



The Energy and Environment Round-Up: November 21st 2007

Posted by [Stoneleigh](#) on November 22, 2007 - 8:00pm in [The Oil Drum: Canada](#)

Topic: [Miscellaneous](#)

With climate change and conflict linked over the long term, the acceleration of the current warming trend is alarming. Glaciers in Canada have retreated to the point where they are revealing material encased in ice for thousands of years, while the acidification of the oceans due to CO₂ absorption is described as the most profound shift in ocean chemistry for "hundreds of millennia". New estimates suggest that the Arctic Ocean could be ice-free by 2010, and the IPCC has removed the upper boundary it had previously placed on the expected sea level rise.

Climate refugees are becoming more common around the world, particularly due to the droughts that result when a decrease in rainfall combines with higher temperatures, and therefore a higher rate of evaporation, to greatly reduce the available water. As this problem grows, the potential for conflict grows with it.

[War has historic links to global climate change](#)

Climate change and conflict have gone hand-in-hand for the past 500 years, a study reveals.

It is the first time that a clear link between war and changing global temperatures has been identified in historical data, according to the researchers involved. The results are also significant because some experts predict that current and future climate change may result in widespread global unrest and conflict...

...A recent study linked climate change to 1000 years of conflict in China, but until now, few studies have looked at whether long-term climate change in the past has been accompanied by increased conflict on a global scale.

"Our basic model is that deviations in temperature can hamper crop production," says Peter Brecke of the Georgia Institute of Technology in Atlanta, US. This, in turn, has three effects: increasing food prices, a greater risk of death from starvation, and increased social tension, which leads to violent conflict.

Brecke and colleagues in Hong Kong, China, and the UK scanned worldwide historical records on food prices, population levels and conflicts and compared this data with long-term temperature records. The data extended as far back as 1400.

[A world dying, but can we unite to save it?](#)

Humanity is rapidly turning the seas acid through the same pollution that causes global warming, the world's governments and top scientists agreed yesterday. The process –

thought to be the most profound change in the chemistry of the oceans for 20 million years – is expected both to disrupt the entire web of life of the oceans and to make climate change worse....

....Scientists have found that the seas have already absorbed about half of all the carbon dioxide emitted by humanity since the start of the industrial revolution, a staggering 500 billion tons of it. This has so far helped slow global warming – which would have accelerated even faster if all this pollution had stayed in the atmosphere, already causing catastrophe – but at an increasingly severe cost.

The gas dissolves in the oceans to make dilute carbonic acid, which is increasingly souring the naturally alkali seawater. This, in turn, mops up calcium carbonate, a substance normally plentiful in the seas, which corals use to build their reefs, and marine creatures use to make the protective shells they need to survive. These include many of the plankton that form the base of the food chain on which all fish and other marine animals depend.

As the waters are growing more acid this process is decreasing, with incalculable consequences for the life of the seas, and for the fisheries on which a billion of the world's people depend for protein. Every single species that uses calcium in this way, that has so far been studied, has been found to be affected. And the seas are most acid near the surface, where most of their life is concentrated.

A report by the Royal Society, Britain's premier scientific body, concludes that, as a result, of the pollution, the world's oceans are probably now more acidic that they have ever been in "hundreds of millennia", and that even if emissions stopped now, the waters would take "tens of thousands of years to return to normal".

[U.N. Report Describes Risks of Inaction on Climate Change](#)

Even though the synthesis report is more alarming than its predecessors, some researchers believe that it still understates the trajectory of global warming and its impact. The I.P.C.C.'s scientific process, which takes five years of study and writing from start to finish, cannot take into account the very latest data on climate change or economic trends, which show larger than predicted development and energy use in China.

“The world is already at or above the worst case scenarios in terms of emissions,” said Gernot Klepper, of the Kiel Institute for World Economy in Kiel, Germany. “In terms of emissions, we are moving past the most pessimistic estimates of the I.P.C.C., and by some estimates we are above that red line.”

The panel presents several scenarios for the trajectory of emissions and climate change. In 2006, 8.4 gigatons of carbon were put into the atmosphere from fossil fuels, according to a study in the proceedings of the National Academy of Science, which was co-written by Dr. Klepper. That is almost identical to the panel's worst case prediction for that year.

Likewise, a recent International Energy Agency report looking at the unexpectedly rapid emissions growth in China and India estimated that if current policies were not changed the world would warm six degrees by 2030, a disastrous increase far higher than the panel's estimates of one to four degrees by the end of the century.

[Failure to tackle climate peril 'criminally irresponsible', IPCC told](#)

The Nobel-winning panel of world climate experts gathered here Monday to hammer out a key report as a top UN official warned that political failure to fix global warming would be "criminally irresponsible."

"The effects of climate change are being felt already," Yvo de Boer, executive secretary of the UN Framework Convention on Climate Change (UNFCCC), said.

"Climate change will hit hardest the poorest and most vulnerable countries. Its overall effect, however, will be felt by everyone and will in some cases threaten people's very survival."

"Failing to recognize the urgency of this message and acting on it would be nothing less than criminally irresponsible," he said.

[Climate change to threaten a third of wildlife](#)

Almost a third of the world's species will face extinction if greenhouse gas emissions continue to rise, a United Nations report will say this week.

A draft copy of the report by the UN's Intergovernmental Panel for Climate Change (IPCC) also warns that if temperatures rise by more than 2C now expected before 2050 20 per cent of the world's population will face a great risk of drought.

With that level of temperature rise, other parts of the world will face increased flood risk from rainfall and there will be a decrease in cereal harvest in some regions.

There will also be a rise of flooding, particularly around deltas in China and Bangladesh and low Pacific islands.

[UN: climate change will have 'abrupt and irreversible' consequences](#)

A panel of the United Nations' leading scientists is to warn that climate change could have "abrupt and irreversible" consequences, in a landmark document designed to force action from member states on the issue.

The Intergovernmental Panel on Climate Change (IPCC) report is seen as one of the most influential documents produced on the global warming issue to date, with the goal of forcing some of the world's biggest polluters to curb their emissions....

....Heatwaves, rainstorms, drought, tropical cyclones and surges in sea level are among the events expected to become more frequent, more widespread and more intense this century.

As a result, water shortages, hunger, flooding and damage to homes will be a heightened threat.

[Alarming UN report on climate change too rosy, many say](#)

"The IPCC is a five-year process and the IPCC is struggling to keep up with the data - we are all being inundated with new evidence and new science," said Hans Verolme, director of the Global Climate Change Program at the conservation organization WWF.

"And the new science is saying: 'You thought it was bad? No it's worse.' "

The IPCC chairman, Rajendra Pachauri, an engineer and economist from India, acknowledged the new trajectory. "If there's no action before 2012, that's too late," Pachauri said. "What we do in the next two to three years will determine our future. This is the defining moment."

