

The 4th European Forum on Eco-innovation  
**Unlocking global market opportunities**  
Summary of event

Thursday 31<sup>st</sup> January and Friday 1<sup>st</sup> February 2008

Austria Center Vienna  
Bruno-Kreisky-Platz 1  
A-1220 Vienna



## INTRODUCTION

**The 4th European Forum on Eco-innovation, held in Vienna on 31 January and 1 February 2008, set out to examine how the European Union can improve its position in the global market for environmental technologies. It came up with a list of key recommendations focusing on unlocking opportunities for European companies both large and small. These actions covering legislation, marketing and funding are now being considered by European and national policymakers.**

Eco-innovation is a cornerstone of EU strategy, strongly supported by succeeding EU presidencies, and offers a major opportunity for the European economy. The EU is already a strong global player in eco industries with around 30% of overall world turnover, and more than 50% in water and waste management. The worldwide environmental technology market is forecast to double by 2020 to some €2 300 billion. The current EU turnover in this sector is €227 billion, accounting for 2.2% of GDP and generating 3.4 million jobs.

Jointly organised by the Austrian Minister for the Environment, the Swedish Ministry of the Environment and the European Commission, the Vienna Forum was part of the European Sustainable Energy Week (EUSEW) and was held in parallel with Envietech 2008, an international congress focusing on market opportunities in the areas of environmental technology and renewable energy. In six working sessions, experienced business managers, policymakers, financial experts and academics shared key insights and discussed opportunities for small and large-scale businesses. Plenary sessions alternated with small work groups, enabling numerous opportunities for networking with ample time for discussion and exchange of experience.

### Timo Makela – Director for Sustainable Development and Integration, DG Environment

“ I am very encouraged by the results of this forum. The participants covered a broad range of topics relevant to opening up the markets for environmental technologies: which regulatory framework would work best, which instruments would work best and what specific support is needed for environmental technologies. There is already much work in progress in the Commission to respond to many of the recommendations. To mention a few: 1. Creation of a networked observatory on eco-innovation to collect and analyse information on trends in the area of eco-innovation and provide a strategic knowledge resource for policy-makers, business and finance. 2. Building on promising policies of member States for promoting eco-innovation. Public policies need to prepare the right conditions for eco-innovation to flourish, to ensure that it delivers on promises, both in terms of environmental protection and competitiveness. ‘Championing eco-innovation policy’ will build on the work done under the Environmental Technologies Action Plan (ETAP) and contribute to its further implementation. In first instance, the initiative will focus on construction, recycling and, notably, international aspects and trade.”

## KEY RECOMMENDATIONS / CONCLUSIONS

- Business success abroad is mainly based upon the company's reputation and the market analysis on site.
- A majority of delegates are in favour of enhancing the knowledge base for the environmental technology business. This may be achieved by awareness raising, exchange of information, alliances with relevant stakeholders and local partners. Dialogue and cooperation are encouraged. An EU Environment Chamber or network was proposed.
- A precondition for the success abroad is a strong home market. Many ways of stimulating the demand inside the EU was specified, most of which are already in force but could be

strengthened: green public procurement, awareness raising, labelling, funding of demonstration eco-technology projects, using market-based instruments, political initiatives such as the LMI.

- Globally harmonised environmental standards and legislation would ease market mechanisms. Thus, the EU should encourage global environmental policy making.
- Contrary to these consensus findings, no unanimous view on intellectual property rights emerged at the Forum. Further work seems to be necessary.
- It was also noted that some business representatives favour a common European brand for Environmental Technologies, while others do not see the benefit of this measure.



Günter Liebel, Director General of Political  
Environment affairs,  
Ministry of Environment, Austria

### Günter Liebel – Director General of Political Environment affairs, Ministry of Environment, Austria

“I welcome the many new ideas that have emerged during this event. The results should help the Commission and national governments prepare the next key steps to unlocking global market opportunities in environmental technologies for European companies and helping increase their success in this sector worldwide.”

