

Chapter 25

Strategic Approaches to CO₂ Emissions: The Case of the Cement Industry and of the Chemical Industry

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ABSTRACT

The ability of companies to turn an environmental constraint into a source of strategic opportunities is a controversial topic in published research. The article, which is based on a comparative study of the CO₂ emission reduction strategies implemented by the cement and chemical industries, shows that companies' freedom to adopt a proactive approach to sustainable development is severely constrained by the characteristic features of the sector, in terms of its dependence on natural resources, of flexibility in the composition of the business portfolio, and of the structure of the downstream sector.

INTRODUCTION

The global warming debate has undergone significant changes over the past decade. Since the Rio Summit in 1992, many countries have committed to combat climate change, and a vast array of regulatory and incentive-based instruments has gradually been introduced. The European Union Emission Trading Scheme (EU-ETS), which covers the GHG emissions of industrial and electrical installations, was set up in 2005. According to a survey made by the World Bank there are now more than 46 countries in which a carbon price has been implemented either through a tax or through an ETS (World Bank, 2014). In 2007 the EU had put forward its 2020 package, a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020. According to the 2014 Global Status Report for renewables

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(REN21, 2014) policy targets for the increased deployment of renewable energy technologies now exist in 144 countries. Renewable energy targets take many forms. Although the majority continues to focus on the electricity sector, targets for renewable heating and cooling and for transport are becoming increasingly important tools for policymakers.

This context provides an outstanding opportunity to test the so-called “Porter Hypothesis”. As initially formulated more than 20 years ago (Porter 1991; Porter & van der Linde 1995), the Porter hypothesis argues that a more stringent environmental regulation can incite firms to innovate at various value added stages (purchasing processes, production modes, renewal of product lines and distribution networks), thereby making them more competitive. This hypothesis is somewhat controversial. On the one hand in the management literature it is ordinarily sustained by individual case studies putting forward the managerial ability to circumvent organizational routines (Gabel & Sinclair Desgagné, 1998). On the other hand, empirical research using large databases does not systematically corroborate the idea that environmental regulations induce innovations enabling firms to more than cover the costs of complying with them (Lanoie et al., 2011). The originality of this paper is to reformulate this impact of regulation as a strategic choice within its corporate social responsibility (CSR) policy. Thank to this formulation we will show that a firm’s response will be constrained by a number of structural factors that affect all the firms belong to the same sector. This result somewhat relativizes the role of organizational factors per se and the capability of individual firms to adopt new management models, where there will would be no connection between economic growth and GHG emissions (McKinsey Global Institute 2008).

Using on a two-stage model (Arjaliès & Ponssard 2010) that distinguishes between a so-called “compliance” approach (i.e. a compulsory exercise) and a second stage, which is described as “opportunistic” (i.e. a voluntary exercise), the chapter examines and compares two business sectors that emit particularly high levels of CO₂, i.e. the chemical industry and the cement industry. The chapter shows that companies’ ability to innovate when dealing with CO₂ is constrained or encouraged by structural factors that are inherent to their business sector. Specifically, it identifies three key factors that help explain why some sectors are able to come up with proactive strategies for combating climate change (e.g. the chemical industry), while others adopt more reactive approaches (e.g. the cement industry). The factors in question are:

1. The dependency of the production process on natural resources,
2. The ability to leverage the business portfolio, and the resulting role for R&D, and
3. The structure of the downstream sector.

The chapter is structured as follows. After repositioning our approach in the context of published research in Section 2, Section 3 describes the two business sectors that were selected and the assumptions put forward. An empirical analysis is carried out in Section 4, while Section 5 and 6 draw conclusions on the study’s implications for the relationship between sustainable development and strategic innovation, based on a discussion of the main outcomes.

BACKGROUND

Three kinds of arguments have traditionally been put forward in published research, in order to justify a company’s strategic choices in terms of environmental issues, and more broadly in terms of CSR. The

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