

PROCEEDINGS OF THE FIRST MEETING OF THE ADVISORY BOARD ON ENVIRONMENTAL CHALLENGES AND OPPORTUNITIES OF THE EVOLVING CONTINENTAL ELECTRICITY MARKET

BACKGROUND

The first meeting of the Advisory Board on Environmental Challenges and Opportunities of the Evolving Continental Electricity Market was held on 16 January 2001, at the NACEC offices in Montreal, Canada. The advisory board is composed of experts from Canada, Mexico and the United States who have a wide range of experience and perspectives regarding the linkages between the electricity sector and the environment. A list of the advisory board members is attached, in addition to the names of several invited experts.

OBJECTIVES OF ADVISORY BOARD AND MANDATED NACEC SECRETARIAT REPORT

The meeting was chaired by the Hon. Philip Sharp. He began by noting that all three North American countries were undergoing dramatic changes in the electricity sector. The sector remains a source of significant environmental problems, both at the domestic and transboundary level. Although the economic consequences of the emerging North American electricity market are still being understood, there is little doubt they will be enormous. Work is needed at this crucial juncture in restructuring and continental market integration to identify environmental consequences, along with clear policy and institutional options.

To date, substantial cross-border trade in electricity is occurring, in particular between Canada and the United States, although US-Mexico transfers are forecast to increase steadily. As electricity grids become more open to competition and out-of-state or country generators are able to access each other's grids, the potential exists for environmental and trade problems to cascade into international problems.

The NACEC Secretariat set out the broad objectives of the "Environmental Challenges and Opportunities of the Evolving Continental Electricity Market" initiative, including the work to be undertaken in preparing an expert report presented to the Council, under the Article 13 provisions of the North American Agreement on Environment Cooperation. The broad objectives included:

- Facilitating a dialogue among a diverse group of actors from business, government and the nongovernmental community, concerning the most significant environmental dimensions of the evolving continental electricity market; and
- Examining the challenges and opportunities facing "green electricity" in North American markets, including, *inter alia*, the identification of trends in the definition, production and marketing of "green electricity."

In preparation for the first meeting, the Secretariat distributed a background note for purposes of discussion. The background note can be found at <http://www.cec.org/electricity>. Members provided guidance to specific sections of the note itself, as well as major areas—notably demand-side issues—which were missing from the January 2001 note.

In addition, the advisory board was presented with a demonstration of the NACEC's online, searchable database on different aspects of "green" electricity initiatives, including renewable portfolio standards, green certification schemes and other information. The NACEC databases can be downloaded at <http://www.cec.org/databases>.

KEY POINTS OF DISCUSSION AND POLICY/ANALYTICAL PRIORITIES

VISION AND POLICY OBJECTIVES OF REPORT

Members underlined the need to clarify the "vision" of the NACEC report at the outset, and to distinguish between the myriad issues that arise in the electricity sector, and the solutions that the report seeks to highlight. Several suggestions were made as to how best to articulate the vision of the report. One suggestion was for the report title to be "The challenge of internalizing environmental externalities in the electricity sector, in a cost-effective way."

Several suggestions were made by the members:

- i. How can we move to more open electricity markets, while achieving dramatic improvements in environmental quality?
- ii. Is there is need for clear market rules across North American jurisdictions, to ensure grid integration occurs in a way that is predictable, transparent and clearly takes into account environmental priorities?
- iii. What kind of technological innovation will be encouraged from regulatory change? Will regulatory and market changes create new incentives, or shift existing ones, towards the development of new technologies? What technologies will be supported during regulatory change, and which will not?
- iv. Will regulatory change create new institutional and administrative efficiencies? What will be the likely mix of regulatory options available in restructured markets to ensure high levels of environmental quality? Policy solutions need to identify "no regrets," multi-pollutant strategies that will work under various restructuring outcomes.
- v. And what are the new governance challenges that arise, so as to ensure that transparency and meaningful public input are an integral part of restructured markets?

KEY TECHNICAL AND POLICY ISSUES :

Examine air and non-air environmental impacts: Members noted that the main focus of the note was air pollution. Members stressed the importance of assessing non-air and non-emitting environmental impacts, including the impacts of hydroelectric power¹, changes in habitats and ecosystems associated with land-use change, and human health impacts.