He said that since the IPCC began work on its current report five years ago, scientists have recorded "much stronger trends in climate change," like a recent melting of polar ice that had not been predicted. "That means you better start with intervention much earlier."

[Dire climate warning linked to China and India](#)

The average global temperature will rise to a devastating level by 2030 if China and India do not begin curbing energy use and carbon emissions immediately, officials of the International Energy Agency predicted Wednesday.

Speaking at the World Energy Congress, the officials noted that 60 percent of the global increase in emissions from 2005 to 2030 would come from India and China. By next year, China will overtake the United States as the leader in carbon emissions, the agency predicts; some studies suggest that this has already occurred.

Citing a World Energy Outlook from the agency last week, the officials said that if current development trends continued unchanged, total carbon emissions would rise by 57 percent by 2030, leading to a global temperature increase of 6 degrees Celsius, or 10.8 degrees Fahrenheit, by 2030.

['US greenhouse gas emissions to accelerate in next 50 years'](#)

Even as it leads the clamour on global warming, the US will find its greenhouse gas emissions growing faster in the coming half century.

In fact, a new study by MIT's Richard Eckaus and co-author Ian Sue Wing says the rate of US emissions would grow faster than in the past 50 years, despite technological advances and energy-saving efforts, Sciencedaily.com reported.

Eckaus, an emeritus professor of economics at MIT, feels new technology may not be of much help on this front -- and suggests that energy just needs to be priced higher.

'There is no a priori reason to think technology has the potential for reducing energy use while meeting the tests of economics. It's politically unappetising in the US. Make energy more expensive: People will use less of it,' Eckaus says.

[Rich nations quarrel ahead of new Kyoto bid](#)

The IPCC warned of consequences, such as the extinction of 20 to 30 per cent of the world's plant and animal species, that were likely if global temperatures increased by 2°C above pre-industrial levels.

Many countries, including the European Union, said this showed that 2°C of warming was the limit of safety for the climate, so policies should be set to avoid that. According to the IPCC, that would require emissions to peak by about 2020.

But the US delegation to the meeting said the pinpointing of 2°C as the limit of safety was a value judgment rather than a scientific conclusion. Harlan Watson, chief negotiator for the US, said: "It ends up being a political decision, which [was made] 10 years ago. That was their political judgment. But it is a value judgment."

Global warming will reverse the economic and social progress made in Asia in the past few decades, an assessment of the region's vulnerability to climate change has found. The report, from the New Economics Foundation in the UK, found drought in China, floods in southern areas of Asia and rising sea levels afflicting coastal areas would combine to devastate farming across the region.

[Climate swings shaped human evolution, researchers claim](#)

Researchers led by Mark Maslin, director of the Environment Institute at University College London, conducted geological surveys of ancient lakes throughout eastern Africa. They found evidence that over the past 3m years, giant lakes up to 300 metres deep formed and then vanished with the changing climate. The disappearances of the lakes were followed by periods of extreme drought.

"At one extreme, the landscape would have been a true Garden of Eden, with beautiful freshwater lakes, beautiful shorelines and forests along the rivers. There would have been open spaces allowing early humans to exist easily, with water and lots of resources," said Maslin. "But occasionally, these quickly flipped into bone dry periods, where it's 45C in the middle of the day and no natural water resources."

[The big thirst: The great American water crisis](#)

The US drought is now so acute that, in some southern communities, the water supply is

cut off for 21 hours a day. Leonard Doyle reports from Chattanooga, Tennessee, on a once-lush region where the American dream has been reduced to a single four-letter word: rain....

...Many rural communities are suffering as the drought tightens its grip across a wide region, which includes much of Georgia, Alabama, Tennessee and Florida. Here in scenic southern Tennessee, the drought is adding to the problems of extreme rural poverty....

...The government's "drought monitor" says that 32 per cent of the region is in "exceptional drought", its most severe designation. The first five months of this year were the driest in 118 years of record-keeping by the Tennessee Valley authority. And adding to the problem is the region's booming population, combined with a political culture that preaches against government regulation and denies the very existence of global warming. The drought is now hurting Atlanta, a city boasting one of the worst environmental records in the US and whose political masters are among the least enlightened when it comes to climate change.

[Climate change's wild card: sea levels](#)

Recent studies have implied that projections made earlier this year by the Intergovernmental Panel for Climate Change (IPCC) may badly underestimate the rate at which the oceans will rise -- and thus the devastation they could wreak.

In the first volume of a major report on global warming, published in February, the IPCC said sea levels would climb between 18 and 59 centimetres (7.2 and 23.2 inches) by 2100.

Such an increase could already threaten several small island nations and severely disrupt hundreds of millions of people living in low-lying mega deltas, especially in Asia and Africa.

But these projections did not take into detailed account the impact of any significant loss of land ice in Greenland and the West Antarctic, the IPCC acknowledged on Saturday. It therefore scrapped the upper band.

"It became apparent that, concerning the melting of the Greenland and Antarctic ice sheets, we really don't know enough," IPCC Chairman Rajendra Pachauri told AFP on Saturday in Valencia, Spain, where the body on Saturday published its keenly awaited report.

"There is a possibility, and a fair amount of literature, which suggests that it could be faster than what one has anticipated. Given the uncertainty, it was prudent, and scientifically correct, to remove the upper boundary," he said.

The IPCC is not allowed to include new studies that have not been vetted in its thorough and lengthy review process, so new data on the threat posed by these massive ice bodies were not reflected in its report.

[How to fight a rising sea](#)

The Dutch enjoy a hard-earned reputation for building river dikes and sea barriers. Over centuries, they have transformed a flood-prone river delta into a wealthy nation roughly twice the size of New Jersey.

If scientific projections for global warming are right, however, that success will be sorely tested. Globally, sea levels may rise up to a foot during the early part of this century, and up to nearly three feet by century's end. This would bring higher tidal surges from the more-intense coastal storms that scientists also project, along with the risk of more frequent and more severe river floods from intense rainfall inland.

Nowhere does this aquatic vise squeeze more tightly than on the world's densely populated river deltas.

So why is one of the most famous deltas – the Netherlands – breaching some river dikes and digging up some of the rare land in this part of the country that rises (barely) above sea level?

[Noah's Ark flood spurred European farming](#)

An ancient flood some say could be the origin of the story of Noah's Ark may have helped the spread of agriculture in Europe 8,300 years ago by scattering the continent's earliest farmers, researchers said on Sunday.

Using radiocarbon dating and archaeological evidence, a British team showed the collapse of the North American ice sheet, which raised global sea levels by as much as 1.4 meters, displaced tens of thousands of people in southeastern Europe who carried farming skills to their new homes.

