

# European Forum on Eco-Innovation Boosting Eco-technologies through Verification

Paris, 26-27 November 2007

Ministère de l'Ecologie, du Développement et de l'Aménagement Durables 20 avenue de Ségur 75007 Paris France







# Eco-innovation for a sustainable future

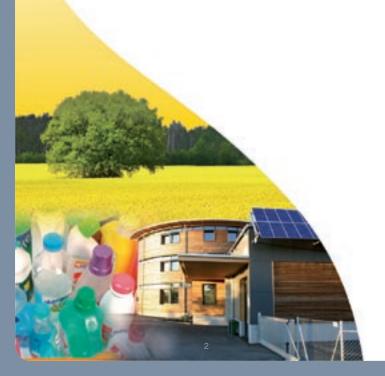
Eco-friendly technologies are good for business, reduce pressure on the environment, and can create new jobs.

We live in changing and challenging times. Several international reports since 2005 have now provided ever-increasing evidence of the harmful impact of human activities upon the environment. At the same time, however, many companies are discovering that they can make and difference and make a profit. Indeed, one of the most exciting developments taking place across all industry sectors is the rise of eco-innovation and environmental technologies – creative solutions that are both good for business and good for the environment.

To help eco-innovation and environmental technologies take-off – to make them an everyday reality – the European Commission has launched an action plan on environmental technologies (ETAP). This plan aims to promote the take-up of new technologies and open up new markets – both at EU and member state level. The action plan works hand-in-hand with legislation, which also acts to protect the environment and spur on innovation.

The industrial revolution brought about huge societal and economic changes in how we manufacture and produce goods. ICT has created a revolution in how we diffuse and exchange knowledge. We believe that the next technological revolution will be driven by the global drivers of the environment and sustainable development."

Director for Sustainable Development
DG Environment, European Commission



# For further information:

Visit the official ETAP website for latest information on:

- \* Policy and actions
- \* Innovative technologies
- \* Fund resources
- \* Links and forthcoming events
- \* ETAP news and other communication tools

http://ec.europa.eu/environment/etap/index\_en.htm

Contact: Env-technology@ec.europa.eu



# Welcome to the Third European Forum on Eco-innovation.

The world is experiencing unprecedented environmental challenges: climate change, unsustainable use of resources and loss of biodiversity. Responding to these challenges requires the rapid development of new policies and opens up new, sometimes unexplored, opportunities for technologies and businesses. To develop the best possible response policy-makers should follow a few golden rules: get the objectives right, check the soundness of new ideas, and involve citizens in the preparation and implementation of decisions. That is what this Forum is all about.

Third-party verification of technologies is an important tool, and is still under-developed. It will ensure that innovative products and processes actually deliver on their promises. I therefore welcome the discussions that will be taking place in Paris. They are an important part of the preparation of an efficient EU scheme for verification of environmental technologies.

Expectations are high. I invite all participants to live up to the challenges put to them, to be bold and innovative in their recommendations. The future of eco-innovation in Europe depends on you!



Stavros Dimas

# Forum Framework

The European Commission (Directorate-Generals for Research and for Environment) are preparing a proposal for an EU scheme on Environmental Technologies Verification, giving developers of innovative technologies the opportunity to have their technologies verified by an independent, reliable third party in order to improve the confidence of customers and facilitate market penetration. The Eco-innovation Forum provides an opportunity to present and debate these plans with stakeholders and the 'ETAP community'.

On the day after the 3rd Forum on Eco-innovation, addressing mainly EU issues, an International Forum on Environmental Performance Verification 'Engaging the Developing World' will take place within the Pollutec fair in the North of Paris.

This will give the opportunity to exchange information on the different schemes in preparation, the expectations of developing countries, and prospects for international cooperation in this field.

Organised in cooperation with MEDAD, ADEME and OECD









# **Quick Conference Guide**

Innovative eco-technologies are needed to address global challenges such as climate change or the scarcity of resources. They may also open up new technology fields and create business opportunities. But they often meet obstacles in finding first customers or investors due to perceived risks or lack of references. The Forum first day will discuss how Environmental Technology Verification systems (ETV) can help address this need and whether an EU scheme would be an appropriate tool to support European eco-technology developers and users.

