Towards a Low Carbon Economy? Evaluating the current and future implications of the UK Carbon Reduction Commitment.

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The Economic Case

The Stern Review changed the political landscape by arguing that the costs of action (especially with international cooperation and early action) could be significantly less than the costs of inaction.

Key policy prescriptions:

1. the pricing of carbon through taxes, trading or regulation
2. support innovation & deployment of low carbon technologies
3. the removal of non-market barriers.

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Economic and Technological Optimism

…70 percent of the possible abatements at a cost below or equal to 40 euros a ton would not depend on any major technological developments. These measures either involve very little technology… or rely primarily on mature technologies, such as nuclear power, small-scale hydropower, and energy-efficient lighting.

Source: Enkvist, T., Naucler, T. and Rosander, J. (2007) A Cost Curve for Greenhouse Gas Reduction, McKinsey Quarterly, February.

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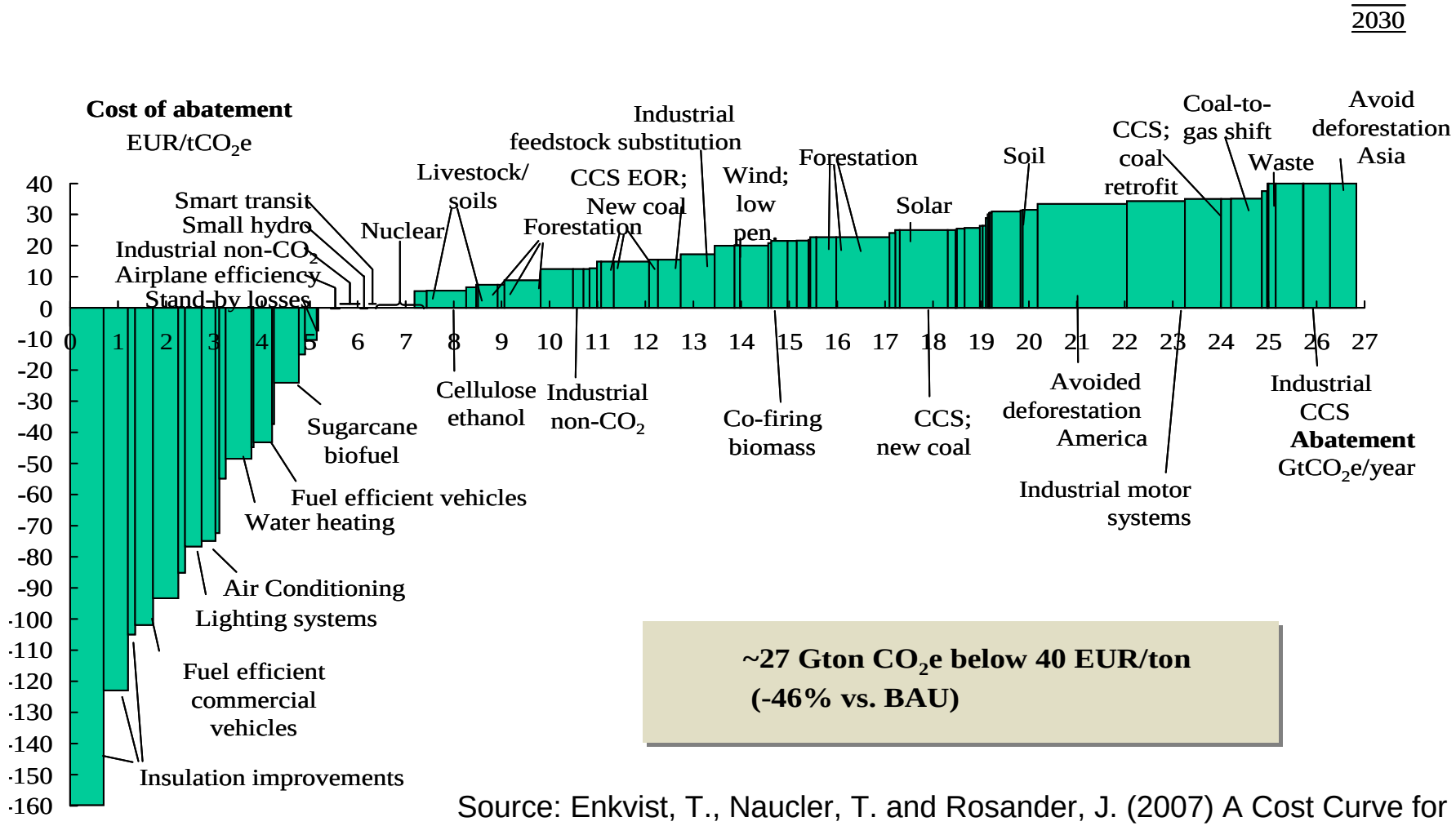
Economic and Technological Optimism



~27 Gton CO_2e below 40 EUR/ton (-46% vs. BAU)

Source: Enkvist, T., Naucler, T. and Rosander, J. (2007) A Cost Curve for Greenhouse Gas Reduction, McKinsey Quarterly, February.

