

Paper: Canadian unconventional oil and gas supply and its potential contribution to Asian energy security and sustainable development

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Overview

North America has experienced significant growth in unconventional oil and gas production in recent years. The development of the largely untapped unconventional oil and gas resources in Canada and in the United States will require unprecedented amounts of investment in the coming decades. In recent years, Canada has attracted significant Asian investments in upstream oil and gas sectors.

The surge in unconventional supply is a game changer and will have significant implications on global and regional energy markets and trade. In *World Energy Outlook 2012*, the International Energy Agency predicts that the United States to surpass Saudi Arabia to become the world's largest oil producer and estimates that the United States will be energy self-sufficient as a result of growing unconventional supply and downward pressure on demand. Recent assessment of Canada's hydrocarbon resource potential has revealed vast oil, natural gas and liquid resources in shale formations in the Western Sedimentary Basin especially in Alberta.

The paper endeavors to:

- a) Review the outlook for unconventional oil and gas supply in Canada and the United States;
- b) Assess the long term supply and demand for oil and gas in Asia and its growing import requirements;
- c) Assess the implications on North American oil and gas trade and the resulting surplus available for exports to Asia and other markets;
- d) Conclude with key messages regarding the potential contribution of Canadian unconventional oil and gas supply to Asia's energy security and sustainable development

Methods

This paper is mainly based on a quantitative assessment of North American and Asian energy trends and projections, and analysis of related market issues. Key parameters in this analysis include conventional and unconventional supply and demand of oil and natural gas, LNG imports and pricing, with a focus on major producing region. The analysis covers the main factors affecting the market dynamics and industry competitiveness.

Global energy projections of the International Energy Agency, the U.S. Energy Information Administration, and information from Alberta Energy will be reviewed to assess the outlook for unconventional supply, and the implications on trade, imports /exports and energy security.

The paper also aims at establishing the main competitive factors of the Western Canadian Sedimentary Basin, and supports the view that Alberta and its world class energy sector is well positioned to emerge as a global supplier of oil and gas to Asia and elsewhere.

Results

- North American oil and gas supply will grow significantly in the coming decades;
- The US energy import requirements will decline due to falling demand and growing domestic supply;
- Canada's unconventional supply of oil and gas will take an increasing share of total Canadian oil and gas production in the coming decades;
- With declining export of oil and gas to the U.S., Canada will likely have a growing surplus of oil and gas available for exports to Asia and elsewhere and needs to develop new markets to sustain industry's growth and economic prosperity;
- Canada has the potential to play a more important role in world energy supply and contribute to Asia's energy security.

Conclusions

Canada and the United States are endowed with abundant unconventional oil and gas resources, which are expected to account for a rapidly increasing share of total oil and gas supply in the coming decades. While a rising unconventional energy supply will help the United States to eventually become energy self-sufficient, Canada has historically been a net oil and gas exporter. In the context of declining energy exports to the U.S. coupled with surging Asian demand, the growth of unconventional supply in the Western Canadian Sedimentary Basin provides opportunities for Canada to gain access to new markets in Asia.

Canada and Asia have an exceptional complementarity of needs and assets. On the one hand, Canada has abundance of energy assets and needs to access and diversify into new markets in Asia; on the other, there is an extraordinary potential for energy demand in China, Japan, India and other Asian countries. While Asia seeks energy supply security, Canadian energy industry is interested in security of demand to sustain investments and long term growth. It would be in the interest of both Asian and Canadian energy sectors to work together to develop the tremendous synergies between the two parties. While diversification of supply sources contributes to supply security, diversification of markets helps reduce market risks and volatility. With significant infrastructure development underway, Canadian secure, competitive and reliable source of exports of petroleum and gas products to Asia contribute to Asia's energy security and sustainability.

Selected references

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