The researchers said in the journal *Quaternary Science Reviews* their study provides direct evidence linking the flood that breached a ridge keeping the Mediterranean apart from the Black Sea to the rise of farming in Europe.

"The flooding of the Black Sea was not well dated but we got it down to about 50 years," said Chris Turney, a geologist at the University of Exeter, who led the study. "As soon as the flooding is done, farming goes crazy across Europe."

The researchers created reconstructions of the Mediterranean and Black Sea shoreline before and after the rise in sea levels. They estimated the flood covered some 73,000 square kilometers over a 34-year period, causing mass displacement of people.

Previous archaeological evidence has shown communities in the region were already farming when the flood hit. The Exeter team suggests the mass migration caused a sudden expansion of farming and pottery production across the continent.

[New Zealand glaciers retreat due to global warming: scientists](#)

A report by the National Institute of Water and Atmospheric Research (NIWA) said the volume of ice in New Zealand's Southern Alps had shrunk almost 11 percent in the past

30 years.

More than 90 percent of this loss was because the 12 largest glaciers in the mountain range were melting due to rising temperatures, NIWA said.

The glaciers have passed a threshold, causing the ice to collapse and creating large lakes at their base, the report said.

"The 12 big glaciers with these pro-glacial lakes have passed a tipping point," said NIWA's principal scientist Jim Salinger.

[China facing a major global warming threat, say scientists](#)

Chinese scientists have warned that the country faces a major challenge in tackling the threat of global warming, adding that the climate is likely to get warmer and more extreme, leading to a drop in the production of major food crops.

According to Zheng Guoguang, the new chief of the China Meteorological Administration (CMA), the average temperature in China will inch up by about 2 C by 2050 compared with the 2000 level.

In the latest effort to help mitigate the impact of climate change, Zheng has asked the 100,000 members working for the agency nationwide to develop measures to counter the adverse influence variable climate would have on food supply.

In many cases, crops grow faster when climate becomes warmer, but yields decline, Zheng said before heading to Spain to attend the 27th Plenary of the Intergovernmental Panel on Climate Change (IPCC).

[Canadians see some silver lining in global warming](#)

Canada would be a net economic winner, according to an April U.N. report cited by a number of authorities during interviews in recent days. The paper predicted that milder temperatures would expand agriculture while boosting the economy with lower winter heating bills.

Yale University economics and environment professor Robert Mendelsohn lists a number of gains that Canada could expect from a 50- to 100-year shift to a generally warmer and wetter climate.

Among them would be the ability to grow fruit and vegetables in areas that now are useful only for grain, and the opening of iced-over Arctic waters to navigation and other commercial uses.

"Canadians will clearly be better off in the future than they are today. I can say that with confidence," he predicted. "The most dramatic gains could be in agriculture, depending on precipitation."

However, the complexity of global climate and limited understanding of data pose major

problems in modeling climate change.

Mr. Mendelsohn said many of the consequences of global warming are unknown, such as changes in the type and size of cloud cover and precipitation.

Small changes, he said, "can cause lots of feedback."

[Big thaw yields surprises](#)

Most of the world's glaciers are receding. Climate change is melting the European Alps, the snows of Kilimanjaro in Africa and the massive snouts of snow and ice between Banff and Jasper in the Canadian Rockies. Of the 850 glaciers on the eastern slopes of the Rockies that Canadian glaciologist Mike Demuth has been monitoring, 325 have disappeared entirely since the early 1970s.

But new data show the melting of glaciers worldwide is accelerating faster than anyone previously thought. According to the Swiss-based World Glacier Monitoring Service, 30 key international glaciers lost on average 66 centimetres of thickness in 2005. Those glaciers are melting about 1.6 times faster this decade than they were in the 1990s, and about six times faster than in the 1980s. In the last 27 years, they have, on average, thinned by a total of about 10.5 metres.

Nowhere is the meltdown more dramatic than in the sub-Arctic and Arctic regions where there are more than 100,000 glaciers.

The Columbia Glacier near Valdez in Alaska's Prince William Sound has retreated 15 kilometres in the last 25 years. Of the 19 glaciers in the state's Juneau Icefield, 18 are receding. Only one, the Taku Glacier, is advancing.

It's a similar story in northern Canada. In the mid-1960s and 1970s, the Steele was one of a number of glaciers that was growing and tearing through the St. Elias icefields in the southwest corner of the Yukon. At one point, the Steele was moving more than 1.5 billion tonnes of ice at a rate of up to 15 metres per day. But these days, this so-called "Galloping Glacier" is too wasted to make another run. So is the Lowell Glacier, which surged up against Goatherd Mountain 255 years ago and dammed the Alsek River, creating a glacial lake more than 100 kilometres long and 100 metres deep.

[Ancient stumps underline velocity of climate change](#)

A U.S. scientist studying the "dramatic change" in ice conditions in B.C.'s Coast Mountains has discovered freshly exposed and perfectly preserved tree stumps some 7,000 years old — an "astonishing" sign of how fast and far the glaciers of Western Canada are retreating in the age of climate change.

The stumps — found at the foot of a melting glacier in Garibaldi Provincial Park, about 60 kilometres north of Vancouver — were "still rooted to their original soil" and in such pristine condition that some had retained their bark, says geologist Johannes Koch, a former Simon Fraser University researcher now with Ohio's College of Wooster.

The stumps are relics of an ancient forest that was growing when humans were still

relatively new arrivals in the Americas. At the time, Garibaldi's advancing Overlord Glacier overran the trees and encased their dead remains in an icy tomb that eventually reached hundreds of metres in depth.

The glacier would have advanced and retreated many times over the ensuing 7,000 years. But never, notes Koch, had historical warming cycles ever shrunk Overlord enough to release these trunks from their primeval deep-freeze — until now.

[Arctic Ocean could be ice-free in summer as early as 2010](#)

The Arctic Ocean could be free of ice in the summer as soon as 2010 or 2015 -- something that hasn't happened for more than a million years, according to a leading polar researcher.

Louis Fortier, scientific director of ArcticNet, a Canadian research network, said the sea ice is melting faster than predicted by models created by international teams of scientists, such as the Intergovernmental Panel on Climate Change.

They had forecast the Arctic Ocean could be free of summer ice as early as 2050. But Fortier told an international conference on defence and security in Quebec City yesterday that the worst-case scenarios are becoming reality.

"The frightening models we didn't even dare to talk about before are now proving to be true," Fortier told CanWest News Service, referring to computer models that take into account the thinning of the sea ice and the warming from the albedo effect -- the Earth is absorbing more energy as the sea ice melts.