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The Significance of Non-Market Barriers

The belief that companies will pick up on profitable opportunities… makes a false assumption about competitive reality - namely that all profitable opportunities for innovation have already been discovered, that all managers have perfect information about them and that organizational incentives are aligned with innovating. In fact, in the real world, managers often have highly incomplete information and limited time and attention. Barriers to change are numerous.

Source: Porter and van der Linde (1995), p127

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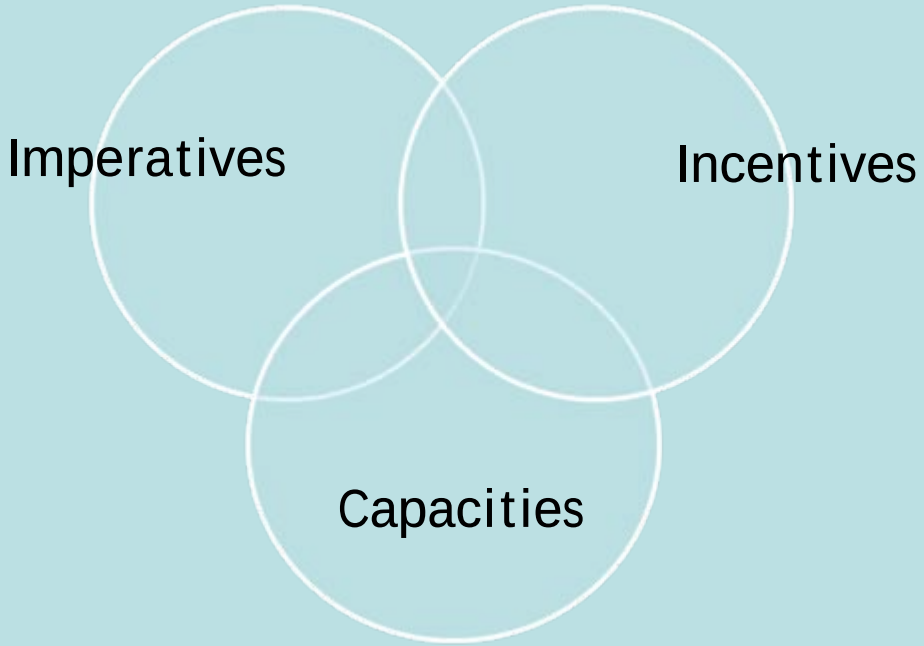
The Complementary Policy Mix



Note significance of interactions between purposive policy frameworks and broader governance regimes

The Carbon Reduction Commitment

- Mandatory cap-and-trade system adopted to reach targets associated with the 2008 Climate Change Act
- Covers CO2 from significant energy users (public and private) not already covered by CCA and ETS
- c20,000 organisations will be affected, 5,000 will participate (Carbon Trust 2009).
- Targeted bodies emit 53.2 MtCO2 per year (DECC 2009), some discussion of a possible cap of c8% (c4MtCO$_2$ per year) by 2020.

The Carbon Reduction Commitment

- Parent organisations with half-hourly meters and annual consumption of electricity of 6,000 MWh or more must participate, those with 3,000 MWh or more must disclose.
- Participants must purchase allowances for their CRC footprint emissions (at least 90% of all emissions excluding ETS and CCA emissions, and those from transport).
- In the introductory phase (2010-2013), allowances sold at £12/tonne, with prices set by the market in the cap and trade period from 2013.
- Revenue to be recycled – recipients receive initial payment +/- up to 10% in year 1, %age increasing to +/- 50% by year 5.
- Performance to be published in a league table, likely to become a carbon releases inventory

