

CERI NEWS

Green Bitumen

On May 11 at the Petroleum Club, CERI will hold a briefing on Green Bitumen: The Role of Nuclear, Gasification, and CCS in Alberta's Oil Sands. There will be a wine tasting at 3:00 followed by a presentation by CERI Research Director David McColl, and a question and answer period.

CERI has recently concluded a four-part study to examine the costs associated with expected regulatory changes for GHG emissions. Based on the results of the study, David will focus his analysis on how three, widely-discussed, feasible GHG mitigation technologies — nuclear energy, gasification, and CCS — could affect operator supply costs.

He will also discuss the risks involved in developing each technology and the potential of each to reduce anthropogenic greenhouse gas emissions. Finally, David will provide a scenario on how oil sands emissions could be reduced to the point of being lower than those of conventional oil. While this presentation focuses on Alberta, David will speak to the development of Saskatchewan's oil sands using a "green" energy system.

For more information, please contact Roxanne Rees at 403-220-2381 or rrees@ceri.ca.

California Dreaming? Implications for Canada of LCFS Legislation

On April 23, the California Air Resources Board (CARB) voted to adopt a low-carbon fuel standard (LCFS). The process leading up to the vote, and the vote itself, was followed closely by stakeholders, since it is widely believed that it would be the precedent decision to set in motion a series of similar decisions in other states and perhaps the US federal government.

Because the aim of such regulation is to seek to displace high carbon fuels with low carbon alternatives, petroleum from oil sands, fuel from coal gasification, hydrogen derived from oil sands or coal gasification, or electricity from carbon intensive processes will all come under close scrutiny. In fact, to truly understand the volumes of emissions throughout carbon fuel life cycles – production, venting and flaring, upgrading, transportation, refining, delivery, final combustion, etc. – requires comprehensive Life Cycle Analysis (LCA), an important, emerging area of scientific study.

The implications of widespread adoption of LCFS regulation would be profound for Canada's energy trade with the United States.

CERI's one day Energy Forum **LCFS: Concept vs. Consequences and North America's Energy Trade** will explore a full range of implications emanating from the CARB decision. Presentations will address the following questions:

- What are the details of the California regulations and where they are in the state's legislative process;
- What is happening in other states and the US federal government;
- Is LCFS an effective GHG reduction tool;
- What would be required to make LCFS effective;
- Does LCFS violate NAFTA and WTO provisions;
- What will be the impact on both the upstream and downstream;
- What would a reliable LCA include?

The forum will be held May 27 at the University of Calgary's Rosza Centre. For more information, please contact Roxanne Rees at 403-220-2381 or rrees@ceri.ca.

Carmen Dybwad Joins CERI Management Team

At the beginning of January, CERI was pleased to welcome Carmen Dybwad as our new Vice President of Business Development and External Relations, a position that became vacant last spring when George Eynon left CERI to join the ERCB. Carmen, holder of two Economics degrees and a Ph.D. in Regional Planning and Resource Development, has accomplished much over a career that has seen her teach Economics at the University of Saskatchewan, work at several senior positions within the Government of Saskatchewan, sit as a Member of the National Energy Board, and serve as President of the Energy Council of Canada.

Carmen will be working to match CERI skills with the needs of governments, corporations, and other organizations involved in the energy sector. This will primarily involve

research projects, but as CERI research is important in determining agendas for Conferences and helps shape course content in Training, Carmen's work will be critical to all three branches of the Institute.

CERI is often perceived as a gem of the Alberta foothills, an organization that knows the Alberta energy scene but is not as intimately involved with energy outside the province. Nothing could be further from the truth, with CERI routinely conducting research for provincial and federal governments, not to mention numerous private client studies for corporations and organizations based elsewhere in Canada and abroad. Carmen will be working to raise the organization's profile beyond Alberta's borders to let people know about the world-class economic expertise that resides at the Institute.