[Putting climate change refugees on the map](#)

Even as UN climate scientists here debate the fine print of a report designed to help forestall the ravages of global warming, a new class of victims has already emerged in hot spots scattered across the globe: call them climate refugees.

They are a reality, and yet they do not exist -- at least not in the nomenclature of the international organisations set up to protect the rights and dignity of the world's most vulnerable denizens. Because they flee environments made unlivable by shifting weather patterns or rising seas rather than political persecution or war, these refugees slip between the cracks into a bureaucratic grey zone.

However an unlikely band of dogged French photographers and journalists, in part, is bearing witness to the devastating impact of rising global temperatures on the daily lives of ordinary people.

After four years wandering the globe, from the dust bowl that used to be Lake Chad to the melting permafrost of Alaska to the sinking island paradise of Tuvalu, the Argos Collective have put the fruit of their investigations between covers.

Already published in French and soon to appear in English, "Climate Refugees" published by Infolio is the first book ever devoted exclusively to showing the consequences of climate change up close and personal.

[Countries with highest CO2-emitting power sectors](#)

The city of Taichung in Taiwan is home to a power plant that emits more than 37 million tonnes of carbon dioxide into the atmosphere each year, the highest of any plant in the world. Australia produces more carbon dioxide per capita through electricity generation than any other nation. But the US power sector still produces the most carbon dioxide in terms of sheer volume.

These are just a few of the facts and figures available on a new database containing emissions and energy data from more than 4,000 power companies and 50,000 power plants around the globe. The Carbon Monitoring for Action website was set to be launched this week by the Center for Global Development, an independent think-tank in Washington DC.

With some 8,000 power plants emitting 2.5 billion tonnes of carbon dioxide annually, the United States accounts for a quarter of global emissions, according to the site. China comes a close second at 2.4 billion tonnes, although its per-capita emissions are less than a quarter of those of the United States. Russia comes a distant third, with 600 million tonnes of carbon dioxide emissions.

[Asia: Peat fires rage as Indonesian farmers burn forests for better crops](#)

As the world looks for ways to cut back on CO2 emissions caused by the use of fossil fuels, another issue continues to burn.

Peat, the highly organic carbonized plant matter found at the bottom of marshes and wetlands, continues to burn in deforested areas of Indonesia.

In tropical regions like Indonesia, many forested areas are in wetlands, the base of which is often formed from the deposits of plant matter. As the deposits are covered by the wetlands, they are usually protected from fire.

Since around the 1980s, however, the development of farmlands has drained the groundwater, causing the wetlands to dry up. As a result, fires from the primitive slash-and-burn agriculture technique have spread easily to the dried peat and continued to burn.

Consequently, a massive amount of carbon dioxide (CO2) has been produced by burning peat. The annual amount of CO2 emissions from peat in Indonesia is more than the entire volume emitted in Japan in a year.

[Food firms blamed for Indonesian forest damage](#)

The world's largest food manufacturers are increasing greenhouse gas emissions by driving the destruction of Indonesia's rainforests to make way for palm oil plantations.

A Greenpeace report released yesterday describes as "climate vandals" such firms as Nestle, Kraft, Procter & Gamble and Unilever for their part in clearing tropical forests to produce cheap vegetable oil.

"Tropical deforestation accounts for about a fifth of all global emissions," the report says. "Indonesia now has the fastest deforestation rate of any major forested country."

Indonesia's greenhouse emissions from deforestation alone account for 4 per cent of the world's annual total, with the country now the third-largest greenhouse gas emitter.

"This investigation shows that a handful of international corporations are ultimately responsible for the slashing and burning of Indonesia's peatland forests for food, fuel and laundry detergent," said Emmy Hafild, executive director of Greenpeace South-East Asia.

[Greenhouse-gas emissions by industrialised countries at new high: UNFCCC](#)

Emissions of greenhouse gases by industrialised countries have broken new records, the UN Framework Convention on Climate Change (UNFCCC) said on Tuesday ahead of a crucial forum on tackling global warming.

In 2005 -- the latest year for which the 40 industrialised countries which have signed and ratified the UNFCCC have reported data -- the total emissions of greenhouse gases by this group "rose to an all-time high," the UNFCCC said.

"The increases in emissions came from both the continued growth in highly industrialised countries and the revived economic growth in former East Bloc nations," it said. Transport accounted for the biggest growth in emissions of any sector.

[Go With The Flow](#)

Traffic flows account for as much as one-third of global energy consumption. But unconventional changes in managing traffic flow could significantly reduce such waste and lower harmful CO₂ emissions, says Dirk Helbing. Dr. Helbing, Professor of Sociology at the ETH Zurich Chair of Sociology, a specialist in modelling and simulation, supports his claim with a recent study called 'Efficient Self-Control of Traffic Flows in Urban Networks Using Short-Sighted Anticipation'.

Professor Helbing and co-author, Stefan Lammer of the Institute for Transport and Economics at Dresden University of Technology, propose a self-organized control system for traffic lights that could improve vehicular traffic flow by up to 95 percent.

[Ford eyes launching hybrid vehicles in China](#)

US auto giant Ford Motor Co said on Thursday it was considering launching hybrid

vehicles in China, the world's second-largest automobile market.

The announcement at an industry conference in the eastern Chinese city of Jiangyin came just two weeks after rival General Motors announced plans to build an alternative fuel research centre in China aimed at developing "green" vehicles for China's market....

...China's auto market is now second only to the United States but the growing numbers of motorists have contributed to appalling air pollution in cities and a spike in energy consumption.

[First-Ever State Of The Carbon Cycle Report Finds Troubling Imbalance](#)

The first "State of the Carbon Cycle Report" for North America, released online this week by the U.S. Climate Change Science Program, finds the continent's carbon budget increasingly overwhelmed by human-caused emissions. North American sources release nearly 2 billion tons of carbon into the atmosphere each year, mostly as carbon dioxide. Carbon "sinks" such as growing forests may remove up to half this amount, but these current sinks may turn into new sources as climate changes.

"By burning fossil fuel and clearing forests human beings have significantly altered the global carbon cycle," says Chris Field of the Carnegie Institution's Department of Global Ecology, one of the report's lead authors. A result has been the buildup of carbon dioxide in the atmosphere, but so far this has been partially offset by carbon uptake by the oceans and by plants and soils on land.

"In effect, we have been getting a huge subsidy from these unmanaged parts of the carbon cycle," notes Field. Overall, this subsidy has sequestered, or hidden from the atmosphere, approximately 200 billion tons of carbon. In North America much of it has come from the regrowth of forests on former farmland and the uptake of carbon by agricultural soils.

