



The Round-Up: December 15th 2006

Posted by [Stoneleigh](#) on December 15, 2006 - 8:15am in [The Oil Drum: Canada](#)

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Photovoltaic (PV) potential and insolation web-based maps

https://glfc.cfsnet.nfis.org/mapservers/pv/index_e.php

This link would not autoformat, but it does work if you past it into a browser.

Interactive maps of photovoltaic (PV) potential and insolation for Canada have been developed by the Canadian Forest Service (Great Lakes Forestry Centre) in collaboration with the CANMET Energy Technology Centre (CANMET-Varenes) Photovoltaic systems group. Insolation data was provided by the Data Analysis and Archive Division, Meteorological Service of Canada, Environment Canada. The maps give estimates of the electricity that can be generated by grid-connected photovoltaic arrays without batteries (in kWh/kW) and of the mean daily global insolation (in MJ/m² and in kWh/m²) for any location in Canada on a 300 arc seconds ~10 km grid. They are presented for each month and for the entire year, for six different PV array orientations: a sun-tracking orientation and five fixed South-facing orientations with latitude, vertical (90°), horizontal (0°) and latitude ± 15° tilts (see figure). Data can be obtained at any grid location by "querying" the maps.

[Fire erupts at oil refinery in Sarnia, Ontario](#)

"This was a very major explosion around 3 a.m. this morning. The fire was very dramatic and could be seen on both sides of the St. Clair River, in both Port Huron and Sarnia, so there was a great deal of concern by the residents about the fire," Bradley said.

"I think it's a testimony to the nature of the emergency plan here that's being lauded around the world that the emergency was handled with no injuries and no one was hurt."

[Income trusts on the endangered list](#)

The other likely outcome for many trusts is being swallowed in a takeover, as private equity firms from the United States and abroad are drawing up lists of target companies and await only a further drop in prices before they strike.

The interest from private-equity firms is "huge," and "there's going to be a lot of U.S. money coming in," said Mr. Scarlett, who focuses on mergers and acquisitions in addition

to trusts.

[Big energy finds remain elusive](#)

Those who still look for big oil and gas deposits swear the effort pays off, yet there were few big oil and gas finds in Canada in 2006 -- and 2007 doesn't augur well, either.

While the year started with promise, as companies seemed to re-emphasize high-risk exploration to replace shrinking oil and gas reserves, the results were tepid.

[OECD energy group sees tough winter ahead](#)

The International Energy Agency warned that the global economy could face another winter of tight oil supplies and high prices, in the wake of November's production cut from the Organization of Petroleum Exporting Countries.

[N.B. coastline victim of global warming](#)

New Brunswick's coastline is becoming a major casualty of climate change, a new study suggests.

Canadian scientists say global warming is causing a rise in sea-levels, eroding some of the province's coastal areas and triggering a gradual rise in storms.

The intensity of storm surges also seems to be increasing, meaning the massive amounts of rain and flooding that hit the Shediac area six years ago could be more than a freak occurrence.

[Denial as Projections Place BC Cities Under Water](#)

Rising sea levels due to climate change threaten to drown most of Richmond, Delta and New Westminster, but government officials and the real estate market appear to be guided by obsolete data.

Rising ocean levels will threaten low-lying areas by the end of the century, acknowledges the B.C. government. The only question is exactly how much and how fast sea levels will rise.

[By 2040: an Arctic with no ice?](#)

Ice is melting so fast in the Arctic that the North Pole will be in the open sea in 30 years, according to leading climatologists.

[Dynamic systems and arctic ice](#)

The date for the destruction of the arctic ice cap continues to shorten. This time: 2040. It will shorten more. Dynamic systems don't rest in transitional phases for very long. They typically snap to a new stable state (linear projections, which appear to be the

basis for most of the current analysis, don't help much here). Further, the feedback loop that is pushing the change is accelerating.

[Climate change catching voter attention](#)

Just as Bill Clinton used the battle cry "It's the economy, stupid!" to keep his 1992 presidential campaign focused, political leaders worldwide are chanting a new mantra based on growing alarm about global warming.

[Peak Oil to Peak Gas is a short ride](#)

Peak Oil precedes Peak Gas, but the time interval between the two is not 'canonical' or fixed, exactly like the division of 'associated' gas and 'unassociated' or 'stranded' gas - the first being associated with oil production, the second not. How fast we arrive at Peak Gas, or a permanent decline in net total gas production and supply will depend on how gas/oil tradeoffs are made, driven by relative prices and other factors, especially the cost and time needed to build gas gathering and recovery infrastructures for 'associated' gas, and new, almost exclusively LNG infrastructures for 'stranded' gas. Where it is not possible to build these infrastructures, gas will be lost in larger and larger quantities, shortening the time to Peak Gas through a combination of reduced reserves, and insufficient production installations and transport infrastructures. This is the exact dilemma now facing Russia's Gazprom, a 'microcosm' of the world context in which too much delay in recovering the current vast quantities of 'associated' gas that are thrown away can only advance the date of Peak Gas.