# Monday 26th November

13.00 – 14.00	Registration and Welcome Coffee
14.00 – 14.30	Opening Plenary Session Translation French-English-French
15.30 – 16.00	Coffee Break
16.00 – 17.30	Plenary Session continued
18.00	Networking Event / Cocktail

# Tuesday 27th November

09.30 - 10.00 Plenary Session

Conclusion of the first day
Parallel Sessions - Part I: Scope
1 - Expectations (Salle des Congrès)
2 - Positioning of an EU scheme with existing approaches (Room 4245)
<b>3 - ETV as a communication and marketing tool</b> (Room 5234)
Coffee Break
Parallel Sessions - Part II: Economics
1 - Building a cost-efficient system (Salle des Congrès)
<b>2 - How to articulate with the funding schemes</b> (Room 4245)
3 - Who benefits from the system and how? The stakeholders' perspective (Room 5234)
Lunch
Plenary Session International aspects of the EU System
Coffee Break
Report on parallel sessions: Scope
Report on parallel sessions: Economics
Conclusion
Closing





# November 26

Translation French-English-French Moderator: Alex Taylor Rapporteur: Xavier Leflaive (OECD)

14.00 - 14.30

# Opening

Welcome by the French Ministry of Ecology and Sustainable Development, and/or the French Agency for Environment and Energy Management Timo Makela (European Commission's Environment Directorate-General)

# 14.30 - 15.30 Objectives and needs addressed by EPV systems

Jackie Seddon (Lancaster University)

Main principles, actors, definitions Luis Delgado (EC - IPTS)

# State of play on the preparation of an EU scheme

Pierre Henry (EC - DG Env)

Questions and comments from the audience

15.30 - 16.00

Coffee Break

16.00 - 17.30

# Existing systems and projects lessons to be learnt

### **US Environmental Technologies** Verification programme

Teresa Harten (US Environmental Protection Agency)

# Experience of an EU company

Risto Juvonen (Hidex Oy)

# Canada's ETV programme

Abe Finkelstein (Environment Canada)

# EU Research projects

Andrea Tilche (EC - DG Research)

Questions and comments from the audience

18.00

**Networking event/Cocktail** 





Timo Makela (European Commission's Environment Directorate-General)



### Luis Delgado (EC - IPTS)

The verification concept is attractive, since it aims to increase confidence in technological performance, thereby demolishing diffusion barriers. It is challenging, because the implemented system needs to handle the frequently contradicting priorities of time, quality and budget constraints efficiently. The actors who could potentially be involved in the EU-27 context are numerous and could intervene at different levels: technology producers and purchasers, verification organisations and testing laboratories, public authorities on a local, regional or European scale. A European system has to create its own working territory among substantially different but conceptually neighbouring labelling systems currently in place, and has to be able to demonstrate its ability to provide added value.



Pierre Henry (EC - DG Env)

Eco-innovation needs a solid ground to flourish. By providing reliable information to market actors on their performance, Environmental Technologies Verification systems are a promising tool to support their market take-up. Let's make the best of it!



Teresa Harten (US Environmental Protection Agency)

The US EPA's Environmental Technology Verification Program (ETV) provides credible performance information for commercial-ready, innovative environmental technologies. It speeds implementation by assisting regulators and purchasers in their decisions to permit and buy technology and vendors in marketing new technologies. Started in 1995, ETV has verified 400 technologies and developed 86 testing protocols. ETV verifies technologies for reducing air pollution and water pollution, treating drinking water, mitigating greenhouse gases and for environmental monitoring of all types. Case studies for 15 categories of technologies have demonstrated ETV's record of assisting commercialization, reducing pollution, conserving natural resources, and further stimulating innovation.



Risto Juvonen (Hidex Oy)

The objective was to evaluate the ability to detect certain toxins that are particularly toxic to humans. Hidex participated in the program to evaluate BioTox test system consisting of field applicable Triathler luminometer and BioTox reagents provided by Aboatox. Apart from sensitivity to tested toxins, systems were evaluated on precision, false negative and positive rate, field portability, ease of use and throughput.