CERI hires Nagy Eltony as Senior Research Director

Formerly a visiting professor at the University of British Columbia and for many years a senior-level economist for the Government of Kuwait, Nagy joined CERI as a Senior Research Director on April 1. He is perfect for the role, with more than 35 published papers and dozens of major research projects under his belt. Nagy, who earned

a Ph. D. in Economics from the University of Surrey, solidifies CERI's expertise in econometrics in general and downstream demand-side economics in particular. Already Nagy has begun work on an econometric tool for policy analysis that should be an asset to the researchers that will be working with him.

CERI Training Services

Training Services offers public, in-house, and customized energy courses in four areas: Oil, Natural Gas, Electricity, and Business Analysis. The courses are taught by industry experts with an average of 25 years experience, and the materials are noted for being up-to-date, relevant, and informed by the latest CERI-generated economic research.

In March, we introduced a new course, **Energy Derivatives and the ISDA Documentation**, taught by Ann O'Hara, a Lincoln Nebraska-based lawyer and acknowledged expert in the field. Over two days, Ann explains this complex documentation, which is the international standard documentation for executing over-the-counter energy derivative trades. She focuses on Natural Gas derivatives in the course, but the principles and procedures taught apply to other energy derivatives

as well. This course is a must for risk managers, lawyers, traders, and anyone else that deals with energy derivatives as part of their job. CERI will offer the course again in October.

The Institute has several other courses under development in topical fields including alternative energy (renewables, in particular), environmental impacts of the energy mix, and energy efficiency and demand-side management.

For further information on the ISDA and other training courses, please contact Jon Rozhon, Manager, Training Services at 403-220-2378 or jrozhon@ceri.ca.

CERI Conferences

Coming up on June 7-9, CERI will hold its annual **Petrochemical Conference** in Kananaskis. After a Sunday afternoon of golf at the world-class Kananaskis course, participants will gather for an evening barbecue at the Boundary Ranch. The conference takes place over the next two days, and this year's theme is "Together for the Long Haul".

The global recession has not spared the energy sector, and petrochemicals have been hit particularly hard. On the first day of this year's conference, each session addresses the effects of the recession on the petrochemical industry, with the theme "Recession – Not for the Faint Hearted". The three sessions will be:

"Surveying the Damage – Taking Stock of the World Businesses and Economies"

"North America – a First Glance of a Recovering Economy"

"North America – The Medium Term Retooling of the Industry into an Integrated Value Chain"

On the second day of the conference, we look forward into the post-recession period, discussing the "Long Term – A "Made for Alberta" Vision. The two sessions will be:

"The Canadian Petrochemical Environment"

"The Petrochemical Value Chain – Moving it Forward"

The conference could not come at a better time, as government and corporate leaders look for innovative ways to pull the industry out of recession. For more information regarding registration or a copy of a conference brochure, please contact Julie Staple at 403-220-2380 or jstaple@ceri.ca.

CERI Research

CERI is presently working on several private-client studies. There are a number of other project proposals that have been developed by researchers and will go ahead when funding is secured. Below is information on an ongoing project that has attracted government and corporate interest, followed by a list of forthcoming projects.

Economic Impacts of the Petroleum Industry in Canada

The recent spate of publicity surrounding environmental impacts has overshadowed the fact that Canada's petroleum industry is a significant contributor to the country. Investments in new developments and expenditures in ongoing operations provide jobs that generate income-multiplier effects and economic spin-offs, benefiting the provincial and national economies.

Canada's economy is in a period of turmoil, brought on in large part by a sharp rise and fall in commodity prices, most notably oil and natural gas. The Canadian dollar appreciated against its US counterpart to levels not seen in decades, and after a quick fall, appears to be gaining strength again. While certain sectors of the economy benefited tremendously from the rise in commodity prices and resultant rise in currency values, everyone seems to be suffering in the present recession. G8 members have committed to limit GHG emissions, and the new US administration is pushing further in this direction; an international consensus to address climate change appears inevitable.