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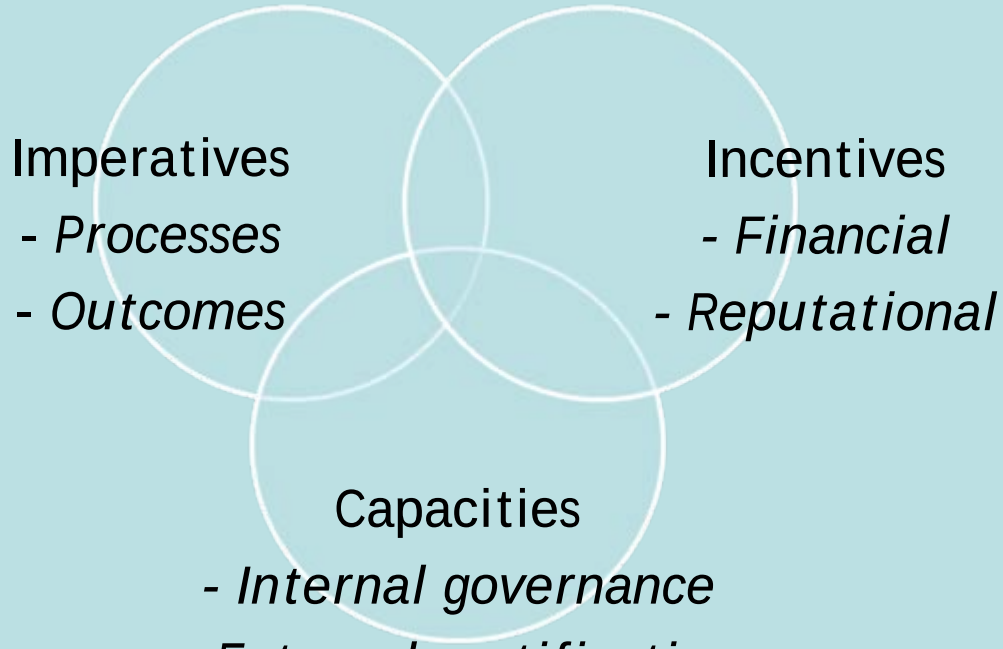
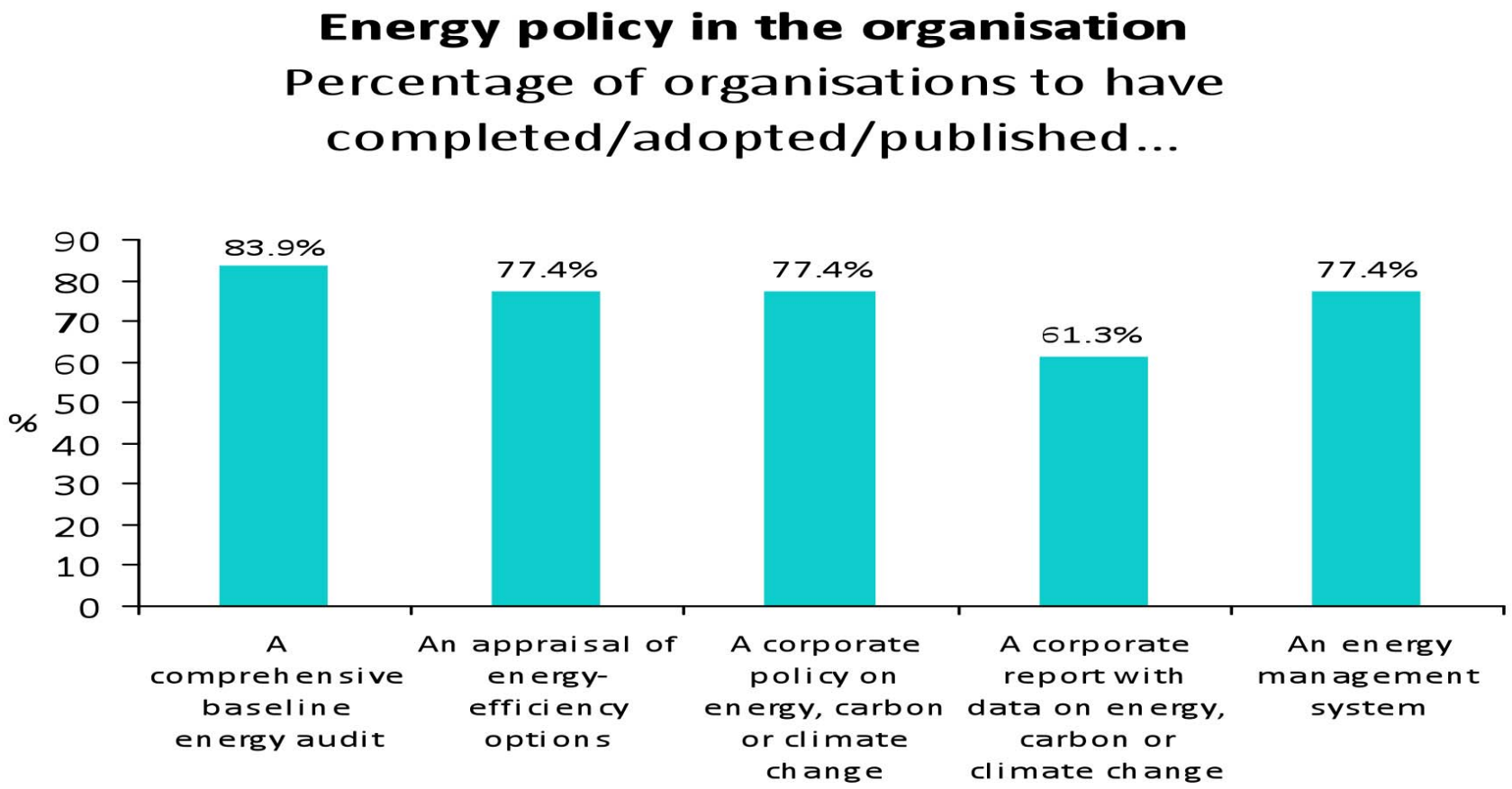
The Complementary Policy Mix