# Framing t

## *Supporting diversity and overcoming obstacles*

**Günter Liebel – Director General of Political  
Environment affairs at the Austrian Ministry of  
Environment, speaking on behalf of Josef Pröll,  
Austrian Minister for the Environment**

Austria and Europe have a common goal in exporting environmental technology globally. However this is not a homogeneous market supported by a single European umbrella organisation. Rather it is a highly diverse sector with many different services on offer from both large and small companies. It is crucial therefore to promote export to third countries and overcome any obstacles that could slow European access to global markets.

## *Valid solutions for global application*

**Christoph Leitl – President of the Austrian Federal  
Economic Chamber**

Austria is particularly keen to collaborate but there is a need to apply intelligent regulation – for example in the area of emission certificates. ‘Industry needs fixed conditions that take cost into account. Economically, Europe must tell the rest of the world that it has solutions and these are valid globally. And solutions need to be developed collaboratively to achieve application. Strong chamber of commerce networks can help – there are some 108 such organisations worldwide.

## *Need for common platform and initiative*

**Ulrike Rabmer-Koller – Speaker Advisory Board  
NUT (Environmental Technology Network), CEO  
Rabmer, Austria**

Austria and Europe share great potential. There are some 650 companies in Austria offering environmental technology products and services – from complete installations and engineering consultancy to filters and waste management. There is much diversification and many SMEs involved – so it is crucial to link SMEs through co-operative schemes to ensure their international competitiveness. There is a clear need for a common platform and a common initiative at European level as well as an umbrella organisation at national level.

# he debate

*“ There is a need to be bold, innovative and forward looking – and we need to make it happen, there is no one else.”*

Timo Makela, European Commission, Environment DG

## *Exploiting global opportunities*

**Timo Makela – Director for Sustainable Development and Integration, European Commission, Environment DG**

Key to unlocking global markets are:

- An enabling framework including multilateral agreements, export credits, intellectual property regime and clean development mechanisms;
- A strong home market with a robust legislative framework and innovation policies to develop demand in eco-innovation and facilitate market uptake of environmental technologies; and
- Specific support to environmental technologies, such as financial schemes and eco-technology centres abroad.

## *After the oil age*

**Jeremy Rifkin – president of the Foundation on Economic Trends**

This new industrial revolution must be supported by new portable devices, suitable standards and changes to our transportation systems – including enabling surplus power from our personal transport to be plugged back into the grid, replacing power stations. An important question is who will control this system. The EU wants to uncouple the grid from power generation, essential to permit Internet-style open access. It is also important for Europe to develop and scale up distributed energy to share power with the whole world – particularly those developing countries that are literally powerless and facing massive energy debts.

*“ If the EU leads the way, both the USA and China will not want to be left behind, so ensuring that we move out of the sunset area into a new sunrise within 20 years.”*

Jeremy Rifkin, Foundation on Economic Trends

## Practical experience from the field

**This plenary session explored key insights from business leaders and EU ambassadors who have been successful in breaking into global markets, including Asia and Russia.**

*Renewables: can they deliver?*

**Jørgen M. Clausen – CEO, Danfoss**

We are entering a new revolution where sustainability and economic growth go hand in hand. The Danish Bright Green strategy is intended to develop a society that relies on new technology and improved design to achieve gains in ecological sustainability and at the same time increase economic prosperity. This approach is pro growth – maintaining economic growth and welfare without affecting the environment. Danish GDP grew by 75% from 1980 to 2006 with no increase in energy use.

but this is only part of the answer; the focus must be on cutting energy intensity and the carbon contribution. This can be achieved by efficient energy generation, switching to renewables where possible, efficient energy distribution and efficient energy consumption. We need to make the right choices to meet the carbon challenge. Better insulation, wind power and biofuels offer varying cost benefits – and associated business opportunities. And there is a need to exploit existing, well proven and fully available technologies – such as district heating/cooling systems and heat pumps – where possible for immediate results.