[Poll finds energy tax support](#)

Not only does the world's population feel increasingly concerned about climate change, but a recent survey finds a majority of individuals, both in and out of developed countries, say they're willing to lighten their wallets to stop the warming trend.

The poll, conducted by the international polling firm GlobeScan and the Program on International Policy Attitudes at the University of Maryland, surveyed almost 22,000 people in 21 countries, including the United States, China, Nigeria, the Philippines and Australia. The survey's margin of error varied from 2.4 to 3.5 percentage points depending on the sample size in each of the countries polled.

[Changing face of autumn as pollution keeps leaves green](#)

The increase in CO₂ levels allows leaves to continue for longer the process of photosynthesis – where they use CO₂, water, and sunlight to produce nutrients and oxygen. This allows leaves to delay when they start to change colour and, eventually, fall.

Over the past 30 years, this ageing process, known as autumnal senescence, has got later in Europe by between 1.2 and 1.8 days per decade. It is paralleled by the earlier appearance of spring, with buds bursting on oak trees, for example, up to 10 days earlier than they once did.

Until now it has been thought that both phenomena were triggered by rising temperatures. While it has already been established that there is a strong correlation between higher temperatures and earlier springs, analysis of autumnal senescence in 14 European countries shows there is only a weak correlation between temperature trends and the timing of the changes in leaves' colour and their fall. The new research shows it is the increasing CO₂ which is slowing down the trees' ageing processes.

Over the last 30 years, atmospheric CO₂ has risen by 13.5 per cent, affecting the physiology and functions of plants and influencing a wide range of their internal processes.

[Brown sets tough targets for reducing carbon](#)

Gordon Brown has been told by cabinet ministers and business advisers that he may have to impose new carbon taxes if he is to meet his ambitious targets to cut UK carbon emissions by as much as 80% by 2050.

In his first environment speech as prime minister, Brown warned that climate change science predictions are now so alarming that the current standard, of attempting to cut emissions by 60%, may not be enough.

[Coal-to-liquid not answer, report says](#)

Converting coal into liquid fuel to deal with America's growing energy demand will make climate change problems worse, according to a new report from the Union of Concerned Scientists.

Liquid coal would emit more greenhouse gases than gasoline and than other possible gasoline substitutes, according to the report.

The report, released Tuesday, concludes that other options such as biofuels made from grasses or wood chips would be better.

The finding casts more doubt on the centerpiece of Gov. Joe Manchin's proposed energy plan for West Virginia.

"Biofuels have a Jekyll-and-Hyde reputation depending on what study you read and what assumptions you make, but liquid coal is a loser no matter how you look at it," said Patricia Monahan, author of the report and deputy director of UCS's Clean Vehicles

Program.

A major problem is that liquid coal would emit carbon dioxide during the production process and again when the fuel is burned in vehicles.

[Clean tech: Ottawa's rising star](#)

With news that six of the country's top-10 "emerging" clean technology companies hail from Ottawa, the city will likely become corporate HQ for many more as a genuine cluster takes shape, say experts.

"I would suspect more nascent (clean tech firms) will come to the light of day," said Randal Goodfellow, president of Goodfellow Agricola Consultants, which does work in the sphere.

A higher profile for the sector, which he said included "upwards of 40 companies" in eastern Ontario, will generate its own momentum. "As we start having activity, people come to it as well. Whereas a lot of growth has been from our own roots, I wouldn't be surprised if you actually get people to come to Ottawa."

The top-10 list was compiled by Corporate Knights magazine, with the unifying theme being creating or saving energy.

[Saudi minister would welcome Canada into OPEC](#)

Saudi Arabia would welcome Canada as a member of OPEC but is not interested in investing in our oilsands.

Ali Al-Naimi, the Saudi oil minister, said Tuesday: "If Canada decides on its own to join OPEC, what would we say? Of course it would be welcome."

Although it has been rejected out of hand by federal officials, the prospect of Canada joining the cartel is not as outrageous as it seems. At an OPEC summit underway in Saudi Arabia, OPEC will re-welcome Ecuador to it after it withdrew in 1992, and Brazil is considering entry after a massive seven-billion barrel discovery last week.

According to the United States government's Energy Information Agency (EIA), Ecuador is ranked 30th in the world, producing about half a million barrels a day (bpd) in 2006 compared to Canada's 3.5 million bpd, which is presently ranked seventh.

After oilsands expansions come on line after 2010, Canada is expected to vault into third or fourth place, the fastest-growing G8 nation when it comes to oil output.

But Al-Naimi also noted that Canada is one of the world's costliest oil producers and relies on unsustainable high prices to remain viable.

Commenting in Arabic, Al-Naimi said the "sands of oil" in northern Alberta need at least \$40 to \$60 US a barrel to develop the massive reserves, which are pegged as second only to Saudi Arabia's.

[Alberta faces 'worst of all worlds' with oilsands, nuclear plants](#)

Alberta is the "new energy colony" for the United States, says an expert visiting Edmonton for the Parkland Institute's annual fall conference.

Proposed nuclear power facilities in Peace River and Whitecourt will power future oilsands development even though oil companies maintain that is not the case, says Paul Gunter, an activist and director with Beyond Nuclear U.S.A., a nuclear policy research institute based in Takoma Park, Md.

The northern location of the proposed sites and the unwillingness of Energy Alberta, the company proposing the Peace River site, to disclose its financiers and customers, "clearly represents a hidden agenda," Gunter told the conference Saturday.

[Canada's oil: black gold with a black heart](#)

You've only got to stroll down Hardin Street to the main drag, then hang a left and walk a couple more short blocks, to see what Fort McMurray is about. It wouldn't be the whole story, but you would catch the drift.

You'd pass the Boomtown Casino, strip malls, and a club called Cowboys proudly advertising "naughty schoolgirl nights". Then the Royal Canadian Mounted Police station, the municipal offices, the Oil Sands Hotel and Diggers bar, with its advertisement for exotic dancers.

You would be passed by Humvees and countless pick-up trucks, each more souped up than the next, many covered in dried mud, many carrying further four-wheel-drives - in winter, snowmobiles; in summer, all-terrain vehicles on which to go chasing through the bush, which is visible from the main street. And if the wind is from the north-west, you can smell oil on the air: heavy, slightly sour, unmistakable. Around here, they call it the smell of money.

As the Middle East has become more unstable and as Iraq has boiled into chaos, other, unexpected places have flourished, and none more so than Fort McMurray. Five hours' drive north of Edmonton, in Alberta, it has always been a frontier town, and even before the first white explorers came fur-trapping, the Indians knew that this place sat on oil - they used it to waterproof their canoes.

[Alberta workers sent home after fire at Shell upgrader](#)

About 3,000 workers were sent home Monday from Shell Canada's Scotford upgrader northeast of Edmonton after a fire released hydrogen and sour gas.

