



Clean, Clever, Competitive

Newsletter of the EU Environmental Technologies Action Plan (ETAP)

Recycling Technologies

Dear reader,

The European Commission has recently proposed two more of the 'thematic strategies' that are key elements of the 6th Environmental Action Plan of the EU: one on the sustainable use of resources, the other on the prevention and recycling of waste. These two strategies propose a major update of the waste and resources policy, calling for Europe to become a 'recycling society' and better integrate life-cycle thinking in its environment policies on natural resources. These strategies also demonstrate the importance of technological developments in response to environmental challenges, and fix further environmental objectives for the implementation of ETAP.

This issue of 'Clean, Clever, Competitiveness' includes some examples of successful recycling technologies. These examples demonstrate that recycling activities are also a source of growth and job creation. With the continuing increase of the volume of waste produced (over 500 kg per person and per year in the European Union), recycling is both a necessity and a source of business opportunities. The recycling business in Europe is estimated to be worth some € 100 billion and employs hundreds of thousands of Europeans.

The recent major investment of MBA Polymers, in Austria, illustrates the sector's opportunities. The Turkish programme on packaging waste recovery and recycling, implemented by Çevko, proves that recycling can be at the origin of important savings. Just turn the page for more information.

The recycling of ever more complex products or materials, like batteries and accumulators or electric and electronic equipments, requires new technological solutions. There is a lot of scope for new innovation and business opportunities. The example of Recupyl, originally a start-up from the University of Grenoble, specialised in the recycling of batteries, demonstrates the potential of technological development to meet the requirements of recent European environment targets.

In 2006, this Newsletter and the ETAP website will be revamped and redesigned. Additional resources and communication experts will be mobilised to inform you even more on recent developments. Eco-innovation and new environment technologies are starting to play increasingly important role in combining solid environmental policies with European economic agenda. All of us should know more about these exciting developments. You should therefore receive a brand new Newsletter in Spring 2006.

I hope you will enjoy reading this issue and wish you a
Sustainable and eco-innovative Happy New Year !

Timo Mäkelä
Director, European Commission



In this issue, you will find:

NEWS IN BRIEF

SUCCESS STORY: MBA Polymers invest in a new plastics recycling plant in Austria

PROMISING TECHNOLOGY: RECUPYL Process for recycling lithium-ion batteries

INITIATIVE IN NEIGHBOURING COUNTRY: Turkey has saved \$100 million through recycling projects

UPCOMING EVENTS

First [Symposium Eco-buildings](#) projects to be hosted in energy efficient museum, Berlin

Four major EU ECOBUILDING projects have presented their results with energy efficient building technologies on the 22nd and 23rd November 05 in Berlin. For the first time the general public had a chance to learn about the aims and results of these projects which have received EU assistance through the 6th Framework Programme for demonstration, research and dissemination of innovative and energy efficient methods of construction and refurbishment.



[Public consultation](#) on the creation of a European Institute of Technology

In September 2005 the European Commission launched a consultation on whether the EU should create a European institute of technology. The initiative is aimed at supporting the Lisbon strategy for economic growth and competitiveness. Environment is as a strong theme in the proposals, reflecting growing interest in "eco-innovation" since publication of the EU environmental technologies action plan in 2004. Suitable themes for an innovation institute to focus on include wind power and low-fuel vehicles, the Commission suggests. The consultation is now closed and its outcome will be published as a report in early 2006. See [press release](#) and [consultation pages](#).

Intelligent Energy – [2005 Call for Proposals](#) open

The 2005 Call for Proposals of the 'Intelligent Energy – Europe' (IEE) Programme of the European Union is open until 7th February 2006.



In total, approximately 50 million Euros of financial support will be made available for European projects, events and new local or regional agencies, which promote energy efficiency and the wider use of renewable energy sources.

In order to provide you with all necessary information and advice on how to apply for IEE co-funding, the Intelligent Energy Executive Agency (IEEA) of the European Commission is organising [National Info Days](#) in participating countries.

