the national government and regional stakeholders to enter into a 'Green Deal' on energy projects. The Green Deal shows that **sustainability and growth go hand in hand**, legislation can be made to fit its needs, barriers can be removed, and access to knowledge and capital is available to all."

Minister Patrick van der Broeck, Province of Limburg

The benefits are significant, solutions exist:

Gains from reforms. The study conducted by Copenhagen Economics shows that:

- **Creating an internal market to comply with the EU's renewable energy targets** can save around **€8-17 billion per year by 2020**, because the same amount of renewable energy would be produced using much fewer resources, and renewable technologies would be placed where they are most efficient.
- **Improving energy efficiency** may save European consumers up to **€1000 per household by 2020**.
- An increased emphasis on energy efficiency could create **two million jobs**.
- **Reducing greenhouse gas emissions by 30%** by 2020 could produce improved **health benefits amounting to €60-80 billion**.
- **Cutting emissions by 30% by using the ETS** (Emissions Trading Scheme), could bring in **revenues worth 2% of GDP in 2020**. It would also reduce the amount of subsidies required to achieve renewable energy targets.

30% of the global demand for energy, water, land and materials in 2030 **can be met by more efficient resource extraction, conversion and use**.

More efficient use of resources and greater emphasis on recycling could help Europe to **save billions of euros** annually, **secure sustainable supplies** of energy and other raw materials, and **reduce the impact of volatile price fluctuations** on its economy.

By investing in eco-efficiency the **public sector**, a large consumer of resources like energy and water, can **save money** and **promote the use of greener solutions**.

Electric motors and the systems they drive are the world's single biggest consumers of electricity, accounting for 43-46% of all global electricity consumption. Their energy efficiency **could be improved cost-effectively by 20-30%, which would reduce global electricity demand by around 10%**.

Taking no-cost or low-cost measures to improve resource efficiency would **save UK businesses €28 billion per year**.

If payback were over one year, annual savings could add up to **€66 billion**.

Smart grid can **save the EU €52bn** a year.

Nani Beccalli-Falco, President & CEO for Europe & North Asia; GE Germany

"**Removing barriers that affect trade in green technologies is the key to unlocking potential sustainable growth**. The EU should take the lead by negotiating a free-trade agreement for clean tech with its G20 partners. This would be a win-win situation: delivering growth, supporting the creation of sustainable clean-tech jobs and helping all countries to address key challenges, such as climate change and energy efficiency."

Georg Brodach, Senior Vice-President, ABB Europe

"Many who complain about the high costs of fuel and carbon and who fear for their international competitiveness should first conduct an audit in order to better **understand the savings potential of technologies that are already available** – which often come with very short payback-times!"

Employment potential in renewable energy and recycling sectors is significant.

ICT can drive economy-wide efficiencies and **reduce global CO_2 emissions by 15% by 2020**.

More efficient **waste management** in Europe could **reduce CO_2 emissions by between 146 and 244 million tons**.

Jan Muehlfeit, Chairman, Microsoft Europe

"We believe that technology can enable and enhance sustainable practices, whether through cutting energy costs in buildings, or reducing travel and increasing productivity through online business solutions and web-conferencing. We are working to expand the possibilities for computing every day, delivering solutions and transformative technology that contributes to solving important European socio-economic challenges for both governments and business. We recognise that **reaching the efficiency goals set in the 'Europe 2020' strategy requires an effective partnership between governments and private sector**. "

More **energy-efficient lighting solutions** in European schools have **increased reading speed by 35%**, **reduced errors by almost 45%** and **improved pupils' attention span.**

To deliver sustainable growth through eco-innovation and increased resource efficiency, the EPC Task Force recommends the following course of action:

Building a bigger market for products and services that contribute to a greener economy:

The EU needs a functioning internal market, where:

- Innovation processes are more efficient.
- A life-cycle approach and effective use and reuse of resources are promoted.
- Framework conditions offer an incentive to provide eco-efficient products and services.
- Pan-European legislation is implemented and enforced.

The EU needs a functioning external market, where:

- Green goods and services can get access to global markets.
- The EU fights green protectionism and promotes trade in green technologies.
- The EU strives to become a leading provider of green products and services and a standard setter.

Sending the right price signals:

The prices of resources should reflect the true cost of using them during their life-cycle:

- Pollution and exploitation of resources must come at a cost. Counter-productive support mechanisms and subsidies must be removed.
- The ETS must be improved. It must aim to give a realistic price for carbon and ideally be extended into a global emissions trading scheme.

Increasing public and private investment:

- Positive incentives are needed for investment via green public procurement and better access to venture capital.
- The post-2014 EU budget should reflect the political priorities of green and smart growth featured in the 'Europe 2020' strategy.
- Capacity of the public sector and SMEs to access and harness existing funding for green solutions must be improved.
- Innovative funding mechanisms must be utilised to leverage private capital.

New approaches to meeting 20/20/20 climate and energy targets:

- The framework and drivers for **achieving the 20% energy efficiency target** must be strengthened. If progress is insufficient, then making the target legally binding should be considered.
- **Increasing the share of renewable energy** in the EU's energy mix to 20% requires smart, efficient and forward-looking action. Support mechanisms must be cost-effective and the technologies should be used only where they are most efficient. Investment in a European smart grid is needed.
- Europe needs innovative approaches to **reducing greenhouse gas emissions** by 20% by 2020. In addition, the EU must already focus on its 2050 goals to reduce greenhouse gases by 80-95% and create a roadmap for achieving these targets – while pushing for global action to reduce emissions.

Building a knowledge base, educating stakeholders and empowering consumers:

- Europe needs a knowledge base on resource efficiency.
- The EU must develop a comprehensive statistical framework on resource efficiency.
- Information for consumers must become more transparent via smart metering or product labelling.
- Consumers must be given the opportunity to act on their knowledge.