The Canadian public is now expecting policy makers to set energy and environmental policies that make appropriate tradeoffs. To do so, policy makers and business leaders need a clear understanding of the value and contribution of the petroleum industry because their decisions will impact

the level of private investment. Small changes in policies could have large impacts on investment levels as the petroleum industry is often characterized by capital intensive projects that generate single-purpose facilities. The investment returns of these projects need to be captured over decades; therefore their economic viability is acutely sensitive to factors that increase long term risk.

CERI is undertaking a comprehensive assessment of the role of the petroleum industry in the provincial and national economies, currently and 20 years into the future. Utilizing an Input-Output (I/O) modeling approach, this study will fill a knowledge gap that currently exists with respect to the quantification of the economic contribution of the petroleum industry and provide a relative comparison with other industries at the provincial, territorial, and national levels. By addressing this gap, our study will provide stakeholders with vital analysis and the information they need to make informed policy and business decisions.

For more information on this study, please contact:

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Other forthcoming studies:

Oil Sands Water Requirements: An Independent Assessment of the Reality of Water Issues

Oil Sands Social and Infrastructure Assessment Model

CERI External Presentations/Training

CERI professionals are always busy in the energy community providing relevant • independent • objective views on a number of issues to a variety of audiences. CERI is frequently contacted to provide analysis of current events and issues, and staff have conducted numerous interviews with radio and TV stations, and the print media. CERI often is asked to make presentations at conferences and special events. In addition, CERI invites speakers to address member organizations on various energy issues.

Marwan Masri President and CEO

- Center for Legislative Energy and Economic Research-CLEER (March)
- World Bank Energy Forum, Washington, DC (March)
 - Met with World Bank Staff, Canadian Embassy Staff, and Gary Mar
- A Clean Energy Framework for Canada, Kananaskis, (March)
- Asia-Pacific Energy Research Centre-APEREC, Tokyo, (February)
 - "Energy Outlook"
- Goldman Sachs, Sydney Australia, (February)
 - "Oil Sands Briefing"

Since the beginning of January, Marwan has been interviewed more than 20 times for various media, including:

- CBC Radio-Canada (February)
 - "Oil Sands"
- Globe and Mail (February)
 - "Oil Sands"
- National Post (February)
 - "Oil Sands"

Carmen Dybwad VP Business Development and External Relations

- Breakfast Television, citytv, Calgary (January)
 - Response to the CAPP survey concerning Public Opinion of the Oil Sands
- Indian Oil and Gas Commission, Calgary, (February)
 - Environmental Scan of Oil & Gas Industry Strategic Planning
- New York City University, Panel Participant (February)
 - "Elections and Energy: Reflections on Canadian/US Relations"

Peter Howard VP Research

- CERI 2009 Natural Gas Conference, Calgary, (February)
 - "Canadian Oil Sands Development: Scenarios and Associated Natural Gas Purchases, 2008-2030"
- Oilweek Interview (May)
 - "Taking the Pulse"

David McColl Research Director

- National Refinery Cooperative Association, Wichita, KS (April)
 - "Oil Sands"
- WESTAC Annual General Meeting, Edmonton, AB (April)
 - "Oil Sands"
- EnerCan West Conference, Regina, SK (March)
 - "Nuclear and Oil Sands"
- Goldman Sachs, Sydney Australia, (February)
 - "Oil Sands Briefing"
- Economics Society of Calgary (January)
 - "Oil Sands"
- CERI Natural Gas Conference (February)
 - "Oil Sands"

Various Interviews including:

- New York Times (January)
 - "Oil Sands and Infrastructure"
- PBS (US) <http://www.kcts9.org/video/canadian-oil-sands>

Abbas Naini Senior Research Associate

Taught a Senior-Level Economics course (Econ 494) at the University of Calgary (January-April)

Afshin Honarvar Senior Economist

- Article published in Energy Economics (May)
 - "Asymmetry in retail gasoline and crude oil price movements in the United States: An application of hidden cointegration technique"

Taught a Senior-Level Economics course (Econ 494) at the University of Calgary (January-April)