WATERGY (addendum to the last edition of the ETAP Newsletter)



Under the title 'Initiatives in Member States', the Spanish plan for Agricultural water was presented in Newsletter 2 (July). Another interesting example from the water sector is the EU supported project bringing together researchers from Germany, Spain and the Netherlands to develop a new, extremely water efficient greenhouse system: "A novel solar humid-air-collector system for combined water treatment, space-cooling and heating". A research prototype has been built in the province of Almeria (Spain). For more information see: www.watergy.info

Conference: Innovation and Eco-technologies – 17 January 2006 - Paris:

In order to inform, exchange and mobilise on the different aspects of the policies in support to eco-technologies and eco-innovations, this conference will

- present European policies (including ETAP) as well as the national and regional policies put in place to develop and to support eco-technologies and eco-innovations, and how these work together.
- show how French companies have already participated in these actions and the obtained results.
- inform about the possibilities for support which will be available in the coming years in Europe (proposals for the R&D Framework Programme 7 and the Competitiveness and Innovation Programme) and in France.

This conference addresses innovative businesses and organisations supporting them: research centres, technology and technology-transfer centres, design offices, central and regional administrations, chambers of commerce, banks and credit institutions...

For more information: Marine Durgeat, mdurgeat@enviropea.com

New strategies on Waste and on the Use of Natural Resources

On 21 December the European Commission proposed a new strategy on the prevention and recycling of waste. This long-term strategy aims to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource. It will draw on the knowledge to be generated by the thematic strategy on resources, adopted on the same day. This second strategy is a new approach aiming at more sustainable use of natural resources.

The waste and resources strategies are two of the seven 'thematic' strategies required under the 6th Environment Action Programme (2002-2012).

SSP5: The fifth call on Scientific Support to Policy (SSP5), including items on environmental technologies, will be published on 22 December 2005, with closing date of 22 March 2006.

The overall objective is to support the formulation and implementation of Community policies, by providing scientific contributions to policies that are targeted precisely on needs ('demand-driven'), coherent across the various Community policy areas, and sensitive to changes in policies as they take place.

The tasks related to Environmental Technologies are: Measuring eco-innovation; Identification and assessment of training needs, methods and activities for the wider use of environmental technologies in key sectors; Comparison and assessment of funding schemes for the development of new activities and investments in environmental technologies.

For more details on these tasks, please see the [CORDIS website](#).

New ETAP Website: a project has started to revamp totally the ETAP website and make it more attractive and more complete with events, articles, interviews... The current [ETAP Website](#) has been up-dated and refreshed: see the new pages ETAP actions, National Roadmaps.

SUCCESS STORY

MBA Polymers invest in a new plastics recycling plant in Austria

In recycling processes, mixed plastics have been the problematic part for a long time: ferrous and non-ferrous metals are now recycled at a high rate, recycled glass and paper have also established markets, but the complexity of sorting mixed plastics have meant that recycled plastics were restricted to low-end applications, of poor economic and environmental value, until now.

MBA Polymers, an American company established in Richmond, California, has invested more than \$30 million over 10 years to develop a technology capable of producing good quality compounds from mixed waste sources, thus opening new markets in goods application. By achieving a quality comparable to that of newly polymerised materials, this new technology has the potential to revolutionise the economic and environmental positions of plastics:

- Huge amounts of plastics are already collected in Europe, and the implementation of the Waste Electric and Electronic Equipment (WEEE) directive should trigger the collection of up to 500 000 tonnes in coming years;
- Mixed plastics are generally incinerated or land-filled – at a high cost both from the economic and environmental point of view - despite the theoretical high value of the material;
- The mechanical recycling process developed by MBA Polymers requires less than 10% of the energy compared to making the same plastic from oil;
- For every ton of 'new' plastics replaced, 2-3 tons of CO₂ are kept from being emitted into the atmosphere, thus contributing to climate change mitigation.