Forecasting environmental outcomes: Caution was noted when attempting to forecast the probable features of restructuring 5–10 years from now. A useful reference point for forward-looking analysis would be for the NACEC to review the environmental assessment prepared for FERC Order 888. This would help understand the validity of different market, regulatory, fuel price and other assumed parameters of scenarios that may help improve the accuracy of future modeling work. Scenarios could include a range of assumptions about technological innovation, including fuel cells, coal gasification, and

¹ In assessing hydro-electric power, it was suggested that the Secretariat refer to the Low Impact Hydro Institute.

superconductivity. The need to ensure a balanced account of positive and negative environmental impacts was stressed. Several members stressed the need to look at emission coefficients, to help weigh different fuel choice and technological options.

Track changes in fuel mix: A 1999 NACEC report on the electricity sector noted that one of the most pressing environmental questions relates to coal-fired electric power generators. Some estimates have suggested that in 1995 coal-fired electric power generation was at 60 percent of full capacity. It was suggested that the NACEC examine changes in coal-fired generation, and capacity, from 1995–2000. It was noted that in Mexico, there is a move to gas-fired generation, although problems of supply scarcity are emerging. It was also noted that the Secretariat report needed to include discussion of nuclear power.

Renewable portfolio standards: Members noted that RPS criteria differed across jurisdictions. While no commercial or grid access problems have yet been encountered, a question remains as to whether RPS criteria are transparent and objective, or arbitrary. It was noted that RPS criteria represent longer-term means of reaching environmental quality targets, and should be viewed as a process rather than quantitative target (such as caps). Among the longer-term objectives of RPS is to support technological alternatives. It was suggested that discussion about RPS be broadened to look at innovative mechanisms like tradable renewable certificates. At the same time, given the diversity of RPS standards, and indirect link with measurable environmental quality gains, one Member raised the question as to whether they were worth going to battle over, since their piecemeal approach raises the risk of undoing gains in environmental policy more generally.

The RPS example underlined the opportunities that exist for greater cooperation among over 90 federal and sub-federal NAFTA jurisdictions in such areas as RPS, certification, product efficiency standards, equipment and building standards and other areas. Such cooperation can take various forms, including mutual recognition of different initiatives, with cooperation driven from the bottom-up. The importance of transparency, including administrative and procedural transparency, in mutual recognition, was noted.

Demand-side issues: Members noted the importance of demand-side issues, which needed to be described at length in the Secretariat report (and which was missing from the background note). Some experts have noted that restructuring is going to have the longer-term effect of undermining gains in demand-side efficiency. Others noted that given the difficulty in building new generating capacities in several key jurisdictions, demand side issue will become more important as restructuring gains pace. In looking at demand-side issues, one member noted the importance of public procurement commitments for green goods and services.

Price-distorting issues: Several members noted the importance of subsidies in the electricity sector. In Mexico, large subsidies are directed to offset domestic consumption costs. In all three countries, there is a need to understand where the allocation of subsidies and incentives is currently directed, and how these pricing interventions affect longer-term environmental policy goals, such as efforts to support renewable technology development in RPS criteria. In looking at subsidies, it will be important to look at direct and indirect financial transfers, how these affect electricity rates, and how rate changes in turn affect the longer-term prospects of customer-based, green-certified power.

Public policy options: Although most discussion of public policy focuses on regulations and subsidies, governments also have a role in such areas as public education in helping to re-shape public preferences.

Trade and market access issues: The board recommended consideration of a process or processes to avoid environment-trade disputes arising from market access issues. As international trade flows in electricity are expected to increase in the coming decade, Members emphasized the importance of examining potential market access and trade rule coverage issues, as they relate in particular to differing environmental performance, RPS and green certification standards among different jurisdictions. Of note was the possible use of non-uniform renewable portfolio standards as an impediment to market/grid access. Of growing concern to many are the findings of several NAFTA Chapter 11 investor-state rulings.

Summary of Chair's Session:

The advisory board chair, Philip Sharp, noted four key points:

- (1) Place more emphasis on demand-side issues, including product standards;
- (2) Examine new pricing mechanisms, such as allowing a large number of customers pay for greener power on yields;
- (3) Examine increased capacity for technological innovation outside of regulatory frameworks, with particular attention to wholesale markets. A new range of innovative technologies and technological possibilities—including superconductors—needs to be examined;
- (4) Look at the political context: In looking at possible policy options, it is important to understand the changing political context in the three countries. However, given the unstable nature of restructuring, coupled with recent changes in governments, this is very difficult to anticipate.