

Environmental issues and energy venturing

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The environment and energy ventures

- Climate change
- Translation into policy
- A price on carbon
- A wider investor base

The Science

- Pre-industrial atmospheric concentration of CO₂ of 280ppm
- Concentration of CO₂ in 2005, 379ppm.
- Forecast temperature change by 2100 of between 1.4-5.6°C
- 2°C considered 'dangerous' – implies ceiling of 550ppm

Public opinion or public policy?

- Unprecedented levels of public support for action
- Market response in terms of carbon neutral products and services
- But – limits to voluntary action
- And – preference for technocratic solutions

Public policy responses

- Emission reduction targets
- Low-carbon pump-priming (tax breaks, grants etc)
- Regulatory standards
- A price on carbon

Emission reduction targets

- Cuts required – 50% below 1990 levels by 2050
- Kyoto signatories – 5.2% average below 1990 levels between 2008-12
- Longer-term EU targets – 20% by 2020, rising to 30%
- US – state level targets
 - California, 1990 levels by 2020
 - Western Climate Initiative, 15% below 2005 by 2020
 - Florida, 80% by 2050
 - New Jersey, 80% by 2050, interim target in 2020

Pump priming

- Germany – high renewable energy feed-in tariffs
- California Solar Initiative
- China – \$265 billion to reach renewable energy targets
- US biofuels tax breaks

Rising regulatory standards

- Energy labelling requirements
- Building codes
- Fuel economy standards (the US counter-example)
- Renewable energy targets
 - EU 20% by 2020
 - 27 US states with renewable portfolio standards
 - US House Energy Bill, 15% Federal RPS proposed

A price on carbon

- Via carbon markets

Carbon markets

● The policy of choice?

- The Kyoto Protocol, especially the CDM
- The EU Emissions Trading Scheme
- UK plans to extend scheme to service-sector emitters
- Proposed schemes in the US, Australia

● Why attractive?

- Sets quantified caps (unlike a tax)
- Economic flexibility in meeting targets
- Stakeholder buy-in
- Not a tax

Delivery to date?

- The 'Kyoto effect'

- Boost to clean energy sectors (+41%) in signatory countries –
New Energy Finance

- Significant developing world low-carbon investment

- \$25bn of investment in 2006 via the CDM
- 2.2 bn tonnes of CO₂e reduction by 2012

- Windfall profits to electricity generators

- Limited domestic emission reductions

The limitations of carbon markets

- EU ETS – oversupply in phase 1
- Short-term targets, price volatility
- ‘Offshoring’ of emissions reductions
- CDM – limited geographic, technology distribution
- Post-2012 uncertainty

2012 and beyond

- A successor treaty to Kyoto?
 - Goal of agreement by end 2009
 - US re-engagement?
- Some kind of carbon market
 - EU determination
 - Success of the CDM
 - US cap-and-trade proposals
 - A symphony of responses
 - A deal on forestry?
- Continued pressure for carbon taxes?

A broadened investor base

- Massive increase in clean-tech investing
 - Cleantech Network figures - \$3.9bn in VC financing in 2006 in Europe and North America, 70% up on 2005
 - New Energy Finance - \$18.1bn in VC and private equity, up 67% on 2005
 - The Carbon Trust – clean energy represented 10% of European VC investment, at €1.9bn between 2003-06
- Growth of SRI funds
 - US market at \$2.29trn in 2003, predicted to hit \$3trn by 2011
 - EU market, €1trn in 2006, 36% growth since 2002
 - Canada – up to \$503bn in 2006 from \$65.5bn in 2004
 - France – up 88% to €16.6bn between end 2005-06
- More receptive investor base – which understands policy

A climate-fuelled bubble?

- Overheated segments of the market
- Some pressure eased?
- Underrepresented sectors?
- A climate change fad?

Fundamental underpinnings

- Unlike earlier waves of environmental concern, climate change is providing multiple policy underpinnings for low-carbon/clean energy ventures, matched by strong public support