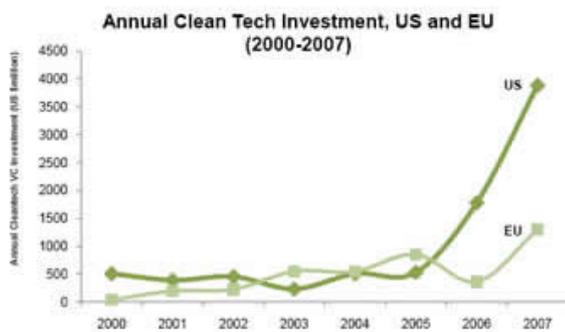




## Creating a climate for change

**A new INSEAD-European Business Summit report on climate change has highlighted a surge in 'green' activities by US entrepreneurs, backed by venture capital.**

Until 2005, the amount of VC funds invested in clean technologies such as solar and wind power had been running almost neck and neck in the US and Europe. But then there was a sudden surge of VC interest in the US in 2005, the report says, which resulted in US firms raising \$4.5 billion in VC funds to invest in 'clean' technology the following year, while the EU raised \$1.5 billion.



Source: Greening the Economy New Energy for Business

In an interview with INSEAD Knowledge, the authors of the report, **Benjamin Warr** and **Renato Orsato**, senior research fellows at INSEAD, talk about the issues facing Europe as it tries to tackle carbon emissions and climate change.

"In Europe we have a very strong regulatory push in terms of a driver to promote eco-innovations or cleantech," Orsato says. "In America, you rely much

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more on market pull, so this also (has an impact) on the size of investments in venture capital. So although Europe is actually the leader in patents in cleantech, America leads the way in terms of venture capital investment."

Orsato says VC investments in cleantech "mushroomed" in 2005, due in part to the ratification of the Kyoto treaty, the impact of Hurricane Katrina in New Orleans, and the environmental 'crusade' of former US Vice President Al Gore.

"So we have in America \$4.5 billion in 2007 invested in cleantech, higher than the EU (at) about 1.5 (billion). It's still a small quantity when you compare with the total amount of venture capital, but it serves as a good indicator of the market belief that there are opportunities to be tapped into."

"The key issue for Europe is to understand that US venture capital in cleantech is three times larger (than in Europe)," Warr adds. "This is despite the fact that Europe leads regarding patents and technologies in clean energies such as wind, solar, combined heat and power and the like."



“The worrying thing for Europe is that the US can move very rapidly. Now the issue is with three times as much investment money in the cleantech energy VC segment, will the US simply buy the patents, buy the technology, buy the brains and make the most of it, as it’s done in the past with other technologies?”, he adds.

“The key question for Europe is to say how can we maximise ... investments in clean energy technologies and that involves the creation of a culture of investment in these types of funds. What happens in the US and pretty much everywhere is that you get a virtuous cycle: someone who invests in that domain makes a profit from that domain and then reinvests further.”

“We have to generate a culture for that in Europe,” Warr says. “We have to generate clusters of eco-innovation, regions and centres where people can network (and) where people with technology ideas can meet financing partners and meet businesses who are able to take products from demonstration to deployment and to full commercial maturity.”

The report points out that mainstream VC firms normally try to assess environmental issues as risks in terms of their investments. However, ‘cleantech’ VCs regard these issues as potentially adding value, besides the risk reduction factor. Referring to the ‘tipping point’ of cleantech VC activity in 2005-2006, the report says the change in attitudes led to more ‘green pragmatism’ from governments, as well as businesses.

As for the regulatory framework, the EU’s is seen as ‘more demanding’ than that in the US, the authors say, adding that this makes one wonder why cleantech VC investments in the US are substantially higher than in the EU. After all, the US has not ratified the Kyoto protocol, and it’s unclear at this stage whether the next US president will seek to enforce regulations on carbon emissions.

While in terms of regulation, the EU has managed to

get the buy-in of the 27 member states, environmental initiatives in the US are generally dealt with by individual states rather than federal government.

“That’s a considerable reality,” Warr says, “in the sense that Europe has been able to identify and develop the political will to set targets for carbon constraints – 20 per cent reduction by 2020 in CO<sub>2</sub> emissions, 20 per cent of energy supplies by renewable fuels and 20 per cent improvement in energy efficiency. Now some might say these are not ambitious, that from a scientific perspective we should ask for greater carbon constraints. But Europe has managed to do this whereas the US has taken a different perspective.”

But while Europe and the US may be taking different paths, Warr says carbon constraints “will remain the major issue of the century.” There may be other hot topics such as water, food and energy security, he says, but the issue of carbon constraints will shape global business over the next one hundred years. “And if you’re not working one step ahead,” he says, “and receiving the competitive advantage that you can achieve through investments in eco-innovations, then you’re working (with) an old business model and you’ll be out-competed.”

*The report, ‘Greening the economy: New energy for business, creating a climate for change’ was written by Benjamin Warr and Renato Orsato, under the supervision of Luk Van Wassenhove, Professor of Technology and Operations Management and academic director of the INSEAD Social Innovation Centre. The report, an initiative of the Federation of Enterprises in Belgium received financial support from Shell and Microsoft.*

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