



Factors Determining the Level of Venture Capital Investments in Sustainable Energy Technologies



Summary results of a survey among European VCs

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Further information available at www.iwoe.unisg.ch/VC

This survey is part of the Research Programme

„Managing Sustainable Energy Innovation:

The role of Entrepreneurship, Corporate Venturing and Venture Capital”

at the University of St. Gallen, Switzerland (2003-2006)

An updated list of publications and intermediate results of our research programme is always available at our website <http://www.iwoe.unisg.ch/VC>. If you are interested in being involved more closely in our research, including exploration of co-funding opportunities for specific analyses, or have any comments and feedback, please do not hesitate to contact us.

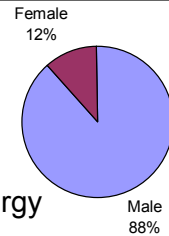
Methodology

Survey among attendees of 2nd European Energy Venture Fair (Rüschlikon/Switzerland, October 27-28, 2003)

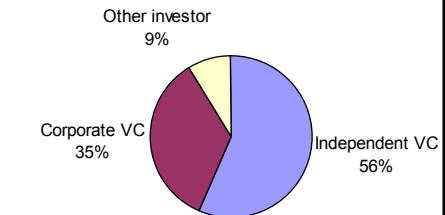
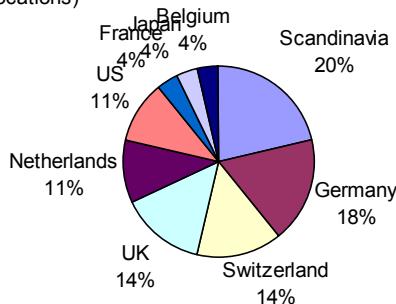
- Written 3-page questionnaire handed out to 114 participants, of which 64 Venture Capitalists, representing 41 different VC companies
- 26 responded, of which 23 from Venture Capitalists (36 %), representing 17 different VC companies (41 % coverage)
- Questions: Barriers to expansion of energy VC, Fostering factors for energy VC, exit routes, personal/fund data

Sample characteristics

- Average # of investments: 9.8, of which 4.4 in energy
- Average personal VC experience: 4.6 years (min=0, max=15)
- Average energy industry experience: 8.4 years (min=0, max=42)



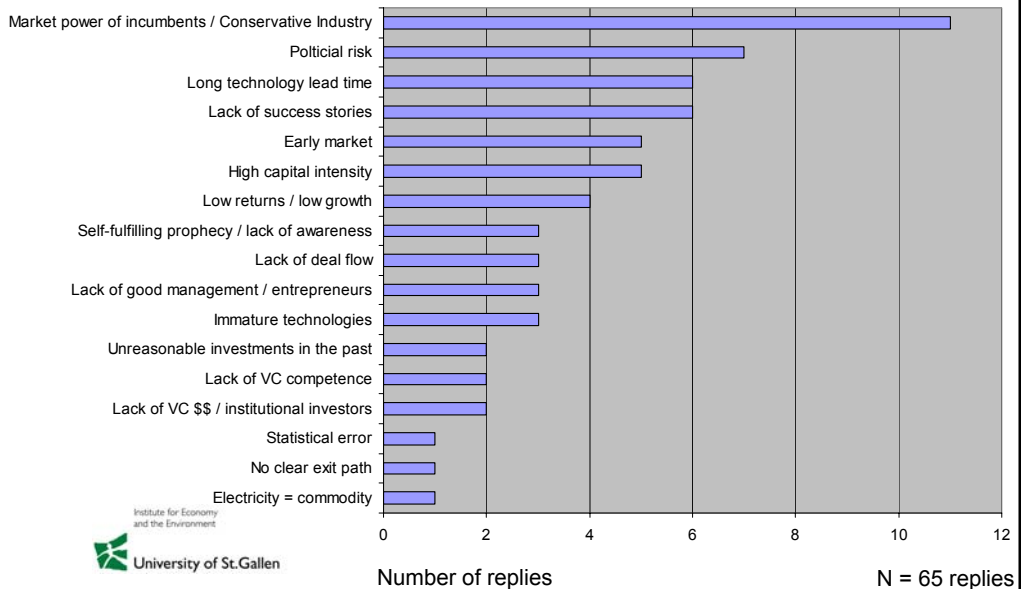
Location of VC (N=28, one company has 3 locations)



of VC (N=23)

Reasons for lower VC investment in energy

1) Information technology, biotechnology and telecommunications are the three most popular areas for VC investment, absorbing two thirds of all VC money. Energy typically accounts for 1-3 % of VC investments only. In your opinion, why is there so little VC investment in sustainable energy technologies?

