



CLEAN, CLEVER, COMPETITIVE

Eco-innovation for a sustainable future

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The ETAP newsletter is a selection of articles published on the ETAP website (<http://ec.europa.eu/environment/etap/>), which is updated twice a month with new articles.

Member States play key role in ETAP

EU Member States play a key role in the implementation of the Environmental Technologies Action Plan (ETAP). From the beginning, it was realised that it was essential to take action at national level rather than leaving activities only to market forces or EU-level direction. Drawing up national roadmaps has also made it possible to identify, share best practices and facilitate policy learning between the Member States.

ETAP was adopted in January 2004 to boost eco-innovation, growth and sustainable development in close co-operation with EU Member States and industry. It followed a major consultation with national governments, business communities and other stakeholders. The objective was to boost development and use of environmental technologies to improve competitiveness and enable the EU to become the recognised world leader in the green technologies sector – see Box. Priority was given to getting successful research results to markets, improving market conditions and taking global action.

A high-level working group (HLWG) was established to facilitate implementation of ETAP all over Europe and steer co-operation between participants. The HLWG is made up of representatives from the Member States and from European Commission services – primarily the Environment DG. A form of the EU ‘open method of co-ordination’ is used with the Member States to advance the plan. The open method is based on voluntary co-operation rather than regulation and involves developing indicators, setting guidelines and timetables, benchmarking and sharing of best practices.

Implementation at national level

In line with the original realisation of the importance of national commitment, an initial review of ETAP in 2005 proposed that Member States should draw up national roadmaps for implementation, with concrete measures and deadlines, and a national system of reporting the progress in achieving objectives. At the same time, national action plans should also be drawn up for green public procurement – seen as a key element in encouraging the development of viable commercial eco-technologies.

The national roadmaps act as planning tools relevant to local needs, providing an overview of all activities and plans for promoting eco-innovation and how these are working together towards overall goals. Such explicit mapping of a broad range of activities with milestones and deadlines helps drive the plans forward effectively.

National roadmaps offer a practical basis for the exchange of knowledge, experience and good practice across all Member States. They offer a tangible basis for reference setting, building up strategic knowledge across the Member States and the Commission – and so helping drive the ETAP agenda. At the same time, Member States can learn from, adapt and apply best practice policies to create a multiplier effect across Europe.

Roadmaps provide an open and transparent mechanism for sharing knowledge across Member States. They are public documents, published on the ETAP website as they can interest the general public and, even more pertinently, decision makers, non-governmental organisations, etc.

 **More information:**
http://ec.europa.eu/environment/etap/policy/roadmaps_en.html



Global market

Europe has around one third of the world market for eco-technologies – a market set to double from its current level to €2 200 billion by 2020. In 2007, European eco-industries had a turnover of some €227 billion, accounting for 2.2% of the EU GDP, and they employed 3.4 million people directly.



ETAP national roadmaps – sharing best Member-State actions across the EU

Member-State roadmaps serve both as a tool for monitoring progress on ETAP and as input to the reporting on the implementation of the Lisbon Strategy for economic growth and job creation in Europe. Further analysis of all the national roadmaps at European level will be undertaken by the INNO-Net on Eco-innovation. This will form part of the PRO INNO Europe initiative. The PRO INNO initiative is the focal point for innovation policy analysis, learning and development in Europe, with the view to learning from the best and contributing to the development of new and better innovation policies in Europe.

There is a range of strategies and action plans related to environmental technologies at Member-State level to meet specific local needs. However, the explicit mapping of Member-State activities relevant to ETAP offers a practical basis for the exchange of knowledge, experience and good practice across the EU. Drawing up national roadmaps offers a tangible basis for reference setting and building up strategic knowledge – all of which can help further drive the environmental technologies agenda in Europe.

The aim of roadmap reporting is to help focus on relevant plans, actions and achievements related to ETAP that can usefully be shared across all Member States. The main priorities for the road map are: R&D, verification of technologies, performance targets, mobilisation of financing, market-based instruments, green procurement, awareness raising and training, and acting globally. Reporting includes state of play, existing strategies and action plans, and milestones and measures.