[Canadian oil sands eyes rivals](#)

Canadian Oil Sands Trust would consider buying a rival pure-play oilsands company as a way to expand its oilsands position.

Canada's largest energy trust already owns the dominant piece of the world's biggest oilsands mine, a 37.64% stake in Syncrude Canada Ltd.

The company's position in the joint-venture grew last week when it announced a deal to buy out Talisman Energy Inc.'s 1.25% interest for \$475-million.

But with Syncrude's latest expansion all but complete and the next stage of growth not due until 2010-2012, Canadian Oil Sands is about to see its cash flows surge.

So the big question facing president and chief executive Marcel Coutu, is how to best utilize all the incoming cash.

[Safety will sell Alberta](#)

Alberta's oilsands stand to benefit as nationalization of the energy sectors in Russia and Venezuela shrinks the portion of global oil reserves companies can invest in, CIBC World Markets said yesterday.

Chief economist Jeff Rubin estimates Canada accounts for 56% of the world's remaining oil reserves amenable for investment, adding that the entire increase in world oil production between now and 2010 will come from non-conventional sources like the oilsands.

[Biofuel Skeptic Extraordinaire](#)

In 1979, with the price of oil surging and a politically connected company called Archer Daniels Midland investing heavily in ethanol production, the U.S. Department of Energy invited Pimentel to chair an advisory committee to look at ethanol as a gasoline alternative. The committee's conclusion: ethanol requires more energy to produce than it delivers.

That assessment didn't stop the government from enacting a variety of subsidies for ethanol, which has since developed into a multibillion-dollar industry. Nor has Pimentel refrained from issuing a series of scholarly articles claiming to show that, after decades of steady government support, ethanol remains an energy bust.

Over the years, Pimentel has become an increasingly controversial figure. The U.S. Department of Agriculture now claims that corn ethanol delivers a modestly positive net energy balance [PDF], a conclusion recently endorsed by a study from University of Minnesota researchers. Yet Pimentel's provocations continue. Not only is corn-based ethanol a net energy consumer, he says, but cellulosic ethanol -- simultaneously biofuel's holy grail and sacred cow -- is "worse."

[A Healthy Glow \(Dec 8th\)](#)

Cigar Lake, in Canada's Saskatchewan province, is home to one of the richest uranium ore bodies on the planet. At 232 million pounds of proven and probable reserves, the economic value of the find is nearly \$14 billion at today's prices.

Cigar Lake production was expected to save the day for hungry nuclear power utilities - 103 of which operate in the United States. The plan was to have 7-8 million pounds of production from Cigar Lake online by 2008, with as much as 18 million pounds a year not long after. Cigar Lake was expected to supply 50% of all new uranium production within five years.

Then the walls caved in. Literally.

Concrete-reinforced steel doors were in place to hold back the lake, but an underground rockfall caused the doors to give way. Water rushed in at 1,500 cubic meters an hour; in due time, the mine was flooded.

[Buried deposits of greenhouse gases may be more unstable than thought](#)

Geologists have discovered underwater deposits of hydrates icy deposits of frozen methane gas at far shallower depths under the ocean floor than expected. The finding suggests that, in a globally warmed world, the hydrates could melt suddenly and release their gas into the atmosphere, thus warming the planet even more.

[Why a hydrogen economy doesn't make sense](#)

In a recent study, fuel cell expert Ulf Bossel explains that a hydrogen economy is a wasteful economy. The large amount of energy required to isolate hydrogen from

natural compounds (water, natural gas, biomass), package the light gas by compression or liquefaction, transfer the energy carrier to the user, plus the energy lost when it is converted to useful electricity with fuel cells, leaves around 25% for practical use an unacceptable value to run an economy in a sustainable future. Only niche applications like submarines and spacecraft might use hydrogen.

['Hydropower contributes to global warming'](#)

According to the study conducted across Southeast Asia by the National Sun Yat-sen University and the National Central University, hydropower causes much more global warming than coal- or oil-fired power stations.

"Hydropower has always been considered the cleanest form of power generation. But as dams prevent organic matters from flowing down stream, organic matters trapped at the bottom of reservoirs are deprived of the oxygen they need to decompose, thus producing methane and nitrous oxide," Professor Chen Chen-tong of the National Sun Yat-Sen University said.

