



Drumbeat: April 30, 2009

Posted by [Leanan](#) on April 30, 2009 - 9:37am

Topic: [Miscellaneous](#)

[A gust of progress](#): *Creating windpower transmission in the Midwest*

FRANKLIN ROOSEVELT helped bring electricity beyond America's cities to its most distant farms. Barack Obama hopes the countryside will return the favour. Much of this challenge rests in the gusty upper Midwest. In recent years Interstates 29 and 80, highways of America's heartland, have teemed with lorries bringing wind blades to new plants. Efforts to build transmission have moved more slowly. There are 300,000 megawatts of proposed wind projects waiting to connect to the electricity grid, says the American Wind Energy Association. Of these, 70,000 megawatts are in the upper Midwest.

Now action is at last replacing talk. Firms are proposing ambitious transmission lines across the plains. The region's governors and regulators are mulling ways to help them. The federal government is playing its part. In February the stimulus package allotted \$11 billion to modernise the grid. Since then members of Congress have proposed an array of bills to develop transmission. Jeff Bingaman, chairman of the Senate energy