

mechanisms such as the Kyoto Protocol and the Global Environmental Facility, which has funded many successful projects in developing nations. International institutions are greatly needed, but to date are far weaker than they ought to be. Geller calls for a new International Energy Efficiency and Renewable Energy Agency to overcome this shortcoming, and explains how the Agency could be formed and what it could do.

The final chapter integrates the many strands and articulates the case for nations to work individually and collectively to move the global energy system toward sustainability.

I find Geller's focus on feasibility compelling. The needed technologies and institutions all exist and work at one place or another, somewhere in the world. What is lacking is the will to proceed simultaneously and vigorously everywhere. Advocacy book's such as "Energy Revolution" contribute to developing the will.

The book is clearly written with introductions and summaries for each Chapter, and numerous references. Units are a problem faced by every writer on energy. Geller announces early that he has elected to use the units actually used in individual countries rather than MKS or other standardized units. This is fine if you're only interested in a single country, but problematic for intercomparisons. The approach hinders more than it helps. Although he includes conversion tables, I found the many units confusing. It is not unusual to find tables or graphs on nearby pages using units like million tons of oil equivalent, quads, and gigajoules, thus making

comparisons difficult. On the other hand, real-world units are the ones that appear in the newspaper. The serious student should be able to think comfortably in quads, gigajoules and kilowatt-hours, and be able to convert amongst them.

Depending on your perspective, you'll likely find Geller's book either a superb guide to action, or irrelevant. Those opposed to anticipatory action to prevent foreseeable problems will have little use for it. Those who believe in the free market should reflect carefully on United States energy policy in the post-September-11 era. They might ask whether the kind of policies suggested by Geller might not have placed the Nation in a stronger position. Those who believe that problems of sustainability require social planning will find an excellent enumeration of positive, practical next steps.

This book will be of interest to anyone interested in understanding the best current thinking about sustainability. Sustainability is now a permanent part of the energy scene. Geller articulates the arguments for early action compellingly. Regardless of your personal views, this book should be in your classes and on your bookshelf.

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Climate change and power: economic instruments for European electricity

Christian Vrolijk (Ed.), Earthscan, London, 2002, 310pp, price £ 35, ISBN 1-85383-822-5

The EU increasingly has to fight the impression that it is a paper tiger in climate policy proposing tough emission targets but not implementing tough policies on the ground. This discrepancy is also supported by game theoretical and public choice explanations (Boehringer et al. 2002). So far there are only few thorough discussions of domestic climate policies (the best is Hamilton (2001) for Australia); some shorter overviews of EU climate policies exist (Gummer and Moreland 2000; Gupta and Grubb 2000). Vrolijk's book is the first that looks at sector-specific climate policies in the EU. It covers policy developments in the electricity generation sector of six EU countries up to early 2002 and is thus up-to-date.

The volume consists of three main parts. On the first hundred pages Vrolijk discusses how climate policy affects the power industry. The second part consists of the case studies for Denmark, France, Germany, Italy, The Netherlands and UK that have been written by experts from the respective country. The third part summarises the results. The book is well structured and laid out but lacks an index.

Part one is refreshingly written and does not go to any unnecessary lengths. After a short introduction to climate change, Vrolijk describes the structure of the EU electricity generation sector before explaining the EU bubble and the Kyoto Mechanisms. The experience with trading schemes for other pollutants, with the AIJ pilot phase, and diverse simulations of greenhouse gas trading in Europe follows. Chapter 3 describes the European electricity market framework and the steps towards liberalization in the different member states. The impact of the renewables directive is assessed before

the European Climate Change Programme and its cornerstone—the emissions trading directive are described. Chapter 4 wants to assess economic instruments but mixes up trends (increases in energy efficiency and fuel substitution) with instruments such as energy taxes, renewable portfolio standards and emissions trading. It therefore is a bit jumbled but contains a very clear description of the “dash for gas” in the UK and a concise discussion of the importance of initial allocation of emissions allowances.

The case study section is of variable quality and partly outdated but nicely framed. Grohnheit’s explanation of the very long-term orientation of Danish electricity policy is elucidating for the readers that have only started to look at these policies since the advent of climate change as a policy question. Especially impressive is the energy efficiency drive in the residential sector. The Danish emissions trading system is described in detail and criticized for its limited number of participants. However, an assessment of the impact of the new government is lacking.

