

**Proposal:** How to make Eco-Innovation to a Commercial reality, rather than it just being identified as R&D

**Discussion Proposal Title:**

How to make Eco-Innovation a Commercial reality, rather than it just being identified as R&D.

**Aim:**

For the European Commission to provide a structure of 'Validation and Valuation' for an Eco-Innovative Project. This would enable Eco Innovators to engage on a commercial basis with End Users.

**Primary Reasons:**

There is sufficient technology available that can be combined together, to provide Eco Innovative solutions to the End User.

One of the main barriers to Eco Innovators is the lack of understanding of the potential 'Environmental Valuation' of the technology, by the Financial / Investment system.

One important example would be the 'Valuation' of a tonne of CO<sup>2</sup> not being emitted, by the installation of an Eco- Innovative system to a domestic or commercial building. Which should include all the potential benefits to Society and the Environment.

STATEMENTS TO CONSIDER –

- Potential Technologies are available today which can be used and combined into applications and systems, that can be classed as Eco-Innovative.
- Potential Eco-Innovative applications are made up of a combination of technologies, to ensure reliability and usability. Therefore each application may differ in design due to the end usage or scale required.
- Due to the principal components being manufactured by “Emerging Markets” (China, India etc.) potential Eco-Innovative applications can be commercially competitive, with traditional fossil fuel alternatives.
- There is a significant section of the qualified workforce (such as Engineers, Architects, Technicians etc.) ready to contribute to the promotion and involvement of Eco-Innovation, if given the opportunity.
- Each Eco-Innovative installation or application built, under commercially viable financial constraints, will potentially reduce the future cost and risk of usage of such installations/applications.
- Eco-Innovative installations or applications are primarily promoted by the SME sector, not by large companies protecting their market sector or slow moving bureaucratic Institutions.
- EU Commission can now take advantage of Web technology to interact with smaller Projects, without administrative obstructions.
- Resources are being wasted over the European Community by Eco Innovation continuously being reinvented due to a lack of transparent European wide dissemination.
- National administrations are not really suitable to promote and support Eco Innovation, due to short terms of political mandate.
- The price of Energy and Commodities are set to increase in the near future, as the scarcity affects the financial markets. This will lead to potential customers and clients having an increasing interest in potential Eco-Innovative options, if the typical risks of innovation are reduced.

## **Existing financial support for Eco-Innovation**

### EUROPEAN COMMUNITY SPONSERED

At present there are different European Community Instruments that exist with the aim of supporting Eco-innovation but each have fundamental flaws, in funding at the "End User" level.

#### FP7 RESEARCH INSTRUMENTS: -

Projects financed by this type instrument are primarily used to support European wide consortiums made up of Research partners (example Universities) and SMEs. These projects usually last two or more years with the Research partners taking the majority of the financial funding available. The consequence has been the use of large budgets to subsidise University departments with no obvious benefit to market orientated Eco innovation. Only a small number of viable cost effective projects are delivered and disseminated properly, considering the size of the allocated EC budget.

#### NATIONAL INCENTIVES FOR CERTIFIED SYSTEMS: -

National schemes certify Eco friendly systems, such as Heat Pumps, Solar Collectors, PV arrays. Certification usually guarantees financial incentives such as Subsidies or Tax rebates. Certification usually guarantees reliability of the end User's installation but a consequence has been an inflated capital cost of the components. Eco Innovation use a combination of systems/components to suit an application, therefore the individual high cost of each component results in a reduced financial competitiveness with the Fossil fuel alternative.

#### EC REGULATIVE MEASURES:-

These measures have a wide positive influence in reducing pollution and Carbon gas emissions, by legislative guidelines in the sector of construction and energy consumption. These measures are planned for long lead periods to influence national legislation. As technology is changing at a faster rate these measures have limited potential to promote innovation.

#### EC/NATIONAL R&D FUNDING:-

SMEs can find funding to research concepts and prototypes but they are for one off projects, with specific objectives.

## COMMERCIAL SOURCES OF FUNDING

### COMMERCIAL BANK INSTRUMENTS

Loans and Bank Guarantees (some sponsored by the European Investment Bank) are assessed on financial risks of the project and the financial history and/or asset valuation of the SME's application.

One of the main obstacles to accessing the financial instruments, via the domestic banks, is the lack of technical understanding of the technology being offered.