# Abe Finkelstein (Environment Canada)

This presentation by Abe Finkelstein provides an overview of Canada's ETV Program. It defines verification, and outlines the history and delivery of the program. Currently, verification in Canada is being aligned to provide decision support for government policy makers and regulators. It is also being considered as a tool for oversight of federally funded environmental projects and proposed emission trading regimes. Its original value as a marketing tool for industry is also discussed. The structure, current activities, benchmarking process, typical graduates and challenges of the ETV Program are presented.



Andrea Tilche (EC - DG Research)



# November 27

09.00

# Registration

09.30 - 10.00

# **Plenary Session**

Conclusion of the first day Moderator: Alex Taylor

Rapporteur: Xavier Leflaive (OECD)

# 10.00 - 11.30 Parallel Session - Part I: Scope

The establishment of an EU scheme will only be successful if it fulfils clearly identified needs, if the concept is well understood by market actors and if its results are useful for the market introduction of eco-innovative technologies. The scope of the possible EU system will be debated in three parallel sessions, investigating the expectations of market actors that can be fulfilled by such a system (Session I-1), how the system would fit in the landscape of voluntary and regulated schemes such as certification and type-approval (Session I-2), how can the information produced by verification systems be used to provide an efficient support to the marketing of eco-technologies (Session I-3).

1 - Expectations (Salle des Congrès) Moderator: Andrea Tilche (EC - DG RTD) Rapporteur: Astrid Severin (Greenovate)

# Questions to be addressed:

- What should technology developers, vendors, buyers, end users, regulators... expect from the system?
- · What technologies should be covered in priority?
- · What requirements to enter into the system?
- What potential to support eco-innovation?

Thomas Track (DECHEMA) Annele Eerola (VTT Technical Research Center of Finland) Nick Storer (Envirolink Northwest Ltd) Kevin Jones (OCETA)

2 - Positioning of an EU scheme with existing approaches (Room 4245)

Moderator: Ian Clark (EC - DG Env)

Rapporteur: Elena Dominguez (EC – DG RTD)

### Questions to be addressed:

- Should the EU system offer one framework for all sectors or should it be organised on a sectoral basis?
- · How would an EU scheme interact with existing national or sectoral approaches?
- What is the added value of an EU scheme vis-à-vis national approaches?

Richard Gould (UK Environment Agency) Christian Grøn (Nordic Council ETV project) Christian Dosset (EXERA) Marc Steen (EC - JRC - Institut de l'Energie)

# 3- ETV as a communication and marketing tool (Room 5234)

Moderator: Jean-Marc Mérillot (ADEME) Rapporteur: Jakub Wejchert (EC - DG Env)

# Questions to be addressed:

- How to report and communicate on the results of performance verification?
- What should be made public by the system?
- How to avoid misleading information in the use of verification certificates?
- How can one make best use of verified claims to facilitate the marketing of innovative technologies?
- Lessons learnt from existing systems

John Neate (ETV Canada) Kurt Peys (Vito)

Evelyn Hartzell (Environmental Technology Verification Program National Risk Management Research) Daco J.J. Enthoven (Heartstream Group)

11.30 – 12.00

**Coffee Break** 







### Thomas Track (DECHEMA)

Performance verification is a powerful tool to speed up innovation, strengthen technology application and to open up new markets.



### Dr. Annele Eerola (VTT Technical Research Centre, Finland)

A supportive European ETV system would provide valuable information for a variety of stakeholders, e.g. technology developers, vendors, purchasers, appliers and end-users, financers and venture capitalists and permitters. The roles and contributions of the ETV systems in the dynamics of market entry and RTD activities are manifold. A prospective approach is, however, needed when examining the potential and challenges of such a system. In order to avoid unfortunate institutional lock-ins due to the ETV system itself, attention should be paid not only to ESTs in close-to-market and market diffusion phases but also to new emerging technologies still clearly in pre-market phase. Another key issue contributing to successful implementation of the ETV system is stakeholder commitment in the development and implementation phases.



## Nick Storer (Envirolink Northwest Ltd)

For SMEs to take advantage of and EGS ETV system the system must be quick, simple and low-cost to participate in, yet robust, universally recognised across the EU and rigorously policed to prevent fraudulent claims by non-verified technology owners. Practical steps to encourage SME participation in an ETV system could include a graduated verification process (allowing SMEs to test their technology in the system step by step, each step being costed separately), a graded certificate system (relating to their progress in the verification process) or a specified-technology-list system (where technologies that match published criteria for a particular technology are listed).