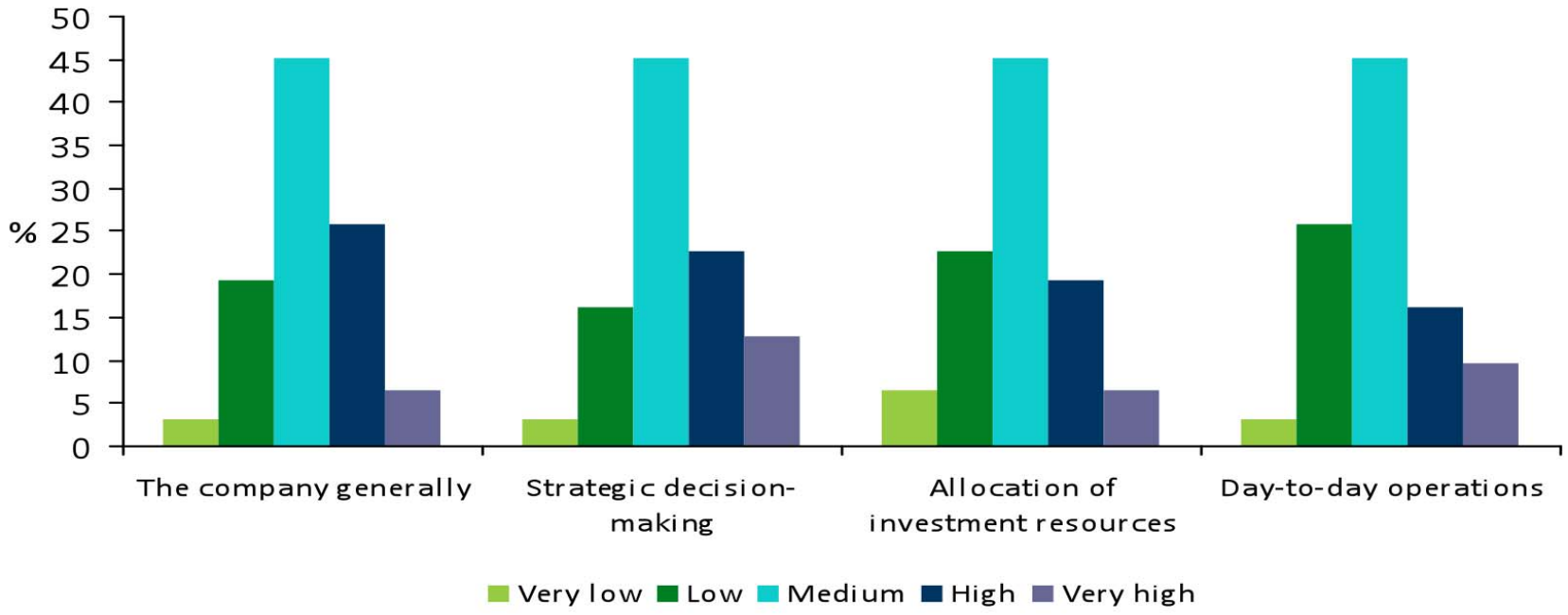
Research Data - Corporate Context



Research Data – Corporate Context

Awareness within the organisation

How highly would you rate levels of awareness about energy management in...



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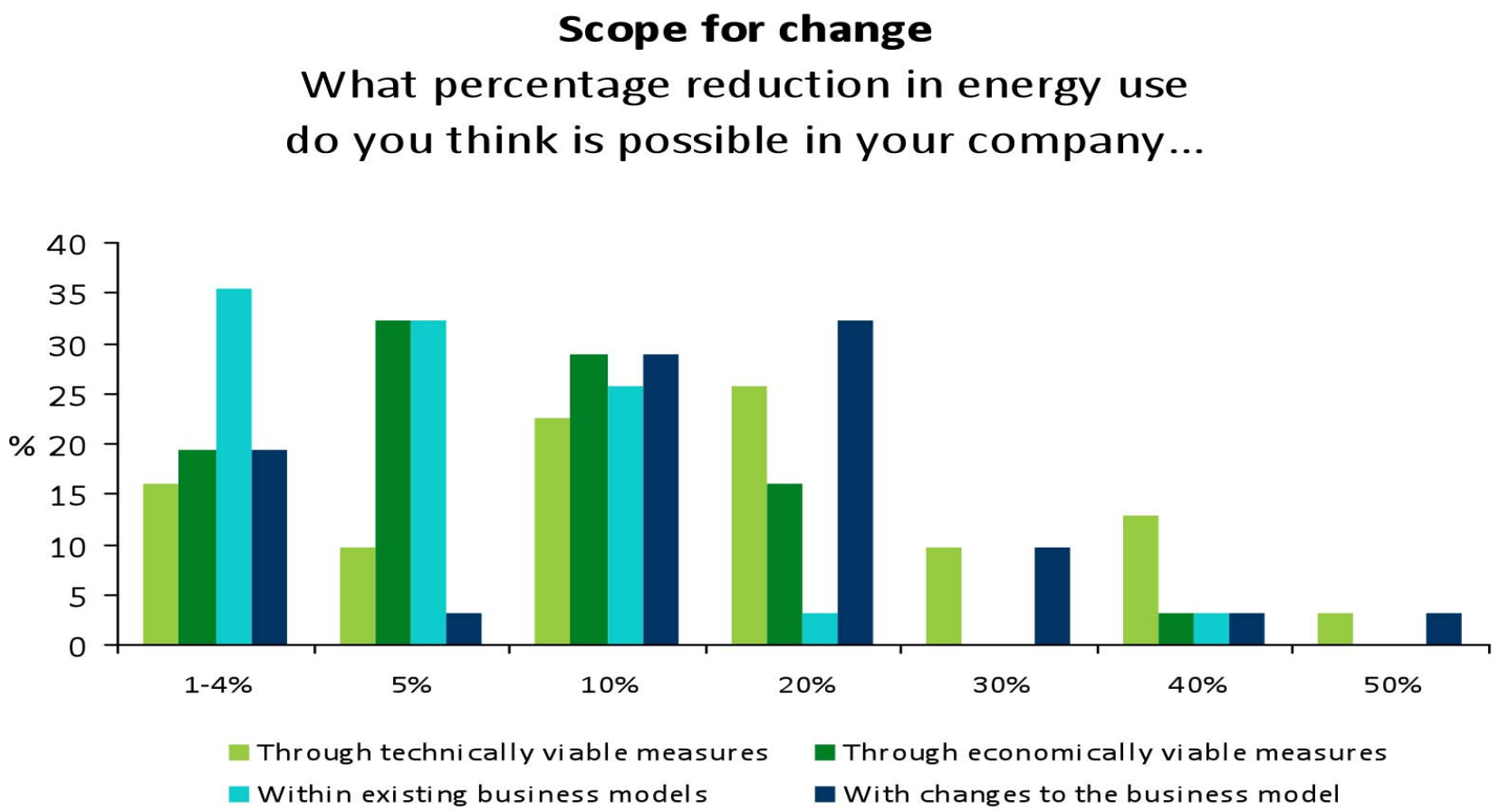
Research Data – Energy Performance