- Domestic Bankers are limited to supporting and understanding simple and well publicised technology, such as Photovoltaic and Wind turbines. These systems are easily quantified in terms of components and returns.
- Domestic Banks do not understand technical issues or terminology that makeup most of the innovative sustainable technologies. A few examples of existing technologies that could provide large reductions in energy consumption in buildings - Liquid Desiccant, Phase Change materials, Absorption Heat Pumps, Open protocol integrated BMS etc. etc.
- Prototypes or systems in development do not have any resell value in terms of valuation for Domestic Banks. This is a short sighted view considering the substantial resources have been used to develop them.
- Many examples of companies with the technology and potential of contracts of installation but cannot raise a guarantee from a Domestic Bank.

### EXISTING INVESTMENT INSTRUMENTS

- The Financial Crisis is having detrimental effect on investment in Sustainable technology.
- Seed Capital scarce due to the Financial Crisis. Typical VC investment usually concentrates on large capital funding opportunities, outside the scale of SME requirements.

## **The Proposal – Validation & Valuation of individual Eco Innovative projects.**

SMEs involved in providing Sustainable/Environmental services and products can be separated into two groups; Technology Developers and Project Developers.

- Technology Developers - are organisations that create a service/product from R&D, with the concept of commercialising it. Usually these organisations require funding, to continue R&D before and after commercialisation, for resources, materials and machinery.
- Project Developers - are innovative organisations that promote and commercialise systems provided by a combination of Technology Developers, to third parties (commercial or domestic). Usually these organisations require funding for design and add innovation to generate an application or process, using components or Licences from different sources.

### VALIDATION PROCESS

An SME would submit a project electronically to the Eur. Commission funded Validation agency. The submitted project would include all the technical calculations of the design, the concluded potential saving of CO<sup>2</sup> emissions and any other characteristics, which the 'expert' would validate.

The validation process could cover all types of Environmental concerns – with the most obvious being potential CO<sup>2</sup> emission savings.

It would be important that the validation process had a light weight structure to enable quick response and low administration costs:

- The FP7 Framework Instruments use already outside contracted experts to assess projects, this structure could be expanded on a country level, covering different technologies.
- The contracted Experts would access and validate their allocated projects via a database. Experts would be required to contact the project authors directly to request clarification on detail. Country

based experts would be an advantage if witnessing of the technology is required.

- Expert Validation would add a certified measure of 'Valuation' to the Project.
- Information on the Eco Innovative database can be accessed by experts and Project designers, to enable the project dissemination process to be updated effectively.
- The European wide Eco Innovative database should be accessible (except sensitive commercial information) to the Web, to provide a dissemination tool of 'Good Practise' and 'Transparency' to the process.
- Statistical Analysis of data can provide guidance to the effectiveness of EU Commission policies.
- Administration based in Brussels, to also provide checks and balances to the validation process.

#### VALUATION PROCESS

Once the Eco Innovative technology has been 'Validated' an assessment can be made on any financial value this Project can generate over a yearly or life cycle. This 'Valuation' process can be used to financially support a technology via a VAT reduction or be used for evaluation processes for potential sources of Funding.

The most obvious Project Valuation process would be to calculate the financial value of saved of fossil fuel consumed and saved CO<sup>2</sup> emissions.

As the EU Commission is looking at methods of increasing CO<sup>2</sup> emission reductions this process of 'Valuation' could be an effective method of adding incentives to the End User to use Eco innovative technology (example VAT reduction)

A nominal financial value would have to be agreed on by the Commission, of a tonne of CO<sup>2</sup> saved from being emitted into the environment, by using Eco innovative technology.

This valuation of 'a tonne of CO<sup>2</sup>' should be assessed from the Environmental long term effects but also an inclusion should be made on the effects of stimulating the local economy (increasing the size of the competitive sector of innovative technology, increased skilled employment and other long term social issues).

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During a previous Lisbon Council Eco-Innovation summit (October 2009) a potential valuation was mentioned of €60/tonne, which I did not include a valuation of the short and long term social spin-offs to the local economy.

If the End User was looking at financing the Project Installation the possibility of arranging Funding would be increased by the 'Validation and Valuation' Process.

For an SME or End User applying for a Bank Guarantee the total valuation should be included inside the financial plan of the project, valued as an asset, which the local domestic bank would take into consideration when evaluating the financial risks.

The official validation process would also increase the chance of the project attracting outside investment, as many investors or investment vehicles would be reassured, due to the uncertainty of their technical knowledge.