

The Energy and Environment Round-Up: September 7th 2007

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(See also the Finance Round-Up on TOD:Canada.)

Exploring for Oil in the Arctic's 'Great Frontier'



These days, the frontiers of oil exploration include the waters north of Alaska. Nobody knows how much energy is hidden beneath the Arctic waves. But oil companies want to find out.

A federal court blocked Royal Dutch Shell proposal to drill for oil in the Beaufort Sea, above Alaska's northern coast. But the company is still trying. And its story tells you a lot about the forces shaping the Arctic's future.

This summer, Shell assembled an entire fleet in an Alaskan harbor.

Crews were performing maintenance on a drill ship. It carries an oil derrick 190 feet high. That means it steams around with a tower taller than the Statue of Liberty, from its toes to its torch.

"This is the Frontier Discoverer. I would call it the state-of-the-art drilling rig, one of

the very few that are capable of working in the Arctic today," says Vince Roes, who works on the ship, which has a reinforced hull.

Pay up or risk pipeline, Ottawa warned

Northwest Territories Industry Minister Brendan Bell says the \$16.2-billion Mackenzie Valley pipeline may not get built without federal cash for key access infrastructure as well as loan guarantees for the project's aboriginal investors.

The roads, bridges, airstrips and barge landings needed to build the 1,200-kilometre natural gas pipeline would be a legacy to the North, Mr. Bell said yesterday after a speech in Washington.

Once in place, the infrastructure could be used to help develop the territory's economy, including its burgeoning diamond mines, Mr. Bell told reporters.

Ottawa has been loath to directly subsidize the main Mackenzie Delta gas producers, including Exxon Mobil Corp. and its 70-per-cent-owned subsidiary, Imperial Oil Ltd.

Exxon recently threatened to pull out of the pipeline deal unless Ottawa helps defray the mounting costs. The project's estimated price tag has shot up to more than \$16-billion from \$7-billion, threatening the economics of the project.

Bell pitches pipeline in Washington

North Americans could spend \$338-billion more between 2014 and 2025 for natural gas if reserves from the Arctic remain untapped and costs for the fuel soar, says a new study the Government of the Northwest Territories cites in its lobby to spur the beleaguered \$16.2-billion Mackenzie Gas Project forward.

Canada's portion of additional costs would be about \$40-billion as a result of higher gas prices, Brendan Bell, Minister of Industry, Tourism and Investment for the territorial government warned yesterday in a presentation to the Centre for Strategic and International Studies in Washington. The scenario, mapped out by energy consulting firm Energy and Environment Analysis, Inc., of Arlington, Va., whose services are used regularly by the United States Department of Energy, envisions major pipelines from the Alaska North Slope and the Mackenzie Delta in the Northwest Territories not getting built, and about half the expected volumes of gas in liquefied form arriving from LNG projects in Russia and Norway.

Mr. Bell also told members of the influential think tank that the cost of stifled Arctic gas development over those 11 years is another 280-million tonnes worth of carbon emissions -- about half of California's yearly CO2 output -- if coal is used instead to feed growing electricity demand from consumers.

"I think it's important to let North Americans know the cost of delays, of not bringing Arctic gas to their doorstep," Mr. Bell said in an interview.

N.W.T. report boasts gas pipelines would bring cuts in emissions, lower costs

The Northwest Territories is taking on environmental groups and social activists with a report that boasts about the benefits of gas pipeline development in Canada's North.

The study, released Wednesday by N.W.T. Industry Minister Brendan Bell at a U.S. think-tank, says there could be substantial reductions in carbon dioxide emissions that cause global warming over 11 years if the two proposed projects go ahead.

Reductions in emissions in Ontario from less reliance on coal-fired generation could be as high as 21 million tonnes or 15 per cent, said the report.

Emissions in the United States would drop significantly in states like Texas, but the overall decline would likely only be about three per cent.

Global Credit Rout May Paralyze Infrastructure Loans

The global credit rout sparked by the U.S. subprime mortgage slump may leave as much as \$34 billion of leveraged loans for railroads, tollways and similar projects ``paralyzed," said analysts at Standard & Poor's.

Banks are less likely to lend to infrastructure projects after being saddled with as much as \$332 billion of unsold leveraged loans, the S&P report said.