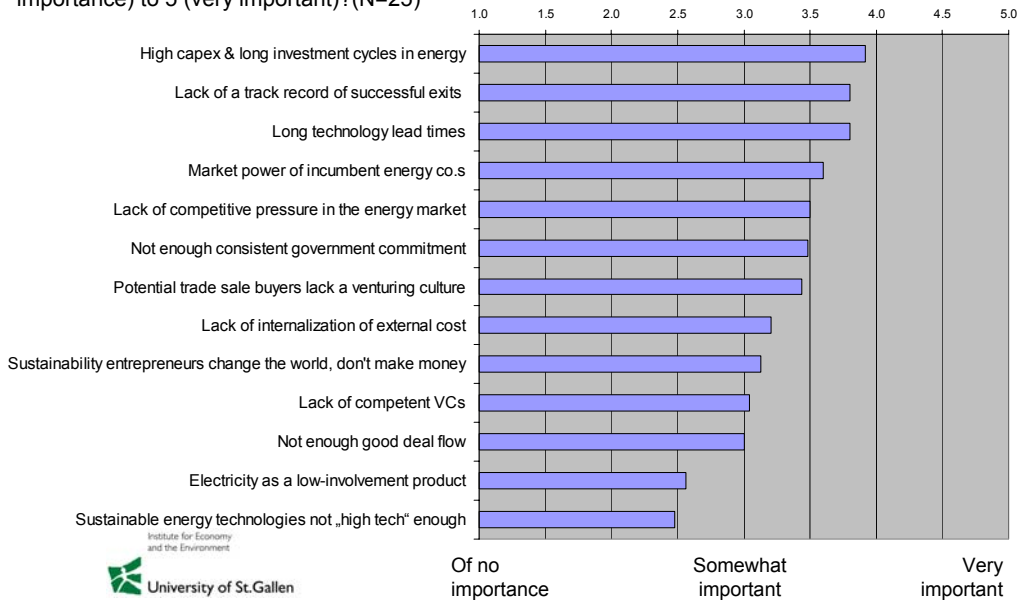


Interpretation: Reasons for lower VC investment in energy (open question)

- Responding to the open question, the conservative nature of the energy industry is most often quoted as a reason for the difference in VC levels compared to biotech and ICT.
- Political risk is the second-often mentioned factor, mainly with regard to the difficulty to predict future government subsidies in the energy sector.
- Several VCs argue that the difference is basically a matter of time, i.e. they expect the energy VC market to pick up in the future.
- Long technology lead times and high capital intensity compared to biotech/ICT are also mentioned frequently.

Reasons for lower VC investment in energy

2) Other people have mentioned the following factors as having an influence on this difference in sector-specific VC investments. How important do you rate each of them on a scale from 1 (of no importance) to 5 (very important)?(N=25)

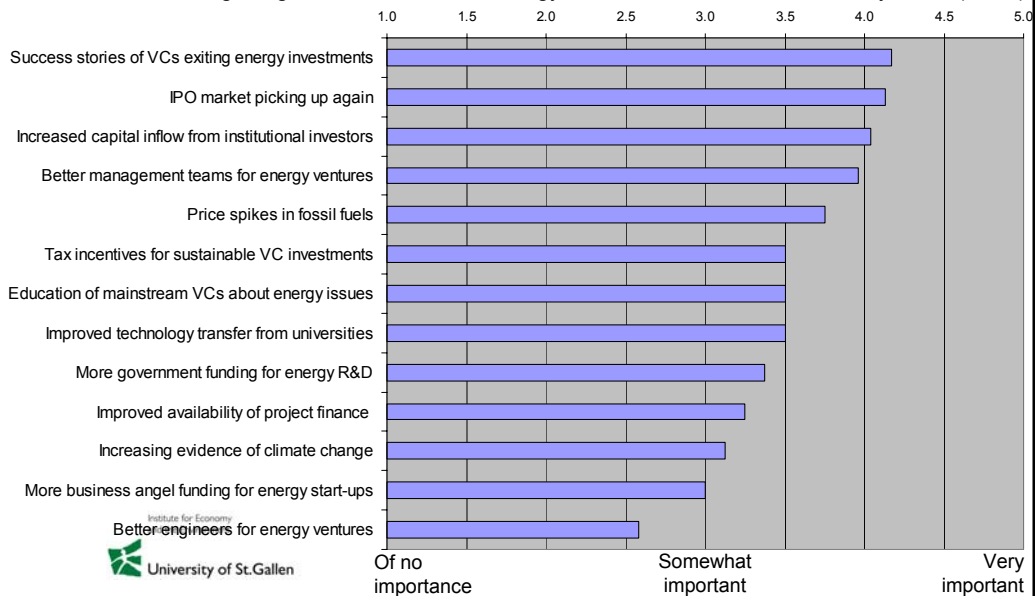


Interpretation: Reasons for lower VC investment in energy (closed question)

