Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

www.cccep.ac.uk

What is the Relationship between Management Systems and Corporate Greenhouse Gas Emissions?

Rory Sullivan and Andy Gouldson (University of Leeds)
Baran Doda, David Grover and Caterina Gennaioli (LSE)

Presentation to IEA Workshop: Industry/Business Use of 'Complementary Measures' for Decarbonisation,

Paris, 22 June 2015

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

UNIVERSITY OF LEEDS

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Why Adopt Management Systems and Processes?

- Governments, investors, NGOs, and consumers frequently call for corporations to adopt climate change policies, to monitor their greenhouse gas emissions, to adopt emission reduction measures and to report on actions taken and outcomes achieved.
- The argument underpinning these calls is that the adoption of effective management systems and processes should lead to reductions in corporate energy use and/or greenhouse gas emissions.
- However, there have been few quantitative tests of this hypothesis.

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Research Overview 1

- We analysed 433 companies that had reported on their carbon management practices and their carbon performance in the 2009 and 2010 CDP questionnaires.

- **Research Question:** Is there an observable relationship between the application of carbon management practices in the world's largest corporations and the carbon emissions these practices are intended to reduce?

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Research Overview 2

- Carbon management practices were divided into 23 categories (policies, targets, data assurance, risk identification processes, reporting, etc.).
- For each carbon management practice we assessed (a) whether the specific management practice was present or absent, and (b) the quality of implementation.
- Carbon performance was analysed in terms of direct and indirect emissions (Scope 1 and Scope 2 emissions) per unit of turnover.

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Headline Findings

- We found no statistically significant evidence that any of the 23 carbon management practices had influenced corporate carbon emissions.
- We obtained similar findings when we refined the analysis (e.g. only including companies with better than average quality of emissions measurement, excluding companies in the financial sector, only including heavy industry, analysing absolute emissions rather than emissions relative to output, grouping the carbon management practices in different ways).

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Some Qualifications

- The analysis was conducted on a relatively small proportion of the corporations that report to CDP.
- The analysis covered a relatively limited time period.
- The analysis only considered Scope 1 and Scope 2 emissions, not Scope 3.
- There are many issues with data quality (scope, emission calculation methods, uncertainty management, etc).

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Possible Explanations for the Findings

- That corporate carbon data and carbon management practices have not been reported in a standardised way.
- That there is a delay between the application of corporate carbon management practices and their impact on carbon emissions.
- That carbon management practices are not sufficiently impact-oriented.

- **Our research findings challenge the assumption that the adoption of carbon management practices and processes will inevitably lead to better carbon performance outcomes.**

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

Conclusions

- Companies need to strengthen the quality and comparability of their carbon reporting.
- Companies need to explicitly discuss how the adoption of corporate management practices influences corporate greenhouse gas emissions.
- Companies need to shift their focus from relative to absolute emissions performance.

Centre for
Climate Change
Economics and Policy

An ESRC Research Centre

References

- Baran Doda, Caterina Gennaioli, Andy Gouldson, David Grover and Rory Sullivan (2015), 'Are Corporate Carbon Management Practices Reducing Corporate Carbon Emissions?', *CSR and Environmental Management*. http://onlinelibrary.wiley.com/doi/10.1002/csr.1369/abstract

On emissions data:

- Rory Sullivan and Andy Gouldson (2012), 'Does Voluntary Carbon Reporting Meet Investors' Needs?', *Journal of Cleaner Production*, Vol. 36, pp. 60-67.
- Rory Sullivan and Andy Gouldson, A. (2007), 'Pollutant Release and Transfer Registers: Examining the Value of Government-Led Reporting on Corporate Environmental Performance', *CSR and Environmental Management*, Vol. 14, pp. 263-273.
- Andy Gouldson and Rory Sullivan (2007), 'Corporate Environmentalism: Tracing the Links between Policies and Performance Using Corporate Reports and Public Registers', *Business Strategy and the Environment*, Vol. 16, pp. 1-11.