``With the credit cycle turning, loosely structured and highly leveraged acquisition loans are looking shaky," wrote Mike Wilkins, a London-based analyst at S&P, in a report published today. ``Risks are likely to be exacerbated as credit markets become increasingly volatile and investor confidence fragile."

Offshore competition swamping gas industry

Cheap liquefied natural gas from offshore has replaced Canadian natural gas as the fallback supplier to the United States, making Canadian producers helpless to influence prices that have sunk so low most of their new reserves are uneconomic, the chief executive of a top energy research firm said vesterday.

Paul Ziff, head of Ziff Energy Group, said it will take a major effort on the part of the Canadian industry to stabilize and then roll back costs to restore its competitiveness.

"This is a crossroads, this is not like a regular cycle," Mr. Ziff said after speaking to the Canadian Association of Drilling Engineers.

"There is no predictable time [when a turnaround might happen] because we can't predict the behaviour of the industry."

He warned that high profits posted by some oil and gas companies don't tell the full

story -- they are either based on oil production, which is continuing to enjoy high pricing because oil is reflecting a political risk premium or on old gas reserves that were cheaper to find.

"Yes, there is lots of cash thrown off by old resources. However, for new, we are probably under water," he said.

Canadian Pacific seeks to tap massive coal deposit

Canadian Pacific Railway Ltd. pitted itself against two of the largest U.S. railways yesterday by announcing plans to buy Dakota, Minnesota&Eastern Railroad Corp., and laying the groundwork for a multi-billion-dollar investment in the coveted coal deposits of Wyoming's Powder River Basin.

Until now, Burlington Northern Santa Fe Corp. and Union Pacific Corp. have enjoyed exclusive access to the lucrative basin, which is North America's largest and fastest-growing region for low-cost, low-sulfur coal. CP aims to bust up that duopoly within the next five years by expanding into the area.

Global demand lights fire under coal

After years of stagnant demand, coal has come back to life as producers worldwide respond to rising demand from developing countries.

A tipping point came this year when China, one of the world's leading producers, for the first time became a net importer of coal.

"China's export inflection combined with continued supply problems looks very promising," said Daniel Brebner, a commodity analyst at UBS, who predicts prices for coal used to make steel will rise 20% in 2008.

After rocketing to a high of US\$125 a tonne three years ago, metallurgical coal settled back but prices are now soaring again, with recent spot prices as high as US\$135 a tonne.

Canada to reprocess other nations' nuclear waste

Canada will eventually get into the business of reprocessing spent nuclear fuel, Natural Resources Minister Gary Lunn said yesterday as the government considers an invitation to join a major international effort to promote nuclear technology worldwide.

As he headed to a meeting of the Asia Pacific Economic Co-operation forum in Australia yesterday, Prime Minister Stephen Harper was expected to face questions on whether Canada will join the Global Nuclear Energy Partnership, a group of major nuclear powers dedicated to spreading nuclear technology into developing countries.

U.S. President George W. Bush - who is leading the GNEP process - has suggested that, as a price of entry, major uranium-producing countries should agree to accept and dispose of nuclear waste from countries to which they sell the uranium for reactor fuel.

Canada is the world's largest uranium producer, followed closely by Australia, whose government has already indicated an interest in joining the nuclear partnership.

Used nuclear energy could be on its way here

When Prime Minister Stephen Harper departs for Australia today for a summit of pan-Pacific leaders, he'll be carrying with him a secret agenda that is quite literally radioactive.

Harper will face questions from both Australian Prime Minister John Howard and U.S. President George W. Bush over Canada's participation in a sweeping American-led initiative still in its infancy.

The initiative, called the Global Nuclear Energy Partnership, proposes that nuclear energy-using countries and uranium-exporting countries band together in a new nuclear club to promote and safeguard the industry.

Central to the plan is a proposal that all used nuclear fuel be repatriated to the original uranium exporting country for disposal.

That should be big news in Canada, the world's largest uranium producer. But to date, the Canadian government's response is a closely guarded secret. In fact, there's been virtually no public debate at all.

Economics of nuclear power are rethought

The 2005 energy bill provided loan guarantees, tax breaks, insurance against regulatory delays and other incentives to help lower borrowing costs for nuclear developers. However, the Bush administration is still working on rules for the loan program. Constellation spent \$100,000 in the first half of this year to lobby the federal government on the issue, disclosure forms show.