The technology was developed and tested with potential customers – mainly large equipment manufacturers. Then the company launched two major operations: one in China in 2004, with a joint venture to build and operate a recycling facility in Guangzhou; the other in Austria in 2005, in joint venture with Müller-Guttenbrunn GmbH. The new recycling plant, located in Kematen (Lower Austria), should start operations in March 2006 and process 40 000 tonnes per year, from local sources and from the growing manufacturing and moulding base in Eastern Europe. The project will create economic, social and environmental benefits for the whole province.

Additional information: Dr. Mike Biddle, CEO, MBA Polymers, Inc.
mbiddle@mbapolymers.com and mbaplmb@aol.com

PROMISING TECHNOLOGY

RECUPYL Process for recycling lithium-ion batteries

Lithium ion batteries are the most largely used rechargeable batteries for portable electronic devices. The composition of those batteries imposes a particular consideration of their end of life management in order to minimise the environmental impact and to optimise the use of this valuable source of materials. Their disposal is a major problem. Following EU Directive 91/157/EEC on the safe disposal of batteries (and the proposition for revision of Nov. 2003), it is no longer acceptable to dispose of these materials in conventional ways, such as landfill burying or incineration.



Lithium disposal technology

Existing processes for the safe disposal of the chemicals substances used in the manufacture of batteries are expensive and have certain risk factors when it comes to lithium-based batteries. As the chemicals used in lithium-based components are highly reactive and polluting, the selected VALIBAT approach uses neither combustion nor heat, but is carried out at ambient temperature at a pressure of only 50 mbar above atmospheric pressure thus avoiding greenhouse gases, acid rain potential gases and other emission and presenting an important CO2 credit in comparison with thermal processes. The technology involves inert gases with oxygen at low concentration.

The Commission-funded VALIBAT EU research project therefore sets out to identify economic and effective alternatives. The targets for the VALIBAT process are to recycle 95% of magnetic metallic compounds, 90% of lithium, 90% of metal oxides and 70% of lithium salt.

The VALIBAT process provides a source of secondary materials that can be recycled back into the manufacturing process. As a follow-up of the VALIBAT EU research project, a pre-industrial demonstration step was conducted under the EUREKA Programme.

For more information, see www.recupyl.com

INITIATIVE IN NEIGHBOURING COUNTRY

Turkey has saved \$100 million through recycling projects

The Environmental Protection, Packaging Waste Recovery and Recycling Trust (Çevko) says that Turkey has saved some \$100 million through recycling projects conducted over the last 10 years. In 2004 new legislation on waste control came into force, calling for additional responsibilities for Çevko and industry. Unlike previous legislation, the new law highlights the need for packaging companies, in particular, to do their bit to conserve resources and recycle where possible. All firms have to recycle some percentage of the packaging they produce. Under the new legislation, packaging companies are required to work with Çevko, whereas before, association with the environmentally friendly organization was purely on a voluntary basis. Firms also have the option of recycling on their own or subcontracting the work to Çevko for a set fee. Çevko said that so far the organization performs recycling for a total of 140 firms. Çevko has set a target in line with newly enacted regulations and intends to recycle 60 percent of total industrial packaging output.

Info: www.cevko.org.tr
(Ekoloji, Turkey, www.ekolojimagazin.com)

UPCOMING EVENTS

[Conférence : Innovation et éco-technologies](#) – Jan 17, 2006 – Paris - France

[European Wind Energy Conference 2006](#) – Feb 7 – March 2, 2006 - Athens, Greece

[Preparing for Emissions trading under EU ETS Phase II & Phase III](#) – Feb 23, 2006 – London - UK

[SEP International Ecotechnologies Exhibition](#) – March 15-18, 2006 – Padua, Italy

[PRECEDES 2006](#): International Conference on Environmental Conflicts and Disasters Prevention – June 13-14, 2006

You are most welcome to provide contributions for the future issues of this Newsletter. Please send your suggestions to env-technology@cec.eu.int.

The editor reserves the right to select and edit the items for inclusion in the Newsletter.

Visit also our website at: <http://europa.eu.int/comm/environment/etap/>

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ISSN 1830-1029