EU-level analysis

To date, 22 of the 28 countries involved in ETAP – the 27 EU Member States and Norway – have prepared and in some cases updated their national roadmaps. The results will be taken further at EU level by the INNO-Net on Eco-innovation, which is focused on the further development of the exchange of best practices and expertise on eco-innovation as part of efforts to champion eco-innovation policies. This is aimed to be a partnership of national and/or regional public authorities in association with other agencies or public bodies that aim to stimulate trans-national co-operation among different national or sub-national innovation programmes.

This think tank will co-operate closely with the ETAP high-level working group to provide strategic expertise on the role of public policies and actors on promoting eco-innovation. It will be involved in analysing the results of the ETAP national roadmaps. This could lay the basis for further co-operation between Member States on the implementation of specific actions, and could drive future development of ETAP at European level.

Specifically the key objectives of the partnership will be to:



Roadmaps have been published for 22 of the 28 countries involved in ETAP

- Improve understanding of eco-innovation dynamics and the role of public policies;
- Identify best practices in Member States and prepare the way for their extension;
- Examine three policy areas that already look promising: green public procurement; policies supporting innovative waste and recycling management – particularly the UK National Industrial Symbiosis Programme and the Belgian and Italian databases of recycled products; and international co-operation in diffusing environmental technologies; and
- Raise awareness of and promote eco-innovation policies.

Part of global effort

In parallel to ETAP, the OECD has its own eco-innovation work programme. In a report published at the beginning of 2009, the OECD profiled eco-innovation policies for eight non-EU OECD countries: Australia, Canada, Japan, Korea, Mexico, New Zealand, Turkey and the USA. A separate report will be published on eco-innovation policies in China. This work complements the national ETAP eco-innovation roadmaps and is intended to provide an empirical basis for further investigation on global policies to support eco-innovation.

More information:

The PRO INNO Europe initiative: <http://www.proinno-europe.eu/>
OECD report: 'National Approaches for Promoting Eco-Innovation. Policy Issues: [http://www.oilis.oecd.org/oilis/2008doc.nsf/ENGDATCORPLOOK/NT00007E7E/\\$FILE/JT03258546.PDF](http://www.oilis.oecd.org/oilis/2008doc.nsf/ENGDATCORPLOOK/NT00007E7E/$FILE/JT03258546.PDF)

Striving to foster growth

The Irish Environmental Protection Agency's Science, Technology, Research and Innovation for the Environment (STRIVE) programme is fostering growth through funding innovation in environmental technologies and cleaner production. Since 2005, the EPA has invested €30 million in 189 projects. A recent survey showed 18 large projects, which received a combined total of €4.7 million EPA funding in 2005/06, contributed significantly to environmental, social and economic benefits – including five patents with seven in preparation, a spin-off biotech company and leveraging of €12.5 million additional funding.

Room for manoeuvre

The Swedish Commission on Sustainable Development identifies four scenarios for the outcome of the COP 15 international climate-change negotiations in Copenhagen where obligations adopted range from a marginal reduction compared with business-as-usual to a scenario where global emissions level out in the period 2015/20. It assumes that as countries take on deeper commitments they will adopt more effective policy instruments – in the least ambitious scenario, only 7% of the cost-effective potential is realised, while in the most ambitious 48% will be realised. The average and marginal costs of reducing emissions are lower in the most ambitious scenario – 18€/tonne and 36€/tonne, respectively – than in the scenario that gives the smallest reductions – 21€/tonne and 48€/tonne.

Mapping the way ahead

The ETAP roadmap for Romania 2008/9, approved by the government at the end of 2008, aimed to stimulate research in the environmental field, promote ecological labelling, launch a pilot programme for the thermal rehabilitation of public buildings and apartment blocks, promote renewable energy generation and encourage green public procurement. Implementation is the responsibility of the Ministry of Environment and Sustainable Development (MMDD). The ETAP roadmap for 2010/13 should be approved by the end of 2009.

Elisabet Falemo and Ola Alterå:

Sweden committed to strengthening eco-innovation

The Swedish government regards the development and use of good environmental technology as an important means of reducing the negative environmental impact from our consumption and production, at the same time as competitiveness and industrial growth are promoted. The Swedish ETAP National Roadmap has been a helpful tool to increase the visibility of the Swedish efforts on eco-innovation and environmental technologies with regard to the ETAP actions.