**Brendan Gillespie**  
Head of the  
Environment  
and Globalisation  
Division in  
OECD's Environment  
Directorate.



## *Reducing poverty through sustainable industrial growth*

**Heinz Leuenberger – Director Energy and Cleaner Production Branch, UNIDO**

Benchmarking can help both to improve understanding and assess performance to achieve the best economically attractive technology (BEAT).

Barriers to technology transfer include:

- Lack of information and human capabilities;
- Political and economic barriers, trade and policy barriers;
- Lack of full cost pricing;
- Lack of understanding of local needs;
- Business limitations such as aversion to risk by some financial institutions;
- Inadequate environmental codes and standards; and
- Intellectual property rights.

The Green Credit Trust Fund (GCTF) offers medium- to long-term loans for investments that have a positive impact on the environment and contribute to the sustainable development of the country concerned. The fund offers financial incentives to investors for loans that are invested in projects that show a positive impact on the environment, and guarantees to banks. The loans are provided by local financial organisations and are targeted at SMEs. Repayment of loans is based on the level of environmental improvement obtained. The financial institutions negotiate, administer and promote the scheme, while benefiting through increasing their client base. The technology is assessed and monitored by clean production centres.



Ms. Catia Bastoli, CEO, Novamont.



## *Innovating Europe's future*

### **Arnold Black – Network Director, Resource Efficiency Knowledge Transfer Network**

UK government-backed knowledge-transfer networks (KTNs) stimulate innovation in key technology sectors by promoting collaboration, best practice and knowledge sharing. The resource efficiency KTN (REKTN) is concerned with all physical resources and materials in the production and use cycle, not just energy. It involves a nationwide team of knowledge-transfer managers within the sustainable consumption and production (SCP) area, supported by a web-based knowledge management platform. It was launched in March 2006 and now has around 3 000

members, representing 1 800 organisations. There are 24 other KTNs in the UK, with some 12 000 members – and membership is not limited to the UK.

Research and technology cover new technologies and processes that improve production efficiency by reducing resource consumption; convert waste streams to new product streams to valorise waste; and regenerate resources from waste streams on-site. Current research funding (is £25 million, of which £12 million comes from industry.

Actions are based on the five 'Cs': culture, communication, change management, conflict resolution and costs – the biggest issue that must be kept under control.

Timo Makela,  
Director for  
Sustainable  
Development  
DG Environment,  
European  
Commission



## *Unlocking major market opportunities in China*

**Tony Clark – Counsellor for trade and investment promotion, Embassy of Sweden in Beijing**

China is an economic super power with the world's fourth largest economy. It is the world's third largest trading partner, the world's second largest receiver of foreign direct investment and has the world's largest currency reserves. GDP growth is strong at 10% a year on average and it offers major markets and opportunities as it climbs the value chain from being the factory of the world. However it faces challenges. Despite an improving poverty situation, China uses 15% of the world energy supply to produce 5.5% of global GDP and the estimated cost to clean up its deteriorating environment is between 7 and 20% of its annual GDP. Energy consumption and pollution are growing faster than the economy, so the pattern of growth has to change.

Environmental protection is now seen as the highest priority. The government set a series of goals in its 11th five-year plan from 2006 to 2010:

- Reduce energy consumption by 20% per unit GDP, with annual cuts of 4%;
- Reduce major pollutants/emissions by 10%, with annual cuts of 2%; and
- Invest US\$3.2 billion in energy efficiency in 2007.

However, selling to China means building bridges to SMEs, reducing technology levels to match local requirements and attracting cross investment. To facilitate such work, the Swedish government set up the Centre for Environmental Technology (CENTEC) at its embassy in Beijing to assist Swedish agencies, organisations and businesses wanting to co-operate in China in the field of environment, energy, urban planning and other areas related with sustainable development. Market barriers include: local pricing, local favouritism, an inadequate legal framework, IPR infringement and government relations.