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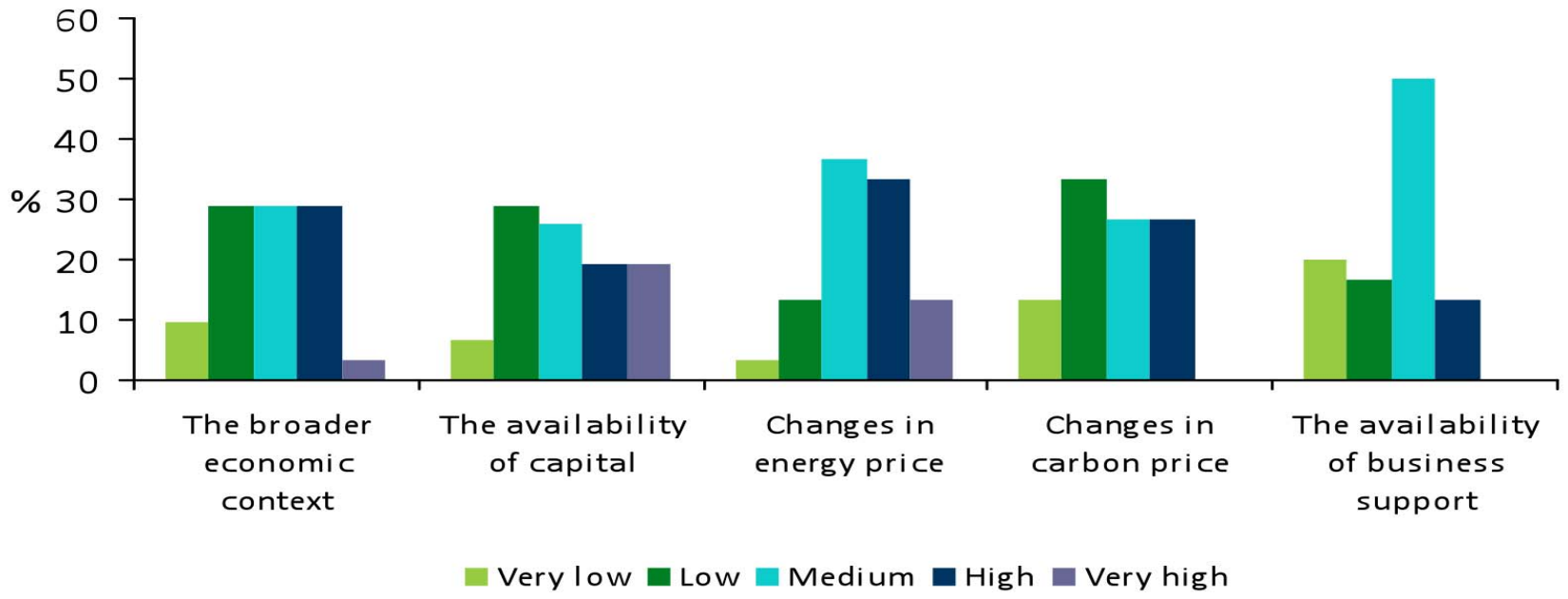
Research Data – Energy Performance

Factors affecting energy performance

How sensitive is your company's performance on energy to...