Loan guarantees alone would reduce nuclear construction costs by a quarter, the Energy Information Administration said in its annual energy outlook. With the guarantee in place, it estimates that a new nuclear plant could generate electricity at 4.78 cents per kilowatt hour. Only a coal gasification plant - which turns coal into a gas before burning - came in cheaper, at 4.66 cents.

Letter to Kunstler from UK oilman

Essentially the oil industry is abandoning the UK. BP has either sold-off or closed all its

UK refineries (the last one to go was their Grangemouth refinery) and now only retains the Forties & Sullom Voe interests. Shell is planning to swap over to Middle-east crude around 2011 at its single remaining UK refinery and is busy selling off most of its European refineries. Any questions as to whether any Middle-east crude will be available to the UK in 2011 are studiously ignored in Shell. The general attitude is one of, 'Since we will need the oil, it will be available'. All of the above points to the oil companies foreseeing a pretty bleak future for their UK and European refining operations....

....With much of the thinking inside the UK oil industry often delusional, outside of it we pretty much in La-La land. Both the government and the media are obsessed with global warming. Barely an evening passes without a news item relating to icebergs melting, heat stroke in Polar bears or the sad absence of lichen for reindeer etc. Inside the oil industry it is well known that the UK government is regularly briefed by the oil companies. Evidently the government have made the decision to use global warming as a way of encouraging thrift in oil usage - with absolutely no effect.

What is never mentioned in the media is the crashing of North Sea oil production. A recent documentary about oil exploration in the Arctic managed to completely overlook why such desperate measures might be required. When the oil industry is (occasionally) discussed, it is invariably on the basis that oil now only forms 10 to 15% of the UK economy, given that the City of London has become so important. (I know that will make you laugh.)

High Noon for Empire

Phillips draws from the experience of empires past, including — as Sumner did — the Spanish empire. He also draws insights from the Dutch, British, Hapsburg, and Roman empires. His book has many threads that show how America is well along the familiar life cycle of empires. But I want to focus on just two: the rise of finance and America's oil dependency.

Empires get hooked on certain fuel sources like dope addicts. The Dutch were masters of wind and water. But their commercial dominance faltered with the rise of coal. Coal fed the British Empire. But it eventually gave way to the oil-powered might of the United States. Phillips maintains that the inevitable transition to a post-oil global economy — whether it is based on natural gas, hydrogen, greater nuclear reliance, renewable energy, or whatever — "could see the United States displaced by a new leading economic power, probably an Asian one." The history of modern empires is one in which transitions to new fuel sources are just not successful.

New Era for Train Travel?

To run a similar service for double or triple the number of passengers would require an enormous investment in infrastructure: double- and triple-tracking, more trains, more stops, split-second scheduling. Costs would have to come down dramatically, requiring a dramatic boost in subsidies.

Moreover, passengers would have to change their attitudes and expectations. Most of today's train travellers are affluent seniors, in no rush to get anywhere. They travel for pleasure, not for urgent business or family matters.

Most air travelers, by contrast, would go crazy on a long-distance train. They're used to being cramped in an aluminum tube for a few hours, maybe with a video screen on the seat back in front of them. It's not as comfortable as the train, but it's brief. The idea of taking three days and nights just to attend a wedding or graduation, or a business meeting, would seem intolerable by comparison.

Global warming: Too hot to handle for the BBC

The transformation of climate change from a scientific to a political issue became clear last night when the BBC dropped plans for a day-long TV special on global warming.

The scrapping of Planet Relief, an awareness-raising broadcast similar in concept to programmes such as the poverty-focused Comic Relief and Live8, and planned for early next year, marked a watershed moment: it showed that opining about climate change is now as significant in Britain as scientific fact.

Environmentalists and politicians fiercely criticised the BBC for abandoning the programme, for which Ricky Gervais and Jonathan Ross had been provisionally lined up as presenters. The corporation said that it had decided it was not the BBC's job to lead opinion on the global warming issue. However, critics complained that the effect of the decision was to imply that there was no scientific consensus on the reality of climate change and its human causes, and accused the corporation of being swayed by increasingly vocal climate-change sceptics.

