

The Emissions Performance Equivalent Standard A Proposal by the Canadian Electricity Association

Introduction

In October 1999, the Canadian Electricity Association (CEA) proposed to Canadian federal and provincial governments an Emissions Performance Equivalent Standard (EPES) to limit emissions of greenhouse gases (GHG) from Canada's electricity sector. The proposal from the Association is intended to reinforce and complement a large portfolio of climate change mitigation activities being undertaken by CEA and its members as well as policy initiatives which governments need to undertake.

CEA was the first industry association to approach government with a substantive, quantitative approach to voluntary emissions reduction. Our reasons for doing so were simple. We recognize the need for real action on GHG limitation and believe it can best be achieved through industry/government collaboration.

We believe that EPES provides a solid basis for action because of several important features:

- It is grounded in the recognition that capital stock must be permitted to live out its useful life if the costs of GHG limitation are to be minimized.
- It allows for the time needed to develop and demonstrate new technology.
- It creates a stable framework within which investment in other emission reducing technologies can be undertaken.
- It applies an easily recognizable and measurable performance standard, thereby simplifying the determination of what constitutes incremental improvement and focusing effort on improvement without penalizing economic success.
- It addresses the question of burden sharing, thereby squarely facing the problem of regional and sectoral equity whose resolution will be essential to successful GHG limitation in Canada.

CEA believes the principles and approaches underlying EPES may have broader application

to other sectors. In the meantime we are working with governments to develop these ideas with a focus on the electricity sector.

What is EPES?

EPES would create a binding industry commitment to limit its emissions per unit of production in exchange for which government would agree to provide investor certainty for the duration of the commitment. Specifically:

- Starting in 2008, oil and coal-fired thermal units having reached their forty year anniversary of start up would be required to reduce their net emission rates to a specified level. These reductions would be accomplished by investing in new capital equipment to reduce GHG emission rates and by investing in offsets. Net emission rates from all new generation would be required to meet the same standard. Plants included under this proposal do not include existing gas fired plant or off-grid diesel and oil fired plants in Newfoundland where gas is not available as an option.
- In exchange, utilities would be able to emit at current levels up to the 40-year in service anniversary of existing units and to emit thereafter at the rate of the standard.
- This emissions performance standard rate will be determined by the power industry and government targeted at the rate of a combined cycle gas turbine (CCGT) or better. Net emission rates from all generators would be required to meet the same standard.
- New generating capacity whose emissions are lower than the EPES standard (such as hydro, nuclear or wind) would earn credits proportionate to energy production and the degree to which emissions are below the standard.
- Existing plants that emit below the level of the standard are not affected by this proposal except where such plants are enhanced to increase output or where such plants are effectively rebuilt at the end of their service life.



What Does EPES Achieve?

This proposal would limit the growth of electricity sector GHG emission rates and help set a trend for reductions. The proposal offers governments the assurance that at a specific point in time, the generating equipment in oil and coal-fired plants will either be changed out or the GHG emissions above a specified level will be offset.

Our analysis indicates that EPES will bring about real emission reductions over the next 5 to 20 years. In the absence of greenhouse gas emission control measures, the most cost-effective new plant includes life extensions of existing coal-fired plants. EPES creates a requirement to move to alternative generating technologies, to abate emissions or to invest in recognized domestic or international offsets.

CEA has calculated the impact of EPES against the Analysis and Modeling Group's business as usual forecast modified to take into account the addition of coal plant life extension technology. Based on this modeling, EPES would begin to have effects even before the Kyoto commitment period. Recently approved new coal plants in Alberta are already committed to this standard, thereby reducing emissions by approximately 50% from business as usual. Estimated additional impacts in 2010 are in the range of 10 to 12 MT of CO₂ or about 10 percent of current emissions. By 2020 the impact of EPES increases substantially (to around 25 MT), reflecting the growing number of coal plants reaching their agreed upon 40-year commissioning anniversary.

These impacts are achieved without any financial incentive or compensation to electrical generators but they are predicated on government creating the right policy conditions.

What Are the Prerequisite Policy Conditions?

CEA believes that several policy conditions are essential for the implementation of EPES, the following of which are key. Most importantly, plants, which meet the conditions imposed under the EPES, would need to be afforded credit for having done so under any future emissions management regime. Credits earned under the regime by plants exceeding the standard would need to be recognized. In order for the proposal to be economically manageable it is essential that a portfolio of offset possibilities be available through sinks and international credits. Finally, it will be essential to ensure that utilities working under EPES commitments are not placed at a disadvantage relative to competitors either in the U.S. or in Canada.

CEA also looks to government to take other actions, which are essential to cost-effective GHG limitation in Canada. These include the facilitation of project approvals (for new hydro, nuclear re-starts and transmission facilities) and measures to advance technology development.

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