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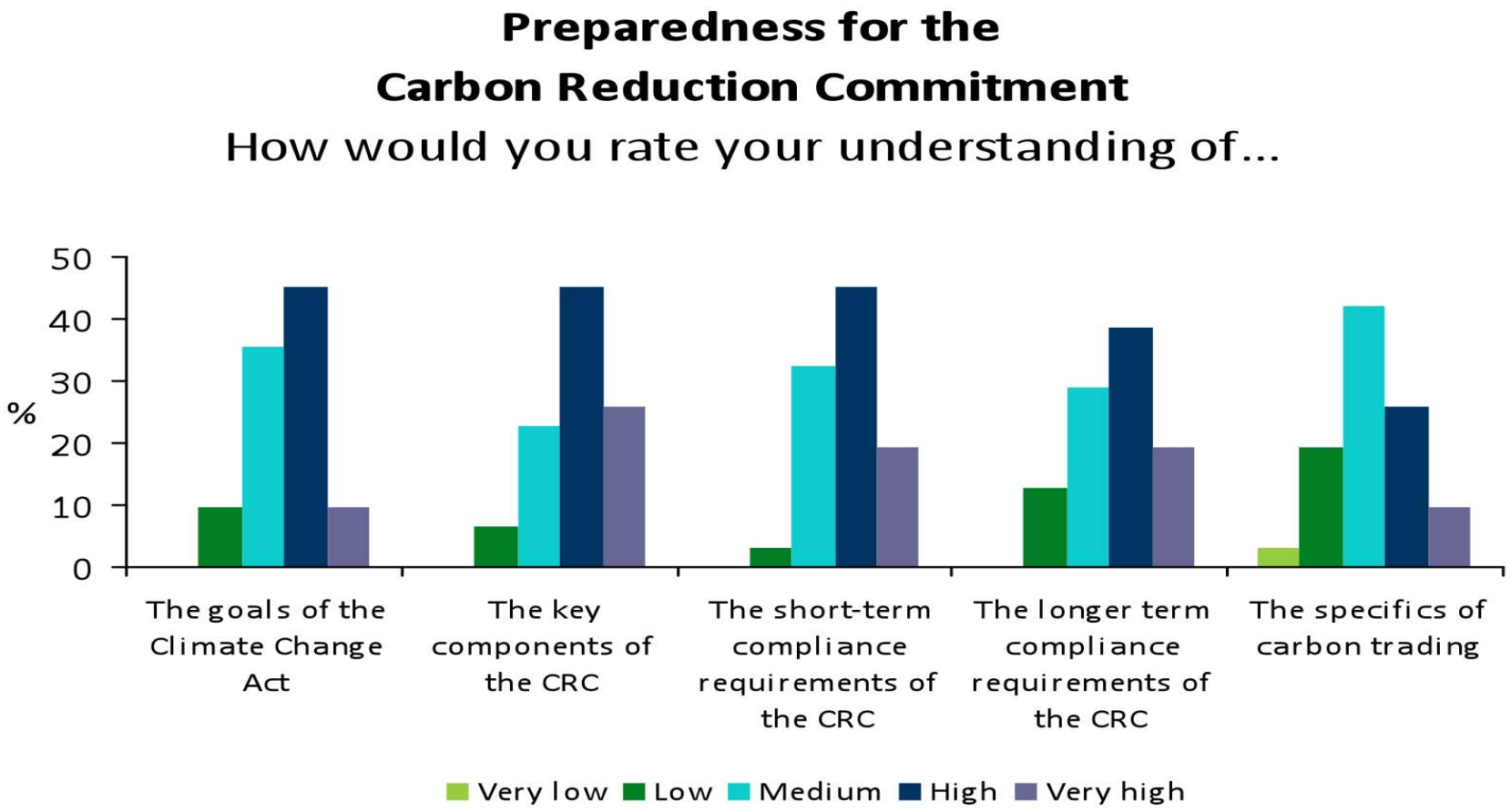
Research Data - CRC



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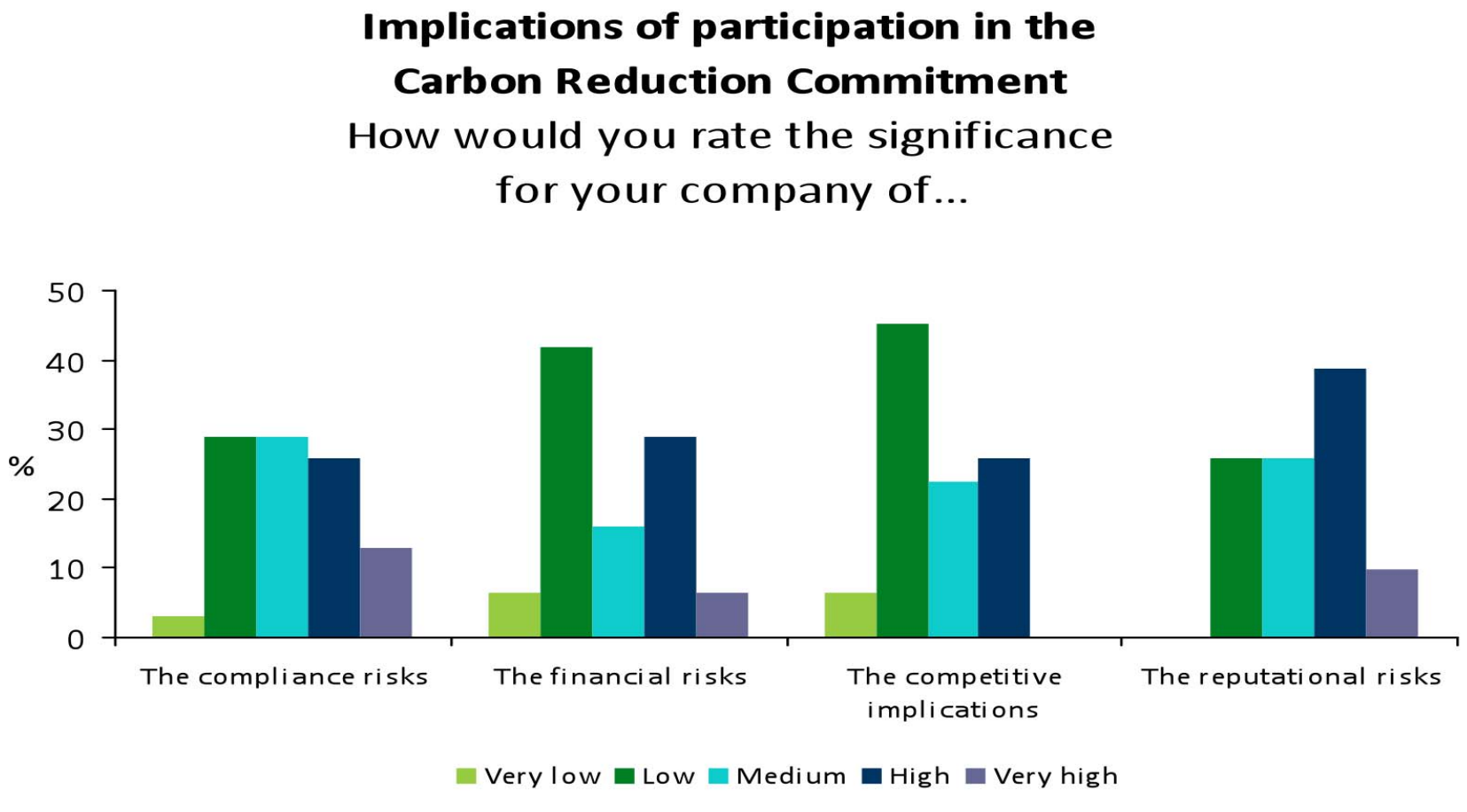
Research Data - CRC



