

## **Technology and Policy Options for a Low-Emission Energy System in Canada**

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A synopsis is presented on the key findings of the Council of Canadian Academies' Expert Panel Report on energy use and climate change, which was released in late October of 2015. The evidence is clear: increased greenhouse gas emissions from human activity are causing pervasive changes to the Earth's climate, and significant and rapid efforts will be needed to reduce these emissions in the coming decades. The Panel's report is an up-to-date, accessible review of options for reducing greenhouse gas emissions and moving Canada toward a low-emission future. It provides an overview of Canada's energy system, an analysis of different energy sources and technologies, and an exploration of the public policies available to support a shift toward low-emission energy sources and technologies. Moreover, the investigation is guided by a systems thinking approach, recognizing the interconnectedness of society and the natural environment supporting it. Overall, the Panel acknowledged that the technologies needed for moving toward a low-emission energy system and the policies required for promoting the use of those technologies, already exist, are well-understood and are constantly improving. Optimal strategies and policies for advancing reductions in greenhouse gas emissions will need to be adaptive by evolving as necessary in response to emission trends, new technological developments, and other social, economic, and political changes. They will also benefit from system level principles of resilience, sustainability, fairness, and integration across jurisdictions and disciplines. The report constitutes an indispensable resource for private sector decision-makers, different levels of government, and the public as they seek to better understand energy use and the options available to combat climate change.