Mottainai
もったいない学会 WEB 学会誌 Volume 1, pp. 46-47
An Electronic Journal of The MOTTAINAI Society Online ISSN 1882-2975

特別寄稿

Energy Supply/Demand Trends and Forecasts: Implications for a Sustainable Energy Future for Canada and the World

J. David Hughes [1]

投稿受付：2007 年 10 月 9 日　受理日：2007 年 10 月 9 日　WEB 公開日：11 月 6 日

An analysis of world and North American energy production and consumption over the past several decades indicates strong growth. Even with the growth of “zero emission” nuclear and large hydro, hydrocarbons (oil, gas and coal) made up more than 87% of world primary energy consumption in 2006, and are forecast to make up more than 85% of a greatly expanded energy demand by 2030. Developed countries, which make up 18% of global population, currently consume 54% of the world’s energy. Energy demand in the developing world, however, is forecast by the Energy Information Administration to grow by 95% through 2030, when this region will account for 58% of a greatly expanded global energy demand. The question is, are these forecast growth rates sustainable, given the magnitude and distribution of the world’s remaining energy reserves, and what are some of the political and social ramifications of maintaining this rate of consumption? Natural gas in North America is of particular concern, as it is largely a Continental market (with the exception of about 2.9% LNG at present) and demand, particularly for electricity generation, is forecast to grow dramatically over the next two decades. This presentation focuses on the “Big Picture” and how Canada fits into it, as well as what must be

[1] Senior Geoscientist, the Geological Survey of Canada
Leader, National Coal Inventory, the Geological Survey of Canada
Team Leader, Unconventional Gas, the Canadian Gas Potential Committee (an organization that publishes Canada's most authoritative estimates of remaining gas resources)

considered going forward to assure a sustainable energy future.

David Hughes is a geologist with 35 years experience studying the energy resources of Canada for the Geological Survey of Canada and the private sector. He is the Leader of the National Coal Inventory, which is a digital knowledge base on coal used to determine the availability of resources for conventional and non-conventional uses, including coalbed methane production and the sequestration of CO_2. He is also Team Leader for Unconventional Gas for the Canadian Gas Potential Committee, an organization which publishes Canada's most authoritative assessments of National natural gas potential. David's evolving analysis of global and North American energy issues has been presented across Canada and the United States to Federal agencies, including the U.S. Department of Energy, U.S. Potential Gas Committee, U.S. National Petroleum Council, Environment Canada, Natural Resources Canada, Industry Canada and the National Research Council; to many Provincial, State and Municipal government agencies; to policy forums including the Industry Steering Committee on Climate Change and the National Electricity Roundtable; to end user associations including the Canadian Chemical Producers Association, Canadian Plastics Association, Canadian Fertilizer Association and the Association of Major Power Consumers of Ontario; as well as professional forums including the Canadian Society of Petroleum Geologists, Geological Association of Canada, Coal Association of Canada, American Gas Association and others. Aspects of his analysis have also been taken up by the popular press and trade journals including the Toronto Star, Canadian Business Magazine and the Canadian Press wire service.