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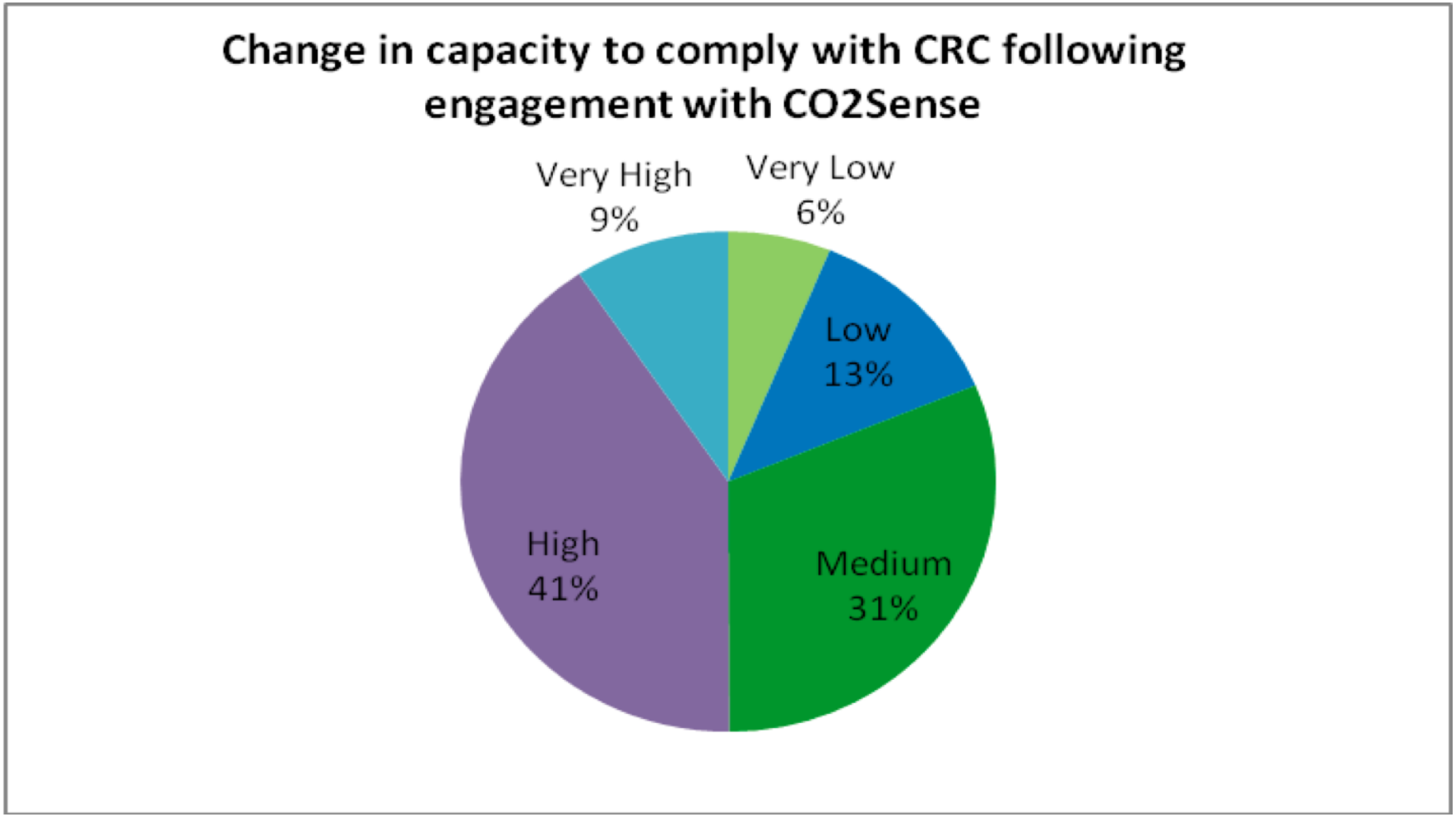
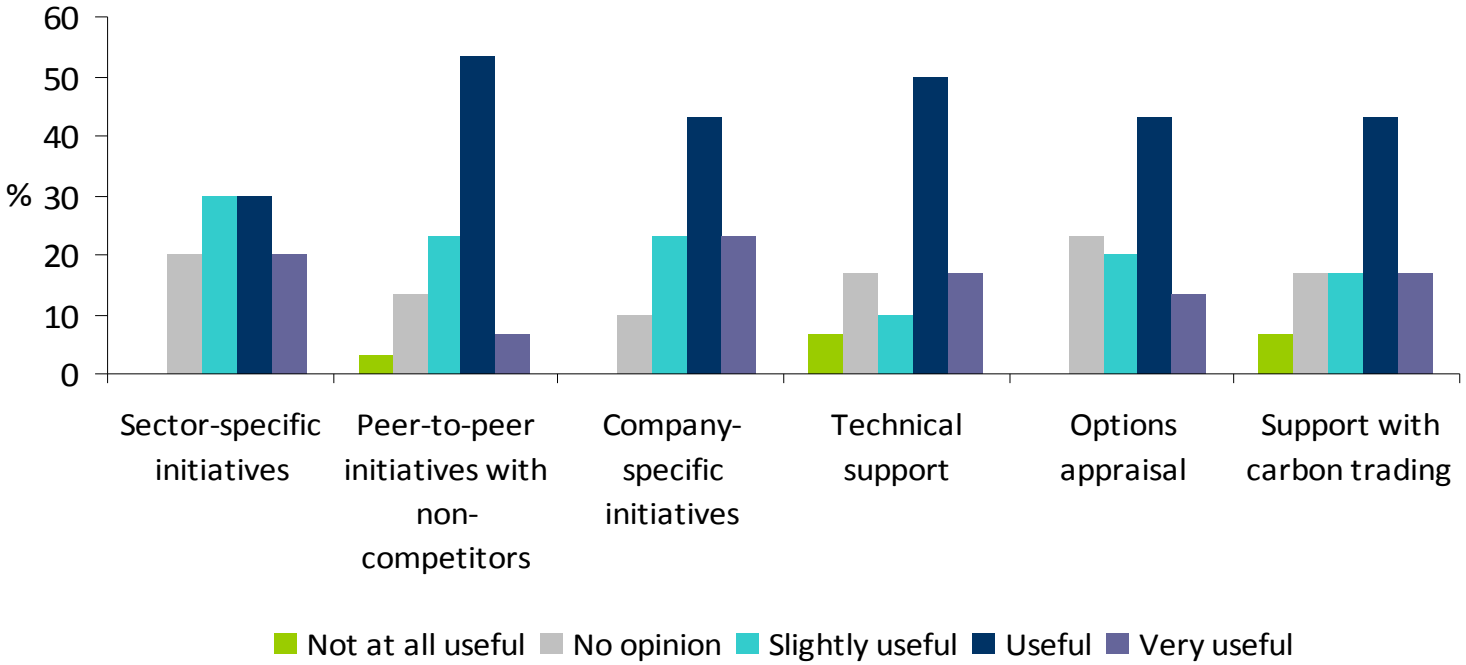
Research Data – Business Support



