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The European framework for energy and climate policies

Dieter Helm *,[1]

University of Oxford, New College Oxford, Oxford OX13BN, United Kingdom

HIGHLIGHTS

- The design of the internal energy market.
- The design of the climate change package.
- The interaction between the internal energy market and the climate change package.
- Required reforms.

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ABSTRACT

European energy and climate change policy rests on two main pillars: the internal energy market (IEM), and the climate change package (CCP). The IEM aimed at third party access and unbundling, neglecting the physical infrastructure and the basis for asset valuations and hence the harmonisation of network charges. The Commission plans to complete the IEM by 2014—almost a quarter of a century after embarking on the policy. Yet even if all the IEM directives are implemented, the EU will remain far from a single competitive market. The CCP was grounded on short term targets (the 2020-20-20 programme) on the assumption that fossil fuel prices would rise, making renewables competitive, and hence yielding a competitive advantage to the EU. The EUETS was intended to lead the way to a global trading system and an international agreement at Copenhagen. The EU has reduced the production of carbon emissions, but only as a result of de-industrialisation and slow growth, and at the expense of rising carbon consumption. Renewables have not led to green growth, but rather to a further eroding of competitiveness. The EUETS price has collapsed. In order for the EU to put the IEM and the CCP back on track, both need to be radically reconsidered. The IEM requires a refocusing on physical infrastructure, common accounting rules and an EU-wide approach to capacity markets and renewables trading. The CCP requires a refocusing on carbon consumption, on limiting the dash-for-coal, and on future rather than current renewables.

1. Introduction

As the European Commission considers what to do next on both energy and climate change policy, it is a good time to take stock of what has been achieved so far. The European Union came to energy policy late in its history. Energy was treated as a national competence in the Treaty of Rome, and even with the Lisbon Treaty it remains national. The valiant efforts by the Commission to get it included in the framework of the single market, by creating an internal energy market (IEM)[2], have had some success, but even here the market will not be completed in terms of the implementation of the directives before 2014, and the reality is anything but a single market.

When it comes to climate change policy the EU has tried to be ahead of the game. It set out to lead the world towards a comprehensive global climate change agreement, by setting what it thought would be an example of the economic benefits of decarbonisation. The 2020-20-20 climate change package sought to demonstrate that a fast track programme of investing in current renewables complemented by the world's first large scale emissions

* Tel.: +44 8456809548.
E-mail address: dieter@dhelm.co.uk

[1] Professor of Energy Policy at the University of Oxford, Fellow in Economics at New College Oxford and author of The Carbon Crunch: How we're Getting Climate Change Wrong and How to Fix it published by Yale University Press, 2012.

[2] There have been 3 sets of directives (European Parliament, 1996, 1998, 2003a, 2003b, 2003c, 2009a, 2009b, 2009c).

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trading scheme (EUETS), would provide a template for others to follow.

For very different reasons both projects have had very limited success. Europe now finds itself with expensive energy in a world where the Europeans' assumptions about rising fossil fuel prices driven by scarcity have been turned on their heads. Peak oil has turned out to be nonsense: global reserves keep coming, especially from unconventionals. Technical progress has transformed the fossil fuel outlook, with the US moving towards energy independence and with much cheaper energy supplies, especially gas. Europe faces an enormous competitiveness challenge, exacerbated by the costs it has self-imposed by putting so much priority on a short-term renewables target.

This paper explains how Europe got itself into such an energy mess and how it might get out of it. The structure of the paper is as follows. Section 2 describes the IEM project, setting out how it has evolved, where it has failed and what the main challenges are in the coming decade. Section 3 looks at the climate change package. Section 4 sets out how to design a coherent energy and Climate change policy for the EU which could address the new energy world. Finally, Section 5 concludes.

2. The internal energy market—Why has it not materialized?

The IEM is a deceptively simple idea. There would be one unified European energy market. Energy would flow freely across borders, so that customers would be indifferent as to the source of their supplies, and suppliers would compete across the entire European market for customers, and source their electricity and gas from competing generators and upstream gas providers, including liquefied natural gas (LNG), pipeline supplies and indigenous producers.