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A cost-efficient and powerful policy instrument that has been helpful in promoting a fuel switch and eco-innovation is the carbon tax that was introduced in Sweden in 1991. The most obvious effect has been a reduction of CO₂ emissions and an increased use of biomass in Swedish district heating systems.

A number of government initiatives to promote eco-innovation has been initiated for the period 2008-2010. For example, a *delegation for Sustainable Cities* has been appointed by the government to manage in total SEK 340 million (€34 million) for the development of sustainable cities.

Another initiative is a programme for *Environment-Driven Business Development* aiming to strengthen the competitiveness of small and medium-sized enterprises (SMEs), primarily by providing support in the commercialisation phase.

In 2008, public investment in research and research-based innovation was increased by an additional SEK 5 billion (€0.5 billion) to promote eco-innovations in fields such as energy, sustainable use of natural resources and marine environment.

In the same year, Swentec, the Swedish Environmental Technology Council, was commissioned by the government to develop an overarching structure for strengthening Swedish environmental technology. The Swedish ETAP National Roadmap has been a helpful tool in this respect.

At the joint session for EU environment and energy ministers during the informal ministerial meeting in Åre in July, discussions were held on

the subject of 'Enabling an Eco-efficient Economy'. A transition to an eco-efficient economy could boost long term EU competitiveness and create a significant number of business opportunities in both green and traditional sectors, as well as reducing our impact on the climate. The actions proposed in ETAP make

an important contribution to this transition.

Energy efficiency, alternative power and transport infrastructure as well as green public procurement are examples of actions that will lay the foundation for global sustainable growth. Further, the use of economic instruments, such as taxes and emissions trading, has a key role to play.

In addition, an integrated and cross-sectoral policy approach is essential to exploit synergies between different policy measures.

A large part of the solution entails switching the European economy to becoming an eco-efficient economy.

The future EU strategy on growth and employment – the successor to the Lisbon strategy post-2010 – should be more focused and tackle the great challenges of the future, i.e. the changeover to an eco-efficient economy; to strengthen the global competitiveness of the European Union; to counter the effects of an ageing population; and to restore sustainable public finances. We believe that the strategy should have a clear focus on research, innovation, development and the deployment of new products and services contributing to an eco-efficient economy.

Reaching an international agreement on climate change in Copenhagen in December 2009 is also an important step to create the necessary long-term market conditions to accelerate the transition and for business to capitalise on eco-efficient products and services.

A fuller version of this interview is available on the ETAP website at:

http://ec.europa.eu/environment/etap/inaction/interviews/445_en.html

EU ministers see opportunities in an eco-efficient economy

EU ministers met in Åre on 24 and 25 July to discuss Europe's transition to an eco-efficient economy. Key points included:

- The challenges of the economic down-turn and climate change offer substantial business opportunities and new markets, creating an engine for sustainable growth and competitiveness;
- Reaching an international agreement on climate change in Copenhagen in December is an important step to create the necessary long-term market conditions for business to capitalize on eco-efficient products and services.
- Achieving an eco-efficient economy requires a broad transition of industry and the economy as a whole. And firm action is needed by all stakeholders; not least the public sector



More information:

http://www.se2009.eu/en/meetings_news/2009/7/24/informal_meeting_of_environment_ministers

Highlighting EU industry's role in sustainability research

Industry has a key role in optimising the contribution research makes to sustainable development concluded a Commission conference in May 2009. However, research on its own is not sufficient. Research Commissioner Janez Potočnik identified three key vectors: long-term research planning for a sustainable future; more investment in research and education to speed the transformation from a resources- to a knowledge-based society; and greater international collaboration.



More information:

http://ec.europa.eu/research/sd/conference/2009/index_en.cfm

Call for gearing European research towards sustainability

The research community must respond to the challenges and opportunities of sustainable development by increasing content and ensuring relevance, according to the RD4SD Exercise report, launched by the European Commission Research DG. This requires implementing research for sustainable development, designing relevant research policy and measuring the contribution research makes to sustainable development.