Ottawa accused of helping to dilute Kyoto

Canada's position "really is scary in terms of what the outcome will be for after 2012," Bennet said.

This country joined Russia, Japan, New Zealand and Switzerland to scuttle a draft statement proposed by Europe that industrialized countries should strive to cut their emissions by 25 to 40 per cent by 2020 – the range the world's leading climate scientists said last winter is crucial to avoid catastrophic warming.

Instead, after hours of extended bargaining, the negotiators reached a vague, convoluted compromise.

It states the Kyoto countries "recognized" the scientists' range and says it provides "useful initial parameters for the overall level of ambition of further emissions reductions."

A UN official hailed the compromise, which does recognize emissions must some day be cut to "very low levels."

Climate change raises alarm bells in Canada

Canadians are now expressing alarm about climate change in greater numbers than in any developed nation except France, according to a poll released Tuesday.

Unless politicians respond with aggressive action to curb greenhouse gas emissions, they risk paying a heavy price, warns the president of the polling firm that commissioned the survey.

New data from the Environmental Monitor research program show that two-thirds of Canadians now rate climate change as a "very serious" problem, up from 57 per cent last year.

That ties Canadians with France and Mexico for fourth globally in their level of concern, according to parallel polling in 20 nations done this year by GlobeScan. "Canadians are among the most concerned citizens in the world today about the seriousness of climate change," says Doug Miller, GlobeScan's president.

The only people expressing greater concern live in developing nations -- Brazil, where fully 84 per cent rate climate change a very serious problem, Chile and India. By comparison, barely half of Americans hold that view.

New Gore book to set out inconvenient solutions

It said the book would be, "part scientific manual, part exposé, part visionary call for a new planet-wide political movement".

Rodale said Path to Survival would "appeal to those who were motivated by the call to action of An Inconvenient Truth and who are now ready to fight for the solutions that were considered politically impossible only a short time ago".

Climate change debate needs revolution

A revolution of society on a scale never witnessed in peacetime is needed if climate change is to be tackled successfully, the head of a major business grouping has warned.

Bjorn Stigson, the head of the Geneva-based World Business Council for Sustainable Development (WBCSD), predicted governments would be unable to reach agreement on a framework for reducing carbon emissions at either a US-sponsored meeting in Washington later this month or at a United Nations climate summit in Indonesia in December.

Climate change is also expected to be high on the agenda at this week's annual summit of Pacific leaders in Sydney.

"It will probably get worse before it gets better before governments feel they've got the

political mandate to act," he told the Financial Times during a visit to Jakarta. "We're going to have to go into some sort of crisis before it's going to be resolved. I don't think people have realised the challenge. This is more serious than what people think."

The "challenge", Mr Stigson said, is for developed nations to cut carbon emission levels by 60 to 80 per cent from current levels by 2050 if global emissions are to be kept below 550 parts per million. Global emissions at that level would keep average permanent global temperature increase below 3 degrees by 2050, a level beyond which most scientists say climate change would be significantly worse.

Pacific, Atlantic storms set a new record

Felix and Henriette made hurricane history Tuesday.

Eight hours after Felix roared into Central America, Henriette slammed into the resortstudded tip of the Baja California peninsula. Never before had an Atlantic and a Pacific hurricane made landfall on the same date.

It also was the first time on record that two Category 5 Atlantic hurricanes made landfall in the same year, with Felix hitting two weeks after monstrous Hurricane Dean plowed into southern Mexico.

Felix is the 31st Category 5 hurricane seen in the Atlantic since record-keeping began in 1886 - and the eighth in the last five seasons.

Some scientists think technological advances have simply made hurricane measurements more accurate. Others see the surge of powerful storms as a sign of global warming, that human-caused increases in sea surface temperatures are making storms stronger.

"Today hurricanes are becoming increasingly violent. For example, water from the Carribean, the ocean, is two degrees hotter than before," Mexican President Felipe Calderon said, siding with a growing number of climate-change experts. "This makes steam rise off the ocean more quickly; hurricanes form faster and are more violent."

Changing world sees maps playing catch up

Development and environmental change are now altering the physical aspect of the world so fast that maps are having to be regularly redrawn, say the publishers of an atlas reissued today with many changes since its last edition....