De Gouvello describes the French situation but does not state clearly what is just a plan and what policies actually have been implemented. The high share of nuclear baseload leads to some peculiarities such as a very high share of electrical heating and the fact that cogeneration substitutes nuclear electricity and thus increases emissions. However, de Gouvello does not take into account that freeing of nuclear energy for export reduces emissions elsewhere. He also discusses the French carbon tax as if it had been enacted, not taking into account the decision by the French Constitutional Court that it violates the constitution.

Schleich, Betz, Gagelmann, Jochem and Koewener explore the German power sector. A detailed description of the rapid liberalization is followed by an assessment of the energy tax and renewable energy subsidy legislation. However, the voluntary agreement of 2000 and the negligible role of the Kyoto Mechanisms could have been discussed in more detail; likewise the failures of German policies such as the reduction of cogeneration capacity after liberalization could have been highlighted more strongly.

Italy so far has only rarely been discussed in the context of climate policy and thus Pavan’s study is valuable. Especially the high potential for fuel switch from oil to gas (an estimated reduction 20 million t CO₂) is striking as well as the renewable certificate scheme that allows import of foreign certificates. However, as in the French case the carbon tax is described as if it were in place, neglecting its “temporary” suspension after the oil price rise of 2000. Also with the other policies it is not clear how far they are actually implemented... The impacts of first steps to DSM appear too rosy.

Battjes, Beeldman, Rijkers and Schaeffer discuss the Dutch framework. They clearly show that the burdens

of Dutch climate policy fall mainly on the consumers (such as the energy tax which has reached a considerable level) while companies are normally exempted. The strongest case is the transferral of the fuel tax for power stations to electricity consumers when a voluntary agreement was made that emissions of coal-fired plants would be reduced to the level of gas-fired ones (which is only possible through co-firing of biomass or purchase of offsets). The impact of strong subsidies on the expansion of cogeneration and the stalling after their abolition is nicely explained.

The UK case described by Vrolijk and Steen is the exact mirror of the Dutch (and Danish) one. Here the consumers are shielded against energy price increases while companies have to pay an energy tax. The government has used this tax as a stick to herd companies into voluntary agreements (energy efficiency increase is valued with an arbitrary emissions factor of 430 g CO₂/kWh) and the trading scheme. However, electricity generation is not covered under the latter but subject to a renewable portfolio standard. The latter is innovative inasmuch as companies can buy themselves out but the proceeds of this “penalty” are distributed to the compliant companies. The non-compliant company thus directly funds its competitors.

The conclusion that the UK programme is a “raft of suboptimal policies” is well founded, particularly if the authors had also discussed the perverse subsidy for joining the trading scheme (cunningly called “auction” by government representatives). Nevertheless the UK remains the country with the most advanced climate policy in Europe and should be well placed to refine its instruments.

In the last part, Vrolijk summarises the case studies and draws some conclusions. Given the good introductory part, I was a bit surprised by them because they do not always seem well founded. I would have expected a clearer view on national differences such as German industry’s love of voluntary agreements (because they are just business-as-usual) contrasted to UK companies embracing emissions trading (because they could get rid of the bulk of the energy tax or get a hefty subsidy). The strong argument against harmonization of emission trading rules within the EU does not hold because otherwise we would already now see strong climate policies in the majority of countries. Without harmonized rules, emissions trading will just serve as a smokescreen for government subsidization.

The voluntary agreements hailed as successes by Vrolijk are in my eyes just ways that policymakers collude with company representatives to obfuscate a do-nothing strategy. And how harmonization would unravel the burden-sharing agreement escapes my understanding—it would underpin it because without harmonization, industry lobbies will manage to grab a higher share of the Kyoto budget than they need.

Currently, the playing field is not very level and Vrolijk's assertion that non-covered sectors will underlie similar regulation is wishful thinking. Fortunately, the EU Council so far has resisted industry pressure to allow opt-out. But the question of allocation remains to be sorted out.

Despite these misgivings at the end, the book is a lode of information and a must-read for any climate policy analyst who wants to understand the situation within the EU.

References

- Boehringer, C., Finus, M., Vogt, C., 2002. Controlling global warming. Edward Elgar, Cheltenham, UK.
- Gummer, J., Moreland, R., 2000. The European Union and Global Climate Change: a Review of Five National Programmes. Pew Center, Washington.
- Gupta, J., Grubb, M., 2000. Climate Change and European Leadership: a Sustainable Role for Europe? Kluwer, Dordrecht.
- Hamilton, C., 2001. Running from the Storm. UNSW Press, Sydney.

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