It was the second incident involving sour gas at a Shell facility. Earlier in the day, the highly toxic and flammable gas leaked from a Shell pipeline in southwestern Alberta,

forcing 10 people from their homes.

The fire occurred late Monday afternoon in the Shell upgrader's residue hydro conversion unit in Fort Saskatchewan.

Shell spokesman Randy Provencal says the fire at the Scotford plant was contained in about 45 minutes by company fire crews and crews from Strathcona County.

"Emergency crews are still on scene and we are conducting monitoring of ambient air quality," Mr. Provencal said Monday evening.

[Alberta MD on Health Canada's bad books](#)

Dr. John O'Connor first suspected something was wrong a few years ago after discovering a rare form of cancer in a small northern Alberta community of 1,200 people.

He recognized the illness, since it was the same one that had claimed the life of his father in Ireland more than 15 years earlier. However, he had never expected to see it again and was alarmed to find it in at least five patients.

But the family physician never anticipated that speaking out about his concerns would land him in a career-threatening struggle against the federal government, putting his medical licence on the line....

...While a series of government studies have concluded there's no need to be alarmed about potential toxins and carcinogens spilling into the Athabasca River from oilsands operations and pulp mills, a new independent report released last week has discovered serious flaws with the government research and appears to confirm some of Dr. O'Connor's greatest fears.

[Study Finds Carcinogens in Water Near Alberta Oil Sands Projects](#)

High levels of carcinogens and toxic substances have been found in fish, water and sediment downstream from Alberta's huge oil sands projects, according to a new study.

The 75-page report, written by Kevin P. Timoney, an ecologist with Treeline Environmental Research, was commissioned by the local health authority of Fort Chipewyan, Alberta, where many residents say they believe the oil sands developments to the south are damaging their health.

[Chinese-language "Canada Oil" magazine to be launched by Calgary company](#)

SkinnyFish Media Inc., publishers of Alberta Oil magazine, has become the first Canadian company to launch a commercial, Chinese-language publication in the People's

Republic of China. In partnership with Chinese Petroleum & Chemical Industry Magazine Co. (CPCI), Canada Oil will provide Canadian-based oil & gas industry news and commentary for Chinese readers.

"Canada's status as a global energy power means resource-hungry China is paying close attention to what we're doing and Canada Oil gives the stakeholders of our energy sector a voice – in fact, a Chinese voice," says SkinnyFish Media president Mike Dodd.

[Diaper power](#)

AMEC, a Quebec engineering and project management company, is looking to build a facility near Montreal to turn soiled diapers into synthetic diesel fuel. It may not be up to snuff to fuel automobiles, but should be just fine for industrial applications.

AMEC says a process known as pyrolysis can convert diapers to diesel.

According to the Canadian Press, pyrolysis, also known as thermal cracking, involves heating up the diapers in a closed, controlled environment at temperatures of up to 600 C without air, essentially breaking them down thermally.

The concept of converting waste to a biofuel has been around for a long time. For AMEC, it's just the waste that's changed. Dirty diapers, according to the company, provide a consistency in material used in pyrolysis.

The initial plan is to take 30,000 tonnes of diapers - about a quarter of the diapers that end up in Quebec landfills each year - and convert it into about 11,000 tonnes of diesel.

Early number crunching by AMEC pegs the cost of the fuel at 50 cents per litre. If that's the case, diaper diesel would be cost effective, and would divert huge quantities of disposable diapers from landfills.

[Ontario blows it](#)

Intermittency creates a major challenge for grid reliability, which requires instantaneous balancing of overall power generation to exactly match consumption. Combining nuclear generators, which have almost no ability to increase or decrease output, with intermittent wind power is particularly problematic. Balancing nuclear and wind power while keeping the lights on requires other, typically costly, generators to quickly ramp up, down or stand by. With one of the most nuclear-dependent grids in the world, Ontario is poorly suited to host wind power.

Predicting wind output changes has proven difficult, but one pattern is clear: Winds tend to be calm when consumers need electricity most. Ontarians use the most electricity in summer -- the weakest season for wind. In July and August of 2006 and 2007, Ontario was frequently becalmed and average monthly output fell within the lowly 13% to 19% range. Although winter is the strongest season, on the coldest days, when we use most power, wind output tends to be poorest. Over the typical day, wind output peaks around midnight and bottoms out around 8 a.m., contrary to our daily consumption pattern.

Diversifying the geographic location of wind farms has provided little output stability because, even when widely dispersed, output from individual farms tends to rise and fall in sync. Although limited data is available, the production pattern of New York's largest wind farm appears to closely match the hourly output of Ontario's overall wind production. New York's farm even matches fairly closely the output of a similar farm at Sault St. Marie, 840 kilometres away.

Connecting wind power to the grid is also costly. The first of many high-voltage transmission investments mainly directed at wind is currently pegged at \$635-million. Connecting large wind generators to low-voltage distribution networks will require costly re-engineering. Whether high voltage or low, grid connections must be vastly oversized relative to average wind output to support infrequent bursts of full production.

[An ill wind blows](#)

When Ms. McDermott first heard about the proposal by Calgary-based Canadian Hydro Developers (CHD) to build on Wolfe Island, the turbines numbered 10. Then there were 40 and, finally, 86, which would cost \$410-million and produce enough electricity to power 75,000 average homes, more than the entire area surrounding Kingston.

She was told, originally, that these great metallic toothpicks - as high as a football field is long - would be limited to the northern part of the island, but updated plans showed that 30 of them are to be stuck in Wolfe's western wetlands.

Before learning about CHD's intentions - at 197.8 megawatts, it's the biggest project currently listed by the Canadian Wind Energy Association - Ms. McDermott felt the same way about windmills that most people do. In the mind's eye, they seem like so many dandelion stems, rising over a Flemish storybook horizon.

Wind power makes the world feel good about itself: replacing fossil fuels and nuclear gunk with renewable, non-toxic energy; planting huge fairground whirlygigs where the land might otherwise be gouged, or its rivers dammed. It seems like some sort of an environmental balm, but the more Ms. McDermott learned about the effects of wind power - and the zealotry of new energy companies to win government incentives - the more she saw it as possessing the potential to distort or corrupt the land.

[Canadian Solar To Deliver 60MW Solar Modules For Projects In Spain](#)

Canadian Solar Inc. announced that it has signed a new contract with German City Solar Group to deliver 60MW of solar modules for a series of solar power station projects in Spain. Shipment will start immediately. Installations are expected to be completed by the Summer of 2008.