# Kevin Jones (OCETA)

Kevin Jones' presentation outlines some of the fundamental requirements for successful implementation of environmental performance verification programs. It is important that all stakeholders recognize their shared responsibilities in developing and implementing effective performance measurement, verification and reporting initiatives. This includes engagement with stakeholders to establish key priority areas where proof of verification is needed. It is equally important to recognize the scope and range of quantification and reporting requirements at different stages throughout the process of technology innovation, commercialization and deployment. By managing expectations from the outset, technology providers and solution adopters are better prepared to address regulatory, investor and market challenges.





### Anna Moreno (ENEA)

To promote eco-industry and to reduce the environmental impact of traditional industries, different interconnected actions are needed: the legislation needs to be aligned with innovative solutions, the public procurement has to be "eco-market push", the standardization has to facilitate eco-industry, awareness campaign have to make the customers accept eco products and services, education and training need to prepare future generation, research has to develop better technologies and suggest new legislation in consideration of the new results.



### Richard Gould (UK Environment Agency)

There are now several ETV and certification schemes worldwide. The scope of these schemes includes a wide variety of environmental technology, whilst the schemes range from simple, bespoke verification to full testing to the requirements of international standards, and formal product certification. When developing some of these certification schemes, EU member states have found that standards can support all types of scheme, from the simplest to the most complex. More importantly, standards, protocols or even general binding rules can provide a solid framework for testing and mutual recognition. This mutual acceptance helps avoid repeat testing for manufacturers. This presentation will illustrate these points through a few case studies of existing testing and certification schemes, and how existing schemes could dovetail with the EC's proposed scheme.



# Christian Grøn (Nordic Council ETV project)

In order to develop a smooth, transparent and efficient ETV organization, a suggestion is given for organizing one EU ETV organization with common rules for operation but with sectorial development of technology requirements, national verification bodies and cost sharing between beneficiaries (industry and EU). A method of work resembling the EN 45011/ ISO/IEC Guide 67 product certification process is suggested that would also support international, mutual recognition.



# John Neate (ETV Canada)

Transparent reporting of environmental performance information is an essential requirement for effective decision making. John Neate's presentation highlights some of the challenges and lessons learned in communicating environmental performance verification information to different stakeholders with often conflicting expectations. To avoid misinterpretation of performance information it is important for these stakeholders to identify relevant criteria and performance benchmarks to guide measurement and reporting activities. This process should be iterative to permit the inclusion of new information as it becomes available as part of a continuous learning process. In this way efforts to support the marketing of innovative technologies and to build receptor capacity are more likely to succeed.



# Kurt Peys (Vito)

The presentation starts from the statement that the use of ETV as an element in the marketing mix of environmental technologies will be a critical success factor for adopting a European ETV system. However, the following statements are to be harmonized within this respect:

- 1 Technology users are interested in an ETV system but less in ETV reports
- 2 Vendors will try to sell themselves as ETV approved

An example will stimulate the discussion on this difficult equilibrium between creating marketing advantage for vendors and in the meanwhile guarding reliability.



Daco J.J. Enthoven (Heartstream Group)



November 27

Translation French-English-French

# 12.00 - 13.30 | Parallel Sessions - Part II: Economics

In the setting-up of a verification system, questions of cost-efficiency and relations with stakeholders are crucial. Three parallel sessions will be devoted to the economics of the envisaged EU scheme: cost drivers, the capacity of the system actors to meet this cost and ensure the reliability and robustness of the system will be debated in Session II-1, while the possibility to benefit from existing public and private funding schemes and meet the interest of key innovation actors such as investors will be the subject of Session II-2, and the involvement of the wider stakeholder community will be investigated in Session II-3.

# 1 - Building a cost-efficient system

(Salle des Congrès) Moderator: Luis Delgado (EC - IPTS) Rapporteur: To be confirmed

# Questions to be addressed:

- What are the cost drivers for ETV systems?
- What range of costs is acceptable for the system / for technology developers, in comparison with expected benefits?
- How can we make best use of existing capacities and systems in place?
- What is the right balance between scientific soundness and cost-efficiency?

