

Abstract

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Will Free Trade in Electricity Between Canada and the United States Improve Environmental Quality?

by Takis Plagiannakos, Senior Advisor-Environment, Ontario Power Generation (Canada)

Ontario and the eastern United States share a common airshed and heavily interconnected electricity systems. In addition, the electricity generation mix is very different in Canada and the United States, resulting in significantly different air emission profiles. Studies have shown that US emissions sources have a significantly larger impact on Canadian air quality than Canadian emission sources do on the United States. As a result, any change in coal-fired electricity generation in the United States could affect the air quality in Canada.

Both countries have made significant reductions in emissions and regulatory trends indicate that further reductions will be required in the near future. With the opening of electricity markets in both countries, environmental regulatory policies will influence the flow of electricity across the borders.

The impact of NAFTA on trade in electricity is difficult to quantify. The trade of electricity between Canada, Ontario, in particular, and the United States has been very volatile over the last decade. Two major factors have determined the size of electricity trade with the United States at various times: limited excess supply of power for exports from Canada and limited access to the electricity markets in both countries, since utilities continued to be regulated.

Based on the results of this study, the impact of free trade in electricity between Ontario and the United States is not expected to affect the air quality in Ontario if both countries follow through with their plans to implement tighter NO_x emission standards (NO_x SIP Call). In the short-run, however, if open access takes place before the SIP Call comes into effect, the emissions could increase—adversely affecting the air quality in Canada and the United States.

Based on the analysis above, the following policy considerations are proposed:

- The environmental regulations should take into consideration differences and potential impacts of air emissions between the two countries.

- The regulatory systems in Canada and the United States should continue to converge by harmonizing air emissions standards. This would help ensure that electricity generators compete on a level playing field as the electricity markets open to competition.
- The emissions trading programs should be harmonized in order that the generators in both countries are able to take advantage of opportunities for cost-effective emissions reductions.
- The two countries should establish a process for harmonizing the development of new environmental regulations, such as those concerning mercury emissions and long-term targets for SO₂ and NO_x emission reductions, as they address the issue of PM₁₀ and PM_{2.5} particulates in the coming years.

The definition of environmental provisions (i.e., renewable portfolio standards or emission portfolio standards) proposed to enhance cleaner technologies need to be harmonized to ensure a level playing field in the electricity markets.