[Renewable Energy Investment Market Sets Sights On 50 Billion Dollars By 2011](#)

"This is the first study to demystify the financial complexities surrounding this rapidly evolving market. It clearly explains the new investment architecture taking shape to support RE, involving a blending of venture capital and private equity firms, banks, brokers, funds, corporations, and governments. And it explores the new financial vehicles created to fund RE development, including power purchase agreements, RE credits, and potential carbon markets," notes Tatjana Meerman, the publisher of Packaged Facts.

"We expect market momentum should escalate to where we're seeing double-digit annual growth rates over the next several years."

[Ethanol Bust Makes Losers of Bush, Gates, D.E. Shaw](#)

Ethanol, the centerpiece of President George W. Bush's plan to wean the U.S. from oil, is 2007's worst energy investment.

The corn-based fuel tumbled 57 percent from last year's record of \$4.33 a gallon and drove crop prices to a 10-year high. Production in the U.S. tripled after Morgan Stanley, hedge fund firm D.E. Shaw & Co. and venture capitalist Vinod Khosla helped finance a building boom.

Even worse for investors and the Bush administration, energy experts contend ethanol isn't reducing oil demand. Scientists at Cornell University say making the fuel uses more energy than it creates, while the National Research Council warns ethanol production threatens scarce water supplies.

As oil nears \$100 a barrel, ethanol markets are so depressed that distilleries are shutting from Iowa to Germany. An investor who put \$10 million into ethanol on Dec. 31 now has \$7.5 million, a loss of 25 percent. Florida and Georgia have banned sales during the summer, when the fuel may evaporate and create smog.

"I don't anticipate any sort of immediate rebound," says Barry Frazier, the 50-year-old president of Center Ethanol LLC in suburban St. Louis. "It's going to take 12 to 24 months before the market is able to absorb the large amount of new capacity."

[Corn ethanol goes from being a hero to a scapegoat](#)

What's happened?

How is it that the ethanol industry went from joke to hero to goat in less than three years?

There are at least three things at work.

One is that corn-based ethanol is not, and never has been, an efficient fuel....

....Ethanol has lost some of its luster as an environmentally friendly fuel during the past year or so as the debate over renewable fuels has widened.

There has always been a question of whether the production of ethanol consumes as much, or more, energy than it delivers as a motor fuel....

....There are also water and food issues.

The amount of water needed to make ethanol has become a concern with some environmentalists. It takes four gallons of water to make one gallon of ethanol, but it takes 1,700 gallons of water to grow the corn needed to make the ethanol, according to Cornell University ecology professor David Pimentel.

[Biofuels bonanza facing 'crash'](#)

The biofuels bonanza will crash unless producers can guarantee their crops have been produced responsibly, the UN's environment agency chief has said.

Achim Steiner of the UN Environment Programme (Unep) said there was an urgent need for standards to make sure rainforests weren't being destroyed.

Biofuel makers also had to show their products did not produce more CO₂ than they negated, he told BBC News.

Critics say biofuels will lead to food shortages and destroy rainforests.

They point to the destruction of Indonesia's peat swamps as an example of biofuel folly.

The swamps are one of the richest stores of carbon on the planet and they are being burned to produce palm oil.

Mr Steiner implied that because of Indonesia's inability to police its land use, biofuels from palm oil grown by the nation might never be deemed to be sustainable.

[Europe teams up with Gazprom](#)

According to the Financial Times, Eon, the world's largest utility by sales, is considering building gas-fired power plants in Germany, Britain and Hungary with the Russian state-controlled energy giant, after the Germans had already announced they would enter the soon-to-be liberalized Russian power market. And Italy's electricity giant Enel is investing some \$6 billion (one of the largest ever foreign direct investments by a singly company) in Russia to gain access to the largest and potentially most profitable untapped electricity market on the continent.

Yet while hopes for immense profits run high in the companies' top management circles, European politicians look with a sorrowful eye to concrete plans with Gazprom, the Kremlin's most powerful energy and sometimes also foreign policy tool.

While investments in Russia aren't the problem (this has been tried in the past by several companies, with varying success), giving Gazprom access to end consumers in Europe has concerned policymakers from Madrid to Berlin.

Russia supplies half of the European Union's natural gas and roughly a third of its oil, and observers have in the past years called for an increased level of diversification instead of deepening old ties.

[New move to bring electricity to Africa](#)

Fewer than 25 percent of Africans have access to electricity. In Uganda, only 5 percent of the population has access to electricity; in Kenya, 15 percent; in Congo, 6 percent. In oil-rich Nigeria, the energy demands are nearly twice what the country's creaking power plants can produce. It's one of the continent's biggest obstacles to development and a big turnoff for foreign investors.

Building enough hydropower dams to meet the need would take decades, but the World Bank has launched a smaller, but potentially powerful program in September to meet the growing demand for light from the 250 million poorest Africans by 2025.

The "Lighting Africa" initiative, including a \$12 million competition to design the best business model for providing light for Africans, hopes to do for cheap low-energy lighting what entrepreneurs have already done for cellphones.

[Uranium sows discord between Niger and France](#)

Poor and restive Niger finds itself sitting on a surprising treasure trove -- uranium. The west African state on the edge of the Sahara is the world's third largest producer of an element whose price has soared.

And the stakes are particularly high for former colonial power France: three-quarters of the nuclear-powered electricity produced by the Electricite de France uses uranium imported from Niger.

But an ongoing battle of wills between Niger's government and the French nuclear giant Areva, has soured Paris' relations with this arid nation.

Areva is Niger's top private employer and has operated two uranium mines in the country for the past 40 years. Today, it aims to hold on to its Nigerian uranium supplies even as it diversifies its sources.

[ASEAN to promote nuclear energy, solar power](#)

Southeast Asian leaders will promote the use of civilian nuclear power, along with other alternative energy sources, when they meet in Singapore next week, a draft statement obtained Tuesday said....

...Indonesia, Thailand and Vietnam have announced plans to build nuclear power plants by 2020 in a bid to cut their dependence on crude oil and natural gas.

World oil prices topped 98 dollars a barrel earlier this month.

"If they are going nuclear, I think they are going into disaster for the region," warned Nur Hidayati, a campaigner for the environment watchdog Greenpeace.

"The nature of this region is that it is very unstable, and so when there is an accident, the whole region will suffer," she told AFP by telephone from Indonesia, referring to earthquakes and volcanic eruptions.

[World must help protect vital Mekong river: activists](#)

International donors must use their influence and push Southeast Asia's Mekong River Commission to speak out against six potentially devastating dams on the vital waterway, environmental groups said Tuesday.

The planned hydropower dams on the Mekong in Laos, Thailand and Cambodia could displace tens of thousands of people and endanger up to 1,300 aquatic species including the rare Mekong giant catfish and the Irrawaddy dolphin, activists said....