[Chasm widens between rich and poor](#)

Statscan's study found two reasons for the widening chasm: house values rose sharply for high-end families, while the value of holdings among poorer families was little changed. Income distribution, meantime, led to an increase in concentration of wealth, the report said.

[Markets Make Delusions \(Dec 13th\)](#)

But after seven straight winning months and a 15% cumulative gain, investors begin to expect an eighth winning month...and a ninth...and a tenth...along with additional double-digit gains. Such complacent attitudes tend to arise just about the time the stock market is preparing to take a tumble.

As another fruitful year of stock market investing draws to a close, everyone knows that stocks are a "buy."

In the early days of a new stock market rally, however, very few investors believe that "stocks are a buy." In fact, most investors believe that "stocks are a sell." But as share prices climb, the stock market begins to make increasingly bullish opinions. The opinion that "stocks are a buy" progresses from being a "fringy notion" to a "viable thesis" to a "pervasive belief" to "common knowledge."

Unfortunately, once it becomes common knowledge that stocks always go up, they usually start going down. The opinion-making process begins to head in reverse, sometimes rapidly...as share prices begin to fall, sometimes rapidly. Eventually, share prices fall so unremittingly that "stocks are a sell" becomes common knowledge. And that's about the time that stocks become a "buy" again.

At the moment, it is common knowledge that stocks are a "buy." Consider yourself forewarned.

[Risky mortgages imperil market](#)

Banks and mortgage brokers have been passing along to unwary investors as much as \$600 billion a year in risky mortgages they made through untested channels in the junk-bond market. That raises the threat of a financial crisis beyond the ability of the Federal Reserve to remedy, said Lewis Ranieri, the Wall Street guru who is widely credited with creating the multitrillion-dollar market for mortgage-backed securities in the 1980s and 1990s.

Bank regulators told the National Housing Forum here yesterday that they have found major banks punting to investors questionable mortgages they could not legally keep in their own loan portfolios. Mr. Ranieri said brokers on Wall Street have raised the risks by repackaging the mortgages in deceptive and opaque ways so that the small investors and foreigners who buy them are unable to understand the risks.

[US subprime loans face trouble](#)

The failure of a small Californian mortgage lender on Thursday increased nervousness in the credit derivatives market about the large number of US "subprime" mortgages extended this year.

The cost of insuring against default on securities backed by subprime mortgages rose after Ownit Mortgage Solutions, in which Merrill Lynch has a 15 per cent stake, closed its doors.

Its failure is the latest in a series of ominous developments in the market for subprime mortgages - higher interest loans made to borrowers who are seen as risky because of payment problems or large debt burdens.

[Sprott Asset Management: Fearful of Flimsy Foundations](#)

It is our opinion that the US housing market is the single most important (not to mention the most threatening) issue facing financial markets today. What's more, the stock markets in their current state of frenzy seem completely oblivious to the perils that a plummeting housing market portends.

[Housing Bubble: What The Numbers Tell Us](#)

Furthermore, California home-buyers have increasingly financed their purchases with unconventional loans, such as adjustable rate, negative amortization and interest-only mortgages, rather than traditional fixed mortgages. Just under a third of mortgages initiated or refinanced in California this year have interest-only components, compared with 1.4 percent in 2000, according to LoanPerformance. This tactic may have seemed quite savvy when rates were low, but it seems much less savvy now.

Highly leveraged, adjustable-rate home-buying has become so prevalent in the Golden State that the California Association of Realtors (CAR) recently changed its "affordability" methodology. The Housing Affordability Index (HAI), when the CAR launched it in 1984, assumed a 20% down payment and a fixed-rate mortgage. But that's "old school" now. The new and improved affordability index assumes a 10% down payment and an adjustable-rate mortgage.

Canadian Prime Minister Stephen Harper, elected early this year, and the new environment minister, Rona Ambrose, have dismissed Canada's Kyoto commitments for reducing greenhouse gases as impossible to achieve.

They have also cancelled a five-million-dollar pledge to help least developed countries adapt to the impacts of climate change and have withdrawn Canada's participation and funding of the Kyoto Clean Development Mechanism (CDM).

"That's totally irresponsible... It's a slap in the face to the people of small island states and Inuit people of the North," said Enele Sopoaga, permanent representative of Tuvalu to the United Nations. His small island country in the South Pacific is experiencing flooding due to rising sea levels.

[Entergy New Orleans natural gas woes continue](#)

Problems continue from conditions created when Hurricane Katrina's floodwaters inundated approximately 800 miles of Entergy New Orleans natural gas pipelines, the utility said.

Entergy New Orleans removed more than 4 million gallons of water from the system and restored gas service to those customers capable of taking service. Yet small amounts of water remain in the pipes causing outages.



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