More information:

http://ec.europa.eu/research/sd/pdf/rd4sd/rd4sd_final_report.pdf#view=fit&pageno=none

Major companies sign up to hydrogen infrastructure plan

Leading industrial companies have signed a Memorandum of Understanding with the participation for a significant expansion of the German hydrogen fuelling stations network by end 2011. As part of the 'H2 Mobility' initiative, car makers are developing fuel-cell electric vehicles, with several hundred thousand units anticipated from 2015.



More information:

<http://www.daimler.com/dccom/0-5-7145-1-1236356-1-0-0-0-0-0-11979-0-0-0-0-0-0-0-0.html>

UPCOMING EVENTS

4-5 November 2009

OECD Global Forum on Eco-Innovation

Paris, France

The OECD is holding a major conference on Eco-Innovation to take stock of what is known on policies to support eco-innovation, to discuss policy challenges and to contribute to the OECD Innovation Strategy.

<http://www.oecd.org/environment/innovation/globalforum>

23-24 November 2009

ETAP Forum: Adapting to Climate Change through Eco-Innovation

Copenhagen, Denmark

The 7th ETAP Forum on eco-innovation will take place in Copenhagen on the eve of the crucial COP 15 global negotiations on climate change.

http://ec.europa.eu/environment/ecoinnovation2009/2nd_forum/index_en.htm

3-6 December 2009

The Copenhagen Climate Exchange 2009

Copenhagen, Denmark

In the lead up to COP 15, this event is intended to promote the many existing solutions to climate change, where public participation and the individual remain key components.

<http://www.cphco2009.dk/>

More events can be found on the ETAP website at:

http://ec.europa.eu/environment/etap/events/index_en.html

SHOWCASE

Turning waste plastics into fuel

The amount of plastic waste from industrial and public consumption is continuing to grow and much still ends as non-biodegradable landfill. Turning such waste into energy offers a useful and environmentally friendly long term solution. Hungarian company PCP Zöldenergia is keen to exploit the T-Technology catalytic depolymerisation process that transforms waste plastics into liquid hydrocarbon fuel. Equipment installed as part of the programme is suitable for processing plastic waste otherwise not recoverable or recoverable with less cost-effective technologies. Use of the T-Technology process significantly reduces the volume of landfill. The end product is a pure hydrocarbon mixture that can be used as a petrochemical raw material and has a relatively small storage space requirement. Laboratory tests established the hydrocarbon end-product is rich in methyl groups, contains no sulphur, chloride or any significant amount of aromatic compounds and provides a range of hydrocarbons that be separated easily by distillation.

 **More information:** <http://www.pcpzoldenergia.eu/>



SMEs developing new systems for energy storage

The EU is fighting climate change and dependence on fossil fuels. Approximately 50% of Europe's energy demand is for heating purposes. Seven small and medium-sized enterprises (SMEs) from around Europe, co-ordinated by the Fraunhofer Institute in Germany, are working in the EU Sixth Framework Programme (FP6) Heat Saver project to develop a novel and portable form of thermo-chemical storage that will be compatible with existing combined heat and power systems and also with solar energy sources. The system will allow otherwise wasted heat to be stored and used at another time. It will comprise, within a containerised body, an aluminosilicate zeolite-based thermo-chemical store, high- and low-temperature heat exchangers, a water store and associated control systems.

 **More information:** <http://www.samsungmobile.com/>

Sun drives plastic bottle phone



Korean electronics manufacturer Samsung has introduced its first mobile phone equipped with a solar cell. The touch-screen design incorporates solar panels on the back of the phone to enable the phone to be charged on the move, as well as an energy-efficient charger which requires a standby power lower than 0.03W. A full solar charge – 10 to 14 hours – will provide enough power for four hours of talk time. The Blue Earth phone will be produced using plastics recycled from water bottles, helping to reduce fuel consumption and carbon emissions in the manufacturing process. Both the handset and charger will be free of toxic materials such as brominated flame retardants, beryllium and phthalate. In addition, the packaging for the phone is made from recycled paper and designed to be both small and light. The phone also includes a built-in pedometer which tells users how much CO₂ they have saved by walking.

 **More information:** <http://www.fraunhofer.de>

CONTACT:

You can send us your information on eco-innovation and eco-technologies for Europe: env-technology@ec.europa.eu

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