Bart-Jan Brand (General Manager of Bosman Water Management B.V) Dr. Thomas Ertel (Sachverständigenbüro) Sarah Radovan (Natural Resources Canada) Nadine May (VDI/VDE Innovation + Technik GmbH)

# 2 - How to articulate with the funding schemes (Room 4245)

Moderator: Tom Vereijken (EÚCETSA) Rapporteur: Spyridon Merkourakis (EC - IPTS)

# Questions to be addressed:

- What funding schemes (public or private) can be interested in the results of performance verification?
- How can we link them to facilitate the funding of EPV?
- Could demonstration programmes, public tenders, investment funds contribute to cover the cost of verifications?

Uffe Bundgaard-Joergensen (InvestorNet) Antony Davies (Beta Technology) Raymond Klicius (Environment Canada) Arnaud Berger (Banque Populaire)

# 3 - Who benefits from the system and how? The stakeholders' perspective

(Room 5234)

Moderator: Rick Gould (UK Environment Agency)

Rapporteur: Thomas Track (Dechema)

# Questions to be addressed:

- Apart from technology vendors and buyers, what are the actors interested in the results of performance verification (ex: public purchasers, regulators, investors, insurance companies, citizens and consumers organisations, industry federations)?
- How should they be involved in the development of the system?
- in individual verifications?

Peter Nohrstedt (The Swedish Environmental Management Council) Ignacio Calleia (Labein) Catherine Ganzleben (EEB) Karen Riggs (Battelle)

13.30 – 14.50 **Lunch** 







### Bart Jan Brandt (Bosman Water Management)

Environmental Technologies face some severe barriers on market entrance. The high level of uncertainty of a new technology makes it hard to attract investment, while the potential users are concerned about guarantees on performance and efficiency. Different regulations in different EU member states make market entrance even more difficult. The new Fuzzy Filter Technology by Bosman Water Management also faces these problems, which should be solved by a robust, credible and Europe-wide Environmental Technology Verification System. The application process for this ETV System should be quick and affordable to ensure an easy access for new and innovative environmental technologies. Experience in the USA has shown that such a system can considerably enlarge the market for environmental technologies.



### Dr. Thomas Ertel (Sachverständigenbürg)

The market for soil-groundwater characterisation and remediation technologies is small and highly regulated. SMEs are main actors on this market. Hence low costs are prerequisite for the success of an EPV system.

Stakeholders and vendors make great demands on EPV. Transparent and fully independent testing by excellent technical experts and labs needs adequate resources. National contact points, national languages and feedback options for the users of "verified technologies" require basic bureaucracy.

A balanced system can be achieved by using to a certain extend data provided by the vendors. This requires standardisation, to which the ongoing work on the CEN workshop agreement "CWA 32 ETV-SGS" will contribute.



# Sarah Radovan (Natural Resources Canada)

Technology performance verification is influenced by multiple drivers and priorities which affect the requirements of an ETV system. Ms. Radovan approaches this issue from a program manager's perspective. Her presentation focuses on the need for a balanced approach to performance verification that provides credible, scientific results while leveraging the various tools and expertise that are available internationally in order to reduce costs to the system users. Cost-effectiveness, credibility and transparency are critical factors in the long-term sustainability of ETV systems and Ms. Radovan shares her experience in developing and implementing a similar approach to the measurement and reporting of technologies at an early stage of the innovation continuum.



# Nadine May (VDI/VDE Innovation + Technik GmbH)

Small and medium-sized enterprises (SMEs) are of major importance when it is about the development of innovative, efficient and non-polluting technologies. VDI/VDE-IT has a long experience in supporting SMEs in their product and process innovation and, moreover, in the management and evaluation of technology funding programmes what allows us a deep insight in the particular needs of SMEs and public institutions. A brief case study of representative SMEs shall exhibit the requirements of a European Environmental Technologies Verification system, and how a financial contribution of SMEs could look like.



# Uffe Bundgaard-Joergensen (InvestorNet)

The paradox and the problem:

There is lots of money seeking investment opportunities!
There are thousands of good projects in vain seeking financing!