....The atlas also vividly illustrates environmental changes — such as the dramatic shrinking of two of the world's biggest inland water bodies, the Aral Sea in central Asia and Lake Chad in Africa. The Aral Sea has shrunk by 75 per cent since 1967, largely because of large-scale water extraction to irrigate cotton growing, in a project of the former Soviet Union which proved disastrous. Lake Chad has shrunk by 95 per cent since 1963, because of water extraction for a growing population, overgrazing by cattle, and rainfall decline.

The Atlas also states that 40 per cent of known coral reefs have been destroyed or

degraded, and more than one per cent of tropical rainforest is cleared each year – potentially hastening climate change.

Ice-free Arctic could be here in 23 years

The Arctic ice cap has collapsed at an unprecedented rate this summer and levels of sea ice in the region now stand at a record low, scientists said last night. Experts said they were "stunned" by the loss of ice, with an area almost twice as big as Britain disappearing in the last week alone. So much ice has melted this summer that the northwest passage across the top of Canada is fully navigable, and observers say the northeast passage along Russia's Arctic coast could open later this month. If the increased rate of melting continues, the summertime Arctic could be totally free of ice by 2030.

Mark Serreze, an Arctic specialist at the US National Snow and Ice Data Centre at Colorado University in Denver which released the figures, said: "It's amazing. It's simply fallen off a cliff and we're still losing ice." The Arctic has now lost about a third of its ice since satellite measurements began 30 years ago, and the rate of loss has accelerated sharply since 2002.

Dr Serreze said: "If you asked me a couple of years ago when the Arctic could lose all of its ice, then I would have said 2100, or 2070 maybe. But now I think that 2030 is a reasonable estimate. It seems that the Arctic is going to be a very different place within our lifetimes, and certainly within our children's lifetimes."

Arctic Land Grabs Could Cause Eco-Disaster

Environmental groups as well as many residents of northern Canada are not happy about the prospect of increased shipping in the Arctic. They worry that increasing shipping over the next few years is all too likely to cause an environmentally disastrous accident because the ice won't be completely cleared for decades—it will have cleared just enough that inexperienced mariners will recklessly try to push through. "Freighters of all sorts will be coming through to save some cost on fuel," says Joseph Handley, Premier of Canada's Northwest Territories, which borders the Arctic Ocean. "They'll come through and there will be accidents."

If the worst case does come to pass and there's a large oil or chemical spill in the high Arctic, the consequences could be particularly bad. The evaporation process is much slower in high latitudes because the water is so cold; breaking down pollutants like spilled oil could take many decades, says Peter Ewins, director of species conservation for World Wildlife Fund Canada. In addition, the region is so far removed from population and maritime centers that getting clean-up supplies to a spill site would be exceedingly difficult. After the Exxon Valdez oil spill in Alaska, the U.S. Coast Guard was near enough that a clean-up effort could start immediately. "If you had to clean up a spill in the high Arctic, I don't know how you'd do it," says Handley.

Instead of supporting the Coast Guard, Mr. Harper is building ice-strengthened patrol ships for the Navy. Yet armed naval vessels are not suitable for dealing with the actual threats associated with international shipping, which range from illegal immigrants to oil spills. Nor are they able to fulfill the other roles played by Coast Guard icebreakers, from maintaining navigation aids to supporting Arctic research.

Again, sovereignty is only partly a military issue. In each of the five communities we visited, we heard about the problems suffocating Inuit youth, including depression, drug and alcohol abuse, and a staggeringly high suicide rate. We learned about the limited funding available for prevention and rehabilitation programmes in Canada's largest, most remote and impoverished region.

Despite having a population of only 32 million, Canada has the world's eighth largest economy. This is a phenomenally wealthy country. Until the Inuit are able to live at developed country standards, our claims to Arctic sovereignty will impress no-one.

Dams 'contribute to global warming'

The world's dams are contributing millions of tonnes of harmful greenhouse gases and spurring on global warming, according to a US environmental agency.

International Rivers Network executive director Patrick McCully today told Brisbane's Riversymposium rotting vegetation and fish found in dams produced surprising amounts of methane - 25 times stronger than carbon dioxide.