Research Data – Business Support

Energy and carbon management support

How useful would you find the following forms of business support?



Research Findings (1)

- CRC displays aspects of the complementary policy mix but is seen to be excessively complicated.
- The legal and regulatory aspects of CRC have significantly raised the profile of energy and carbon management in public and private organisations.
- The financial and especially the reputational dimensions of CRC are seen as significant incentives for energy and carbon management, but early movers will be penalised.
- The CRC has clearly led to the significant strengthening of organisational capacities for energy and carbon management.

Research Findings (2)

- The CRC should impact positively on carbon management and performance in years to come, but many firms suggest there are clear limits to progress through operational changes alone.
- Changes to business models could create further possibilities, but there is some resistance to this. The credibility of long term targets is clearly important.
- Extensions to trading could also be very significant.
- There is significant uncertainty about trading – and many organisations seem set to be very conservative and risk averse initially. This could create significant instability in prices.
- There is considerable demand for different forms of business support – especially through different forms of intra- and inter-organisational learning with an `honest broker' supporting exchanges.

Broader Conclusions

- An innovation friendly, complementary policy mix can help to overcome very significant non-market barriers.
- Such a policy mix can trigger significant learning and capacity building processes.
- Early progress seems likely, potential for longer term progress is less certain.
- There is scope for further policy learning, and policy and organisational learning can extend the range of technologically and economically viable options for a time.
- Will this delay the point at which structural limits are encountered indefinitely? If not, when might they be encountered, and what will happen to the politics, policy and economics of the tranistion at that point?