There are thousands of good projects in vain seeking financing;
 Energy and eco-innovation project are measured by the same yard stick as any other investment opportunities. Energy and eco-innovation projects are often charaterized by "long time to market" and large capital requirements. Many more projects could get financed it better tailored to meet investor requirements.



### Antony Davies (Beta Technology)

The focus of the presentation will be on generating discussion about how to engage funders in both the public and private sector to engage with the ETV process. How can public funding be used to support ETV? Should technology purchasers make a contribution to the ETV process? What will convince investors to invest in new environmental technologies etc.? Based on stakeholder input to the Tritech ETV project, it is hoped to stimulate a useful debate which will generate ideas about 'articulating with the funding schemes'.



### Raymond Klicius (Environment Canada)

The presentation by Raymond Klicius provides a Canadian perspective on the need for shared responsibility amongst various stakeholders and on potential sources of funding in addressing the costs of verification. It identifies some of the many beneficiaries of verification and the range of potential financial support that each may be willing to cover. Some Canadian examples are provided for illustration. Some of the key Eco Technology Innovation Programs that are federally funded in Canada are discussed. Several mechanisms are proposed to facilitate linking funding sources together to cover EPV costs.



# Arnaud Berger (Banque Populaire)

Spécificité du financement de l'environnement et de l'éco-innovation en France à partir d'un état des lieux de l'épargne durable. Propositions pour améliorer les mécanismes de soutien bancaire à l'éco-innovation au niveau européen à travers le travail du consortium FUNDETEC. Ce demier rassemble des banques, des instituts de recherche, des associations qui ont recensé, analysé et construit des préconisations d'outils financiers en faveur de l'éco-innovation à l'échelle européenne.



# Peter Nohrstedt

(The Swedish Environmental Management Council)
Green public procurement is a market-based and powerful tool in the work of guiding society towards long-term and sustainable consumption and therefore production. Environmental requirements are not currently being used to the degree that they could be in the EU MS. There is a considerable potential in supplementing GPP so that those environmental requirements that are issued favour the environmentally best products on the market in accordance with the so-called "best quartile model" or "spearhead criteria". However, in order to do that, reliable and quality assured verification systems, i.e. via international standardization systems, are needed in order to treat all tenderers in an equal way and to make fair comparisons.



# Karen Riggs (Battelle)

Organizations that have participated or provided input to successful performance verifications in the U.S. ETV program include local regulators, insurance companies, universities, and inclustrial trade associations. Stakeholders have contributed some funding, however, their primary support has been in-kind services to individual verifications. Such services have included access to field sites, supply of test personnel, review of verification documents, and prioritization of technologies for verification. Participation of such organizations lends credibility to, and wider acceptance of, verification results. Services provided by stakeholders to actual performance verifications will be described.



Ignacio Calleja (Labein)



# November 27

Translation French-English-French

### 14.50 -16.20

# **Plenary Session: International aspects** of the EU System

International aspects are an important field where an EU approach may bring significant added value. This will be debated in a plenary session, where questions such as support to the international competitiveness of eco-technologies, international recognition of verification assessments, relations with international trade rules and opportunities may be explored.

Andy Rogers (ATKINS)

Philippe Masset (Plan Export des Eco Entreprise - PEXE)

Moderator: Alex Taylor

Questions and comments from the audience

16.20 – 16.40 **Break** 

### Report on parallel sessions: Scope 16.40 - 17.10

Astrid Severin (Greenovate Europe) Elena Dominguez (EC - DG RTD) Jakub Wejchert (EC - DG Env)

17.10 - 17.40

# Report on parallel sessions: Economics

Rapporteur: To be confirmed Spyridon Merkourakis (EC - IPTS) Thomas Track (Dechema)

Questions and comments from the audience

17.40 - 18.00

# Conclusion

Next steps, recommendations emerging from the Forum discussions

lan Clark (EC - DG Env) Tom Vereijken (EUCETSA)

18.00

Closing



## Andy Rogers (ATKINS)

International recognition will be critical to the delivery of the perceived benefits of an EU ETV System and its achievement will be supported by the credibility provided by an EU Verification.

The framework of the ETV System should offer the facility for enhance-

The influence of an ETV System on competitiveness requires careful consideration in order to avoid negative impacts

Key questions are identified for discussion and debate by delegates which consider the need for harmonisation with other ETV Systems in order to secure global recognition and how far partnerships with International Agencies should be adopted.