"Often it's accepted that hydropower is a climate friendly technology but in fact probably all reservoirs around the world emit greenhouse gases and some of them, especially some of the ones in the tropics, emit very high quantities of greenhouse gases even comparable to, in some cases even much worse than, fossil fuels like coal and gas," Mr McCully said.

He said when water flow was stopped, vegetation and soil in the flooded area and from upstream was left to rot, as well as fish and other animals which died in the dam.

They then released carbon dioxide, methane and nitrous oxide into the air.

"Basically they're factories for converting carbon into methane and methane is a very powerful greenhouse gas - it's less known than carbon dioxide but it's actually about 25 times stronger than carbon dioxide in terms of trapping heat in the atmosphere."

UK: Rising price of wheat signals end of low-cost food

Premier Foods, whose products range from Mr Kipling cakes and Quorn to Branston Pickle, warned yesterday that the days of super-low-cost food are coming to an end as global demand for wheat rises.

The UK's biggest food producer also announced an increase in the price of Hovis bread,

and said one major retailer had pushed up the price of a white loaf by 8p, taking it to more than £1.

Wheat prices have almost doubled in the past 12 months, and the buying of wheat futures contracts has been fuelled by dry weather in Australia and fears that Russia may restrict exports. Premier's chief executive, Robert Schofield, said food inflation is not just restricted to wheat. The price of animal feed, milk products, glucose and byproducts are rising, he said.

"It is not a blip," Mr Schofield said. "We are seeing some forces out there that are not going to go away in three months. The overall global demand for food products is up, fuelled by demand coming out of Asia." Mr Schofield added that the use of land to grow environmentally friendly fuels is partly to blame for rising prices. "In effect, we're going to see an environmental tax on food," he said. "A lot of grain is being used for fuel."

Days of cheap food are over, say suppliers as ingredient costs soar

Supermarket pledges to drive down the price of staple goods and help cash-strapped shoppers looked increasingly vulnerable last night after Britain's biggest food manufacturer insisted even the largest superstore groups would have to stomach higher prices from suppliers that are struggling with steep rises in ingredient costs.

Global growing problem of wheat production

The price of the wheat used to bake the bread has doubled since April, a headache for food producers and consumers alike, but a potential fortune for investors who saw soaring crop prices in time.

Premier's chief executive Robert Schofield announced the rise with a warning: "We'll be very surprised if general bread prices don't go up because the pressures upon us all are the same."

On the other side of the trade, Sean Corrigan, chief investment strategist at Diapason, a commodities trader, said: "This should be a reminder of how tight we run some of these agricultural commodities. The days of effortless and easy surpluses are behind us."

With a squeeze at both ends of the supply/demand equation, those surpluses, and the rock-bottom prices that went with them, don't look like coming back.

Yesterday India, the second biggest consumer of wheat, waded into the global market to try to buy 50pc more of the grain than suppliers were offering. Last year, the subcontinent swung dramatically from exporting surplus wheat to importing it.

Elsewhere, Russia said it was considering curbs on exports to keep a lid on prices at home. Australia, the third-biggest exporter of wheat, warned that its output this year might be 18pc less than a previous government estimate. A second year of drought means Aussie farmers will again miss out on sky-high farm-gate prices.

Australia: Water restrictions may never end - experts

Australia may never fully recover from the current decade-long drought due to climate change, experts have warned.

The nation was facing a "new reality" of harsh water restrictions and a new climate with run-offs and river inflows the first casualty, speakers at today's Bureau of Meteorology national post-winter update said.

It was also revealed that although above-average rain fell along Australia's east coast in June-July, August rainfall in the southeast had been "terrible".

Areas affected by drought included nearly all population centres with Adelaide and Brisbane most vulnerable, although Sydney had enjoyed a bumper winter of rain.

Two months of rain was not enough to stop a 10-year drought and the outlook was grim due to "human-induced" climate change, the Bureau's National Climate Centre head Dr Mike Coughlan said.

Drought again threatens Australian wheat output: trade minister

Drought could wipe out Australia's wheat crop despite expectations that the country's worst dry spell for a century was easing, Trade Minister Warren Truss warned Tuesday.

"In many parts of Australia there has been some relief and a quite large wheat crop was planted," he told reporters on the sidelines of an Asia-Pacific summit in Sydney.

"It's disappointing to hear reports now that the crop is deteriorating especially in New South Wales and parts of Victoria."