- The capital-intensive and long-term nature of the energy industry (vis-à-vis ICT & biotech) is perceived as the most important reason for the differences in VC investment levels.
- A lack of successful exits is also perceived as an important hindering factor, pointing to the fact that energy has a shorter history as a VC investment theme.
- The level of competition in the energy market is seen ambiguously. While many respondents agree that more competition would accelerate market adoption of sustainable energy technologies, particularly UK respondents point out that too much competitive pressure might have the opposite effect.
- Our hypothesis that some sustainable energy technologies might not be perceived as sufficiently „high tech“ is not supported.

Fostering factors for energy VC growth

6) Below is a list of fostering factors that could help the market for VC investments in sustainable energy technologies to grow faster than it does today. In your opinion, how important is each of these factors in accelerating the growth of sustainable energy VC investments in the next five years? (N=25)

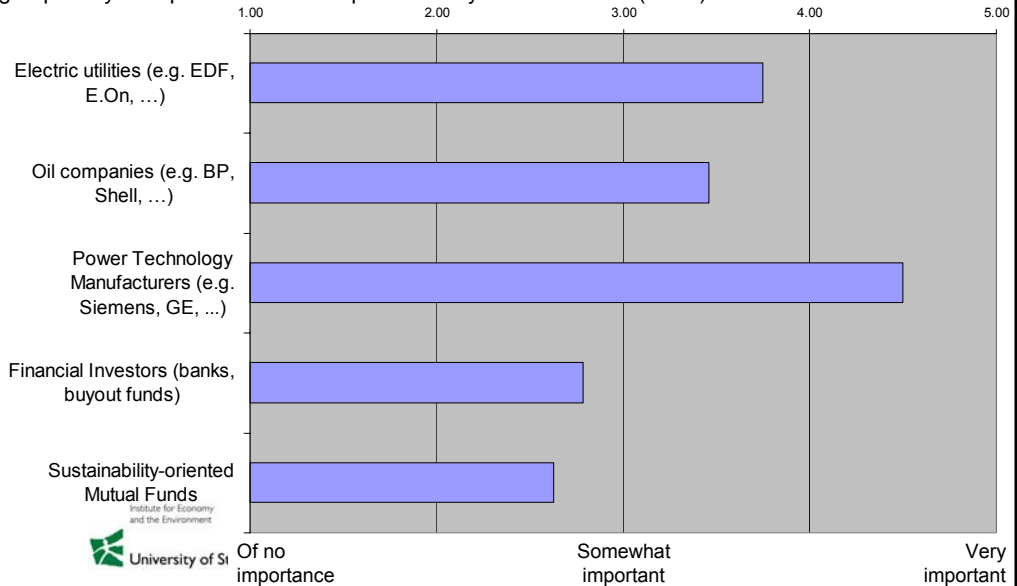


Interpretation: Fostering factors for energy VC growth

- Many VCs think that market growth will be directly connected to success stories of energy VC exits.
- IPO markets picking up are seen as important, even though most VCs expect trade sales to be more important, probably because valuation levels in trade sales are linked to publicly listed peers.
- More capital from institutional investors is seen as important.
- There is a strong sentiment that European energy ventures lack good management rather than good engineers.

Expected exit routes: Only 20 % IPO, 80 % trade sale to large energy companies

4) Looking at trade sales for sustainable energy technology ventures, which of the following buyer groups do you expect to be most important five years from now? (N=25)



Interpretation: Exit routes

- Trade sales are seen as far more important than IPOs. This could partly be due to the current situation of the IPO market, but also be linked to the capital-intensive nature of manufacturing energy technologies.
- Power technology manufacturers such as Siemens, GE, ABB are seen as the most important trade sale buyers, followed by electric utilities and oil companies.
- Financial investors are seen as less important buyers, and sustainability-oriented mutual funds are not seen as a major exit route by most respondents.

Successful energy VC exits to date

Venture	Investor
Capstone	Nth, Arete, Enertech (60x), Sevin Rosen, Star Ventures
Plug Power	Arete
Vestas Wind Systems A/S	
Poweo	SNET
Ballard Power	
Wedeco	
Repower Systems AG	
Ocean Power Technologies	
<i>DeWind</i>	<i>Accera/MVV</i>
<i>InDEC</i>	<i>Planet Capital</i>

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