The centre has already obtained concrete results. Moreover, what Sweden has done is nothing unique – any EU country could do it as:

- EU countries are highly regarded in China for their environmental performance;
- The environment is a top issue in China and opens doors;
- The market is huge, money is available and we can all join in;
- It is easy to interact with China on these issues as there is a crying demand from their side; and
- China is ready for different co-operation modes.

## New business opportunities

**Several areas of intense activity offer distinct opportunities to businesses requiring innovative approaches such as adaptation to climate change and sustainable cities.**

*Chinese eco city offers model of sustainability*

**Peter Head – Project Director for the Dongtan Eco-city project, ARUP**

China was the first developing country to publish a national plan of action on climate change in June 2007, targeting a 20% energy reduction per unit of GDP by 2010. It intends to achieve this through sustainable urban development together with a circular economy law to revolutionise manufacturing, energy feeder legislation and a massive training programme for regional government officials.

Dongtan Eco city, being developed for Shanghai Industrial Investment Corporation (SIIC) on an island at the mouth of the Yangtze River, embraces all the principles of this plan. Major efforts will be made to ensure low energy consumption that is as close to carbon neutral as possible based on a diverse range of renewable energy sources for secure supply. The city will provide a blueprint for sustainable urban development while protecting and enhancing the adjacent wetlands by careful management of soil, air and water quality. And the sustainability will be economic, social and environmental.

The city will consist of a series of mixed-use villages, enabling people to work where they live. No home will be more than seven minutes from public transport and vehicles will use zero-emission electric or hydrogen fuel cell power – also reducing urban noise levels. The site will be fully landscaped with plenty of open spaces and green corridors. And much of the urban infrastructure will be underground – include waste recycling and biomass generators intended to provide two thirds of the electricity for the city.



## Issues for business

**This session offered both small- and large-scale business views of the real challenges in entering global markets – from a company with a €1 million turnover to a group with a €7 billion turnover.**

*Developing environmental technologies for a global market*

**Thomas Leysen – CEO, Umicore**

The world is full of unsustainable trends – climate change, resource depletion, reduction in biodiversity, deterioration of ecosystems and excessive income disparities. Business has a role in correcting course. Umicore, a precious metals company, focuses on core competences, building on its knowledge of rare and precious metals, materials solutions and recycling to close the loop. Half its income now comes from clean technologies that include catalytic convertors, fuel cells and photovoltaics.

Specific advances have been made in areas such as: producing and recycling catalytic convertors for cars, where materials use is continuing to reduce even as legislation becomes tougher; constant innovation in rechargeable batteries for mobile phones; and recycling of rare and precious metals. The company not only develops the technology necessary but has also built up considerable expertise in managing waste streams.

Enterprises can be front runners in environmental technologies by making creative use of emerging business opportunities, forming early alliances with relevant stakeholders to push new developments, and stimulating legislation to set up the necessary framework in a supportive way. Enterprises must be able to rely on a constructive, science-based dialogue with regulators, NGOs and other stakeholders, in a holistic approach that reflects the complex interdependencies.

*Support and guidance required for SMEs*

**David Gordon – CEO, Windsave Limited**

Windsave has developed a small-scale wind turbine that offers domestic households the opportunity to generate their own electricity. However, the company has met barriers in both domestic and international markets – from finance to planning permission. Any SME entering new markets lacks knowledge and requires guidance. There is a need for favourable planning legislation to allow use of microgeneration equipment mounted on the building itself. However, planning legislation varies from country to country – there really should be one standard for the whole of the EU. At the same time, there should also be common certification.

It takes time and effort to develop new technologies – and it is the company concerned that takes the risks. More support is needed at the early stages. New legislation is also required to allow installation of microgenerators without planning permission as such systems can play a significant role in reducing global warming.