California: Forced water rationing one step closer to reality

"We may find that we need to go back and ask for more conservation — perhaps even mandatory conservation," said Walt Wadlow, a chief operating officer of the district, based in San Jose. "Even if we have an average rainfall year, it is going to feel like a long-term drought year in terms of the water available from the delta."

The last time Silicon Valley faced mandatory water rationing was during the 1987-1992 drought. The stiffest cutbacks came during 1991, when residents were required to cut water use 25 percent or face fines.

"If we have a lot of local rainfall in the winter that will make it easier to get through next year," Wadlow said. "But we'll have to do the planning this fall. In the water planning business you are always looking ahead."

A Thirst for Milk Bred by New Wealth Sends Prices Soaring

Driven by a combination of climate change, trade policies and competition for cattle feed from biofuel producers, global milk prices have doubled over the last two years. In parts of the United States, milk is more expensive than gasoline. There are reports of cows being stolen from Wisconsin dairy farms.

"There's a world shortage of milk," said Philip Goode, manager of international policy at Dairy Australia in Canberra.

But the biggest force driving up milk prices is the same one that has driven up prices for conventional commodities like iron ore and copper: a roaring global economy. Rising incomes in emerging economies from China and India to Latin America and the Middle East are lifting millions of people out of poverty and into the middle class.

It turns out that, along with zippy cars and flat-panel TVs, milk is the mark of new money, a significant source of protein that factors into much of any affluent person's diet. Milk goes into infant formulas, chocolate, ice cream and cheese. Most baked goods contain butter, and coffee chains like Starbucks sell more milk than coffee.

Livestock breeds face 'meltdown'

Many of the world's rare species of livestock face extinction unless conservation measures are taken now, a group of researchers has warned.

They said modern agricultural methods had overlooked the benefits of genetic traits that have evolved in breeds found in developing countries.

Drought or disease tolerant attributes would become increasingly important to farmers in the future, they added.

The findings were presented at a UN summit on animal genetic resources.

Researchers from the Nairobi-based International Livestock Research Institute (ILRI) said that the global market was dominated by a few breeds, selected for their high-yield characteristics.

They added that a report published by the UN Food and Agriculture Organization (FAO) found that 90% of cattle in industrialised nations came from only "six tightly defined breeds".

But these breeds, from northern temperate regions, were displacing long-established farm animals that were able to cope with conditions found in many developing nations, which was home to 70% of the world's breeds.

Retreat of the penguins

Woehler and company conclude that unless scientists, governments, conservation

groups and the public take immediate action to reverse the trend, penguin populations will plummet. Many species face extinction.

That's more than a tragedy for the seabirds themselves, Woehler says. "Penguins are the bellwether of climate change. As birds they're pretty much at the top of the food chain and act as two-footed bio-indicators of the health of the environment, marine and terrestrial," he says.

Seabird ecologist Shaye Wolf - with the non-governmental organisation the Centre for Biological Diversity in San Francisco - agrees. She says 12 species are in immediate danger, among them Antarctica's legendary emperor penguins. "The emperor colony at Pointe Geologie, immortalised in the film March of the Penguins, has declined by over 50 per cent since the 1960s," says Wolfe, in Australia for the meeting.

Virus becomes new suspect in bee die-off

Scientists have found a new prime suspect in the deaths of about a guarter of America's honeybees, a mystery that could take a multibillion-dollar toll on the nation's agricultural honeybee pollination. industry.

Months of genetic testing have fingered a virus that was first reported in Israel just three years ago and may have passed through Australia on its way to the United States. The correlation between Israeli Acute Paralysis Virus and the mysterious bee disease — known as Colony Collapse Disorder, or CCD — was reported Thursday on the journal Science's Web site.

Although the scientists behind the research cautioned that they haven't yet cracked the case, their study provides enough curious coincidences to keep even the fictional detective (and beekeeper) Sherlock Holmes buzzing.

The economic effect of the bee disappearances goes far beyond the lost honey: In fact, the bee industry's primary impact is felt through the crops that the insects pollinate products that are valued at \$14 billion to \$20 billion annually. Since Colony Collapse Disorder first came to light last year, the malady has affected an estimated 23 percent of the nation's beekeeping operations, with losses of up to 90 percent. Other countries are reporting mysterious bee losses as well.