...Laos, which has ambitions to become the region's key electricity supplier, has four Mekong dams under consideration, while Thailand and Cambodia each have one.

[Millions bewildered and scared as world's largest dam takes shape](#)

Whole towns and villages have been resettled to higher slopes or distant provinces as the water rises - an exodus that has brought protests of official corruption and inadequate compensation from displaced people, many of them poor farmers....

...The reservoir has been filled with water in stages since completion of the 2309-metre-long dam wall in 2003. If all goes to plan, it will reach its maximum capacity of 39.3 billion cubic metres by the end of 2008, capping a year of national glory centred on the Beijing Olympics....

...Along the 660-kilometre reservoir, residents point to the erosion, slides and deformed terrain they say has seriously worsened since last year, when the water level was raised a second time.

Authorities have vowed to contain geological aftershocks from the dam but poor farmers worry about being swallowed by landslides.

"Sometimes the ground rumbles and shakes, dogs bark, babies cry. It frightens us, too," says Xiang's neighbour, Su Gongxiang, pointing to a front door that will no longer shut.

[Japan, China still stuck on energy sea spat](#)

Japan and China failed to break an impasse Wednesday in a spat over lucrative gas

fields in the East China Sea but agreed to keep talking amid a recent easing of tension between the countries.

Asia's two largest economies, which are also among the world's biggest energy importers, held their 11th round of talks since 2004 in a bid to resolve a row over their maritime boundaries.

[Study lauds China renewables](#)

Predictions are piling up as China's energy appetite and carbon emissions increase at rapid rates. According to the International Energy Agency, global demand for energy could double by 2030, with China and India accounting for 45 percent of that growth. As the IEA notes, this will deepen China's reliance on energy imports and raise its level of carbon emissions. In per capita terms, China's emissions remain below those of the United States. Nonetheless, as urbanization draws more and more of China's 1.3 billion people to the cities -- where per capita energy use is three times that of rural inhabitants -- worry for the future mounts in China and abroad.

The good news, according to Worldwatch's report, is that the Chinese government is pushing renewable energy. In 2005 the National Peoples' Congress approved a Renewable Energy Law, and the government development plan released in September included the goal of supplying 15 percent of China's total energy with renewable sources by 2020.

[China pollution costs 5.8 pct of GDP: report](#)

China's pollution woes are costing it about 5.8 percent of GDP each year, much higher than past official Chinese estimates, state press quoted the World Bank as saying Monday.

The costs in absenteeism due to health and other problems total about 100 billion dollars a year, or about 5.8 percent of gross domestic product, Xinhua news agency quoted World Bank China country director David Dollar as saying....

...China's booming growth has ravaged the environment, with about 70 percent of its waterways polluted and urban air quality among the worst in the world.

[Eco-ruin 'felled early society'](#)

The Argaric culture emerged in south-eastern Spain 4,300 years ago. This civilisation, which inhabited small fortified towns, was one of the first in Western Europe to adopt bronze working.

But about 3,600 years ago, the culture mysteriously vanished from the archaeological record.

"Archaeologists are convinced that something happened in the ecological structure of the area just prior to the collapse of the Argaric culture," said Jose Carrion, from the University of Murcia, Spain...

....But about 4,200 years ago - just after this civilisation emerges - significant amounts of charcoal appear in the pollen sequence. According to the study's authors, this is a sign Bronze Age people were setting fires to clear the forests for mining activities and grazing.

Not long afterwards, about 3,900 years ago, the diverse forest ecosystem disappears, to be replaced by monotonous and fire-prone Mediterranean scrub.

What astonished the researchers was the speed of this change. This ecological transformation is very abrupt, appearing to have taken place in little more than a decade.

[Venezuela Set To Launch Peaceful Nuclear Program](#)

Venezuela will pursue a peaceful nuclear program, the country's president said on Thursday. "Venezuela will start developing a nuclear power sector for peaceful purposes," Hugo Chavez said in an interview with the French TV channel France 24, citing Brazil and Argentina as examples.

He said many other states would be compelled to do the same, since it was crucial to avert an energy crisis which is threatening the world as energy resources decline and oil prices soar.

[Highly radioactive material missing in DR Congo](#)

Some 15 tonnes of highly radioactive material have disappeared after being seized last month in southeastern Democratic Republic of Congo, the country's environment minister said Wednesday.

"We still have no information on the 15 to 16 tonnes of radioactive minerals from the 19 tonnes seized in Katanga," Didace Pembe told AFP....

....Congolese uranium was used to build the US atom bomb which destroyed Hiroshima in 1945.

[How we're destroying our habitat](#)

Climate change, air pollution, land degradation, overpopulation, increasing natural disasters: all these are the symptoms of a sick planet.

An extensive new audit of the Earth, written by 400 scientists and reviewed by 1000

experts under the aegis of the UN Environment Programme, contains an urgent call to action.

The fourth Global Environment Outlook report runs to more than 500 pages of detail on the world's woes.

The audit has found that each human being now requires one-third more land to supply their needs than the planet can provide. Humanity's footprint is 29.1ha a person, while the world's biological capacity is on average only 15.7ha a person. The result is net environmental degradation and loss.

[Sustainability and the "struggle for existence"](#) (PDF warning)

In his view, a species successful in diverting available energy will "tend to grow in extent (numbers) and this growth will further increase the flux of energy through the system." He accepted that efficiency in utilising the energy flow and a better husbandry of resources "must work to the advantage of a species talented in that direction", but argued nonetheless that the general tendency in such systems is to appropriate the maximum possible share of the available energy resources.

Through Lotka's elaboration of Boltzmann's insight, the "success" of the human species in appropriating vast resources of available energy, appears to be nothing more nor less than the operation of Darwinian evolution. Since the direction of an available energy flux towards individual or collective ends necessarily involves transformation (and degradation) of the energy flow, it is also possible to construe Lotka's principle as a "maximum entropy production" principle: ecological systems behave in such a manner as to maximise the production of entropy under the constraint of the available energy.

To the extent that the degradation of energy and the dissipation of materials into the environment is responsible for the environmental crisis, we are left with the unpleasant conclusion, that humanity's impact on the environment is itself a consequence of the evolutionary process.

[Crops That Shut Down Pests' Genes](#)

Researchers have created plants that kill insects by disrupting their gene expression. The crops, which initiate a gene-silencing response called RNA interference, are a step beyond existing genetically modified crops that produce toxic proteins. Because the new crops target particular genes in particular insects, some researchers suggest that they will be safer and less likely to have unintended effects than other genetically modified plants. Others warn that it is too early to make such predictions and that the plants should be carefully tested to ensure that they do not pose environmental problems. But most researchers agree that it's unlikely that eating these plants would have adverse effects on humans.