**Ulrike Rabmer-Koller.**  
Speaker Advisory Board NUT (Environmental Technology Network), CEO Rabmer, Austria.



## Business success factors

**Delegates identified key business success factors to support environmental technology businesses in unlocking global markets. These included funding, innovation, marketing, local understanding, policy and government support, standards, and partnerships and networking – see Annex 1.**

### *Funding*

- Try to combine financial aid with technology demonstration in a new market. Demonstration plant financed by state aid resulted in selling 30 wastewater cleaning plants in China.
- Aid Funded Business Services, a UK agency, helps British companies to engage in environmental projects in developing countries.
- Green public procurement in favour of innovative products and services provides showcases for standards and knowledge transfer to foreign countries and brings down unit costs.

### *Overview of existing support schemes Innovation*

- First mover advantage: Early innovators can exploit new markets – e.g. Danish wind farms.
- The services supporting Innovation management, financing.

### *Marketing*

- Making money from reducing volume (cement) and increasing quality (higher margin).
- Marketing strategy: publicise the key environmental statistics for any product or service.
- Brand and credibility/reputation.
- Use big events (like Euro 08 in Austria and Switzerland or Euro 2012 in Poland and Ukraine) to promote environmental technologies.
- European international exhibition and foresight/futures action – learn from Japanese show running since 1999.

- Find your niche. Focus on ‘one possibility out of ten’.
- Life-cycle costing (efficiency) is good selling argument both to customers and to policymakers. For example: Mefso Tissue’s paper machines make less water.
- Offer solutions instead of just selling products – for example: take polluted waste water, extract chemicals and sell them back again, a better and better idea with time.
- Good marketing and good market analysis by companies supported by political initiatives such as the European Commission lead market initiative (LMI).
- Develop support systems: business and management skills can often present engineering focus.
- Internalise costs to arrive at true pricing to make market mechanisms work.
- Train the purchaser to calculate life-cycle costs and carry out life-cycle analysis as well as define the functional unit.

### *Local understanding*

- Understand local circumstances – do not just drop high technology anywhere.
- Product development in local context – i.e. base new products on dated technologies that are still in use in developing countries to bridge the technology gap.
- Obtain information on local market: legislation, financing, barriers, etc.
- Work with local partners and reliable local personnel. Could also be local sector associations. They could help to find customers.

## *Policy and government support*

- Government/public policy should be clear and stable:
  - Long term, clear, confidence: e.g. waste: landfill? incineration? recycling?
  - Enforcement of policy, including fines
- Risk-reducing measures:
  - Whole project funding, not just studies/ R&D
  - Risk capital/tax breaks
- Much successful technology transfer has been done by NGOs (charities) without much government support.
- Success only possible if there is a political will to enforce legislation. Make sure the polluter pays – or is punished.
- At least five- to ten-year government strategy.
- Take an EU approach to China, etc., rather than queue of separate nations.
- Liberalised trade in environmental goods and services – Doha process – would be a critical success factor (not yet the case).
- Platform creation – smaller companies working together. However, a common EU platform for environmental technology export is hindered by the ambiguities surrounding the definition of environmental technologies.
- Regulation to push profitable actions by both consumers and producers, combined with initiatives to increase awareness and change attitudes – such as energy-saving light bulbs.
- Smaller R&D programmes – such as ERA-NET.

## *Standards*

- Encourage common technical standards and processes.
- Provide support in standard settings.
- Encourage early standardisation – but with care as could work either way....
- Standards should be formulated for new products fast on worldwide level and then used.
- Corporate social responsibility (CSR) standards for enterprises.
- Local environmental regulatory enforcement = local framework conditions for environmental technologies.

## *Partnerships and networks*

- Nobody does business with strangers, so you need partnerships/networks. Instruments to create networks include: brokers (embassies, etc.), study exchange programmes and city partnerships.
- Government support in starting/opening new relations/networks with other countries – in terms of getting new information, ‘door opening’, etc.