Not just honey

Many valuable agricultural products are dependent on

Crop and value in billions, 2008		Percentage pollinated by honeybees
Soybeans	\$19.7	50%
Alfalfa	7.5	60
Cotton	5.2	80
Almonds	2.2	100
Apples	2.1	90
Oranges	1.8	90
Peaches	0.5	80
Cherries, sw	eet 0.5	90
Grapefruit	0.4	90
Tangerines	0.1	90

SOURCE: U.S. Dept. of Agriculture; AP Roger A. Morse and Nicholas W. Calderone, Cornell University

Benefits of cleaning Great Lakes cited

A road map to restore the Great Lakes has been circulating in Congress for nearly two years, but so far lawmakers have largely balked at the route.

Money is a big reason. Twenty-six billion dollars is the estimated cost to clean up the lakes' toxic messes, cork the chronic sewer overflows, restore trashed wetlands and stem the onslaught of invasive species, among other things.

But an independent panel of economic experts said Wednesday that the restoration plan shouldn't be viewed as an expense, but as an economic opportunity. They maintain that fixing the world's largest freshwater system would create an estimated \$50 billion in long-term economic benefits.

The reason: Healthy waters are not only good for the people and wildlife that depend on them. In this increasingly thirsty world, they are also good at attracting investment.

The Great Plastic Bag Plague

Each year across the world some 500 billion plastic bags are used, and only a tiny fraction of them are recycled. Most of them will have a short lifetime with a consumer -- they'll be used for the few minutes it takes to get from the store to home and then they're thrown away.

But what does "away" really mean? Plastic shopping bags can last up to a thousand years in a landfill. In the environment, they break down into tiny, toxic particles that become part of the soil and water. Fortunately, some communities in America have started taking serious action.

Stephanie Barger has seen what washes up on the shores of Southern California. The executive director of Earth Resource Foundation, Barger has helped clean up the sands of Orange County and has helped educate people about the effects of a society that embraces disposability.

Environmental study drops dirt on Ottawa's poisonous waste

Ottawa is Ontario's worst offender when it comes to producing hazardous waste.

A report released yesterday by the Canadian Institute for Environmental Law and Policy says Ottawa was the top offender in 2005, producing 250,887 tonnes, or 14.5%, of the hazardous waste in the province.

"This was the most hazardous waste generated in the Ottawa area since it reached a high point in 2000," says the 41-page report produced by the Toronto-based research firm. Ottawa beat out other municipalities such as Burlington, Windsor, Hamilton and Toronto.

Is Canada a country?

"It is time for us to decide if we are a country," he said. "We should have a free flow of goods and people and services right across Canada. Frankly, it is pretty shocking that we don't have it yet. And there is one reason we don't have it, and that is provinces stop it."

One hundred and forty years after confederation, Canadians cannot be certain that they

can do business in other provinces, sell their goods, make investments or pursue their profession or trade.

Even if Canadians can do some or all of these things, there is no certainty that they will not be confronted by different standards, regulations or administrative requirements that will make it difficult to do business in another province or that will put them at an unacceptable competitive disadvantage in the other jurisdiction.

And what are Canadians to do if they encounter these barriers and impediments to trade, investment and labour mobility? Nothing. There are no rules for domestic trade in Canada, no commitment by Canadian governments not to restrict trade and commerce between provinces, and no mechanism to enforce this commitment if there was one.

Canada Up for Grabs

But if Day and Harper believe they can continue to portray the SPP as the jelly-bean initiative, they may be in for a nasty surprise. All the opposition parties have taken a critical stand on the SPP and deep integration in general. The NDP has been leading the charge for months, and successfully flushed out the government on the issue of energy security by forcing SPP hearings in the International Trade Committee. New Westminster MP Peter Julian has been digging up dirt on the process for over a year, and has identified a massive deregulation effort involving some 300 public policy areas.

Canada ripped for opposing UN declaration

Canada was cast today as a bad actor that aggressively campaigned alongside countries with tarnished human-rights records in its failed bid to derail the United Nations Declaration on the Rights of Indigenous Peoples.

The non-binding declaration is expected to be adopted Sept. 13 by the UN General Assembly.

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