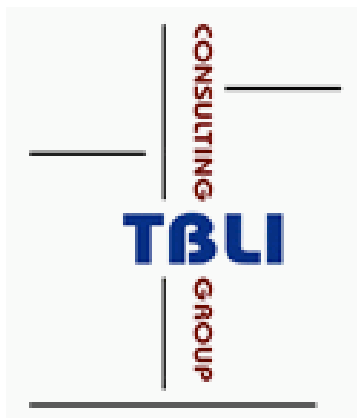


FINANCING OF ENVIRONMENTAL TECHNOLOGIES

FORSEO / IZT Experts Workshop
31 May 2007, Berlin



AGENDA

- Overview of Initial Results
 - Investment Performance Mapping
 - Asia
- Specific Issue Areas
 - Business Case Drivers
 - Technology Transfer
 - Early Stage Gaps
 - Organisational Forms

FUNDETEC

Performance/Mapping

- Over 2200 contacts, mostly North America and Western Europe, with a smaller sample from Asia and Rest of Europe.
- Performance evaluation of individual instruments - 150 Europe, 20 North America and 20 Asia.
- Quant and qual research questions, benchmarking, comparison to pub finance and tech developer research

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Initial Results: Asia

- Government laws, regulations, and subsidies are instrumental in commercializing environmental technologies, particularly with regards to renewable energy.
 - This tends to more the case in Asia and North America than in Europe.
 - While the Kyoto Treaty and CDM makes renewable energy more interesting for private investors, this alone cannot account for the explosive growth in Europe.
- Utilities will not buy energy from renewable sources and clean producers when it is more expensive without purchase power agreements.

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Initial Results: Asia

- Small markets, particularly for renewable energy, new materials, waste, water, and building technologies requires some level of government incentive or regulation to reach profitability and commercialization.
- Frequently existing government policies and regulation stifles innovation and prevents new technologies from gaining financing for commercialization.

Business Case Drivers

- The business case for investing in the development of new environmental technology depends upon demand for the use of that technology in existing industrial processes, or new processes.
- That prior demand is in turn affected mainly by three factors:
 - price of energy
 - price of carbon (or other emissions)
 - regulatory framework

Business Case Drivers

- Opportunities for Europe in this area include:
 - Policy leverage via trade relationships and EU procurement rules to create incentives for businesses in Asia to use energy efficiency and renewable energy technologies.
 - Establishing an EU energy efficiency or other technology-finance implementation public-private scheme.
 - Extension of the ETS to support Asian energy efficiency schemes and technology investments.

Technology Transfer

- A key problem for developers and technology owners is keeping control of their technology.
 - Licensing of technology is an unreliable way of doing this. Some larger corporations that have a strong presence on the ground are electing to invest directly in projects that utilise their own technology.
- The preference in many cases to use cheaper second generation environmental technology, rather than expensive leading edge technology. This preference seems to exist on both the demand and supply sides.

Technology Transfer

- Opportunities for Europe in this area include:
 - Private sector direct investment
 - Leveraging public private schemes (see Business Case Drivers above)

Early Stage Gaps

- Some entrepreneur developers active in Asia.
- Anecdotal evidence indicates that Asia is not a particularly good place for entrepreneurs or technology developers to access early stage seed-finance.
 - At the prior stage of primary scientific research, Singapore and Australia are leaders.
 - Japan is a surprising laggard in this area, and may in fact be better at technology adaptation and product differentiation than primary scientific research and invention.

Early Stage Gaps

- Opportunities for Europe in this area include:
 - Sourcing innovation and primary RTD in Asia, for European early stage investment (venture capital or private equity).
 - Leverage existing and develop new public-private partnership mechanisms to better deploy early-stage technology to other regions where it may be successful.

Organisational Forms

- In line with weak and distorted price signals for using or investing in environmental technology development, some innovative public-private schemes have been developed.
 - The P2E2 scheme backed by the US, and run via Hong Kong energy service companies and investors, is directed toward Chinese factories and energy utilities.
 - NEDO, a Japanese based environmental programme incubator, has developed a large number of public private partnerships to provide financing for large commercial energy projects throughout Asia, with a number of European organizations participating.
 - Other schemes are in the pipeline, including from the IFC.

Organisational Forms

- Opportunities for Europe in this area include:
 - Leveraging European social VC, social entrepreneurship and expertise in civil society, together with financial institutions, to target opportunities for manufacturing and implementation in Asia.
 - Ongoing support for technology transfers of cutting-edge technology to Asia and North America, with a focus on developing new markets and protecting patents and intellectual property rights.