Spyridon Merkourakis (EC - IPTS)



# Tom Vereijken (Chairman EUCETSA)

An European Environmental Technology Verification System has to be set up to create new incentives for and more confidence in Environmental Technologies. A robust and Europe-wide ETV system will stimulate innovation and improve the position of the European Environmental Technology suppliers. To be successful, the system should be well promoted and go hand in hand with environmental awareness initiatives.



Ian Clark (EC - DG Env)





# **European Forum on Eco-Innovation**

The European Forum on Eco-Innovation is a unique gathering of policy makers, leaders in business and finance, representatives from academic and NGOs, as well as some of Europe's most creative technology developers in the field, to discuss concrete strategies for future action.

# Conclusions of the 2nd Eco-Innovation Forum Markets for Sustainable Construction Brussels, June 2007

The second European Forum on Eco-Innovation focused on the need for sustainable construction and exchanging good practice in sustainable building.

Construction accounts for 10% of EU gross domestic product (GDP) and 7% of employment.

However, it is a major consumer of resources, taking 40% of total energy and materials in Europe over the whole life cycle covering construction and

Therefore, this sector has a key role in ensuring the EU meets targets adopted at the European Council in March 2007. These include support for a global agreement on a 30% cut in  $\mathrm{CO}_2$  emissions by 2020 or at least 20% unilaterally.

To achieve such ambitious targets, the construction sector must overcome economic, technical and regulatory barriers to refurbishment and new constructions build. This requires increased collaboration and integration, dissemination of good practice, focusing on the market for sustainable development and contributing to the policy debate at EU and Member State level.

The EU is setting ambitious but achievable targets with a focus on the urban built environment. Innovation is needed to sustain such an effort and to prosper; this requires a joint effort by industry and governments through both new build and refurbishment, with its more demanding challenges.

Industry has established the Europe Construction Technology Platform (ECTP) with a strategic research agenda looking ahead to 2020. It contributes to lead market initiatives in energy-efficient buildings and sustainable materials.

The European Commission is heavily committed to supporting sustainable construction by legislation and through a series of programmes covering building techniques and intelligent energy use as well funding demonstrations and pilot projects both directly and through structural funds. These needs are high on the Commission agenda and forthcoming proposals include boosting consumer involvement.



For further information about the European Forum on Eco-Innovation, including a summary of event results, visit: http://ec.europa.eu/environment/etap/forum\_en.htm

# **Environmental Performance Verification**

# Useful links / further reference

# General information on ETAP and related actions and projects:

http://ec.europa.eu/environment/etap/index\_en.htm

Studies commissioned by the Commission, Joint Research Centre (Institute for Prospective Technological Studies) on Environmental Technologies Verification systems:

www.jrc.es/publications/pub.cfm?id=1504

Paper of the UK Environmental Innovations Advisory Group on 'Testing and Certification' available on the EIAG page:

www.dti.gov.uk/sectors/environmental/EIAG/page10066.html

Research projects funded by the EU RTD 6th Framework-Programme and relevant for technology verification:

www.eu-etv-strategy.eu

**Website of the US Environment Technology Verification programme:** 

www.epa.gov/etv/

Website of the Canadian Environmental Technology Verification programme:

www.etvcanada.ca/overview.asp

Website of the South Korean system for the designation and verification of new environment technologies:

www.koetv.or.kr/eng/index.html

Website of the pilot project on Environmental Technology Verification in Japan:

www.env.go.jp/policy/etv/en/index.html

Website of the UK Monitoring Certification Scheme (MCERTS):

www.sira.co.uk/services\_mcerts.html

**Presentation of the Nordic project on Water Technology Verification Centres:** 

www.nordicinnovation.net/prosjekt.cfm?ld=1-4415-201

Website of EXERA, French network of users of measurement, control and monitoring equipements:

www.exera.com

# Contact information

Directorate General Environment
Unit Research, Science and Innovation
Tel +32 2 295 62 75
Enc-technology@ec europa eu

Directorate General Research Unit Environment Technology Pollution Prevention Tel + 32 2 299 63 42