## Leadership, the key to unlocking global markets

**Risk taking and leadership are essential to achieve the step change required for eco-innovation.**

### ***Tackling the threat to ecosystems and the economy***

**Ola Alterå – Swedish State Secretary to the Minister for Enterprise & Energy**

Governments, individuals and researchers must work together to face up to the global environmental threats to ecosystems and the economy. Industrial countries must take the lead. The EU is already committed to a 20% reduction in CO<sub>2</sub> emissions by 2020 or 30% by the same period if there is an international agreement. European leaders are able to take on the common challenge with common actions. And Sweden will be making this area a priority of its EU presidency in the second half of 2009. Technology transfer is a crucial part of this mechanism – and will strengthen the business climate.

Sweden shows that economic growth is possible while reducing environmental effects – its GDP has grown by 44% while CO<sub>2</sub> emissions have been reduced by 9%. In 1991, the country was one of the first to introduce a CO<sub>2</sub> tax – dramatically affecting the heating sector. Putting a price on carbon has given a long term value to the market. A well-functioning emissions-trading system should work in the same way. There is strong home-market support for unlocking global environmental technology markets – such as green power in Denmark.

The 2008 budget in Sweden has introduced stronger policies for energy efficiency and technologies to help meet the national plan. The Swedish target is that renewables should account for half of all energy by 2020. This needs transformation of industrial policy in a sustainable

way, not only to tackle climate change but also to address stresses on local ecosystems. Eco-innovation and clean technologies in Sweden involve lots of SMEs. They are also an important part of Swedish policymaking.

Unlocking global markets requires free trade. It also requires co-operation to remove obstacles and open up a bright new future.

### ***Bringing the essentials of life***

**Jean-Claude Steffens – Director of Environment & Innovation, SUEZ**

SUEZ is a global energy company, operating from Europe. Despite being a leader of this sector of the market, it is not so easy to take the lead in environmental technologies. SUEZ customers care about reputation and can valorise sustainable development. It is making eco-innovation possible by integrating components, adding services and dedicating resources to global policy in this sector. It does not mean however that the implementation of environmental technologies into the business model is straightforward.

Moreover, while technologies might be global, regulation is principally national or regional, and the solution has to be local. Innovative leaders can succeed if they are able to adhere to the will of policymakers, deploy and implement a long-term strategy, provide creative cross-border concepts, technologies and experiences, integrate the financial dimension in a sustainable way and integrate all stakeholders' interests in the project.



Tony Clark Counsellor for trade and investment promotion Embassy of Sweden in Beijing – and - Magnus Grill Chairman, Swentec, the Swedish environmental technology council.

## **Learning from experience in Central and Eastern Europe**

Georg Antesberger – CEO, Siemens AG Österreich

Siemens is highly active in South-East Europe and turnover in this area has grown from €80 million to €1.3 billion. The company is achieving an average annual growth of 5.6%, which compares well with the average 4.3% growth in GDP in the area.

Siemens has also a clear focus on sustainability and energy efficiency in this market. Critical factors in its success have been: the attractive market; a range of innovative products, solutions and services; the courage to take risks; and both the employees and the leaders needed.

The experience shows that increasing energy efficiency is solely a technological challenge and leadership is the key in unlocking global and local potential .

## **Moving forward**

**The final plenary session built consensus on the series of recommendations for the European Commission and other crucial institutions drawn up by delegates to help achieve a step change in opening up global markets for European environmental technology businesses. These were discussed and voted on in the final session with the help of a panel of experts:**

*Brendan Gillespie – Head of the Environment and Globalisation Division in OECD's Environment Directorate*

*Catia Bastioli – CEO, Novamont*

*Ulrike Rabmer-Koller – Speaker Advisory Board NUT (Environmental Technology Network), CEO Rabmer, Austria*

*Timo Makela – Director for Sustainable Development and Integration, European Commission DG Environment*

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