Such a European market would be much more efficient than the patchwork quilt of national and regional companies. There would be at least three core advantages: competition would drive efficiency; there would be greater diversity of supplies and hence greater security of supply; and a single electricity network would reduce the need for capacity margins, and hence a given level of security of supply would require a significantly reduced installed electricity generation capacity.

These core advantages would be augmented by other gains. The market power of external gas suppliers would be much reduced, as the resilience of a single market would make the threat of interruptions less credible. Mutual support would be a physical reality. Competition would lead to price differentials only on the basis of transmission costs, thereby increasing competition in other product markets. New ideas, innovation and technologies would spread more quickly through the market.

The prize of the IEM is therefore potentially very large. It is quite remarkable that the Commission has never seriously attempted to estimate this potential, so that the lobbying of the losers (and competition always produces losers) could be muted by the scale of the upside.

But the ideal of the IEM was – and still is – very far from the reality. Indeed that is the point of pursuing the IEM—to close up this gap. The obvious starting point in creating the IEM is the physical interconnection of the markets. Without pipelines and transmission lines there can be little real competition. Yet the remarkable characteristic of the Commission's approach to the IEM has been to focus on virtual competition, and largely neglect the physical interconnections. As a result, for over two decades, it has put the cart before the horse.

Physical interconnections are a fundamental challenge to incumbents with market power. Competition comes down the pipes and the wires. It exposes hidden subsidies and monopoly profits. Since all the main energy systems in Europe have been developed on a local or national level, and are designed to provide national security of supply, the resulting national champions were understandably hostile to the IEM, and indeed companies like Ruhrgas and EDF lobbied hard in the 1990s to try to kill off the project. With Ruhrgases' monopoly gas pipeline in Germany and EDF's eventually over 50 nuclear power stations in France, there was much to lose by letting competitors enter the German and French markets. Other incumbents, like RWE, lent their support to this resistance. The result was delay, the watering down of the early directives and a continuation of bilateral connections and contracts, between dominant companies and on a closed basis.

The map of Europe with an interconnected electricity and gas market – with a European energy system – would be very different from the current nationally driven connections. But in order to create the IEM, it is just such a map that is needed. When France and the UK created their national electricity transmission systems in the middle of the twentieth century, they superimposed the national upon the regional and local. The result was well-designed and efficient systems. Many other European countries allowed the local municipalities to maintain their control, and too often the result was weak networks. The analogy with moving from a national to a European system applies very well. The difference is that nobody appears to have even tried to set out the Europe-wide map to provide a top-down guide rather than an incremental bottom-up approach. It is for this reason that the Commission repeatedly focuses on specific projects and specific lines and pipes —on a bottom-up, national-to-national basis.

A European grid and gas pipeline system is a necessary condition for a European IEM. What is also required is access to these networks on a common basis. The early battles were all about third party access, and there was an intense debate about the relative merits of negotiated and regulated third party access. A moment's reflection reveals that negotiated access is what monopolists want, and competition can only follow the regulated route. This battle was eventually won by the Commission, and in order to identify the separate costs of transmission from electricity generation and the separate gas transmission costs, it was obviously important to have separate – unbundled – companies for these assets. Otherwise generators could distort competition by distorting transmission charges, and gas monopolies could lock out rivals through price discrimination.

The unbundling debate was, like the regulated third party access debate, also eventually won by the Commission. However the main driver turned out to be capital markets, which recognized that regulated utility assets like transmission networks could be largely debt financed, and were different financially from generation and upstream gas fields. Infrastructure funds moved into these regulated utilities armed with typically highly levered debt structures.

There remained one final step in the Commission's plans. Customers had to be able to switch suppliers, so that they could be the driving force of competition. Instead of a generators dictating to customers what energy supplies they would have, and at what cost, the IEM took the altogether more radical approach of putting the customers in charge. Gradually industrial and eventually retail customers were liberalized. This had a potentially radical impact: the old model in which investors sunk capital into upstream gas fields and power stations, and financed them by imposing long term take-or-pay contracts, would be replaced by spot markets and short-term trading. Sunk costs were no longer protected: customers could switch away any time to a cheaper technology or supply if available. The impact of this destruction of long term contracts took time to be fully understood, disguised at it was by the widespread excess supplies, especially in the 1990s. But as we shall see it would eventually wreak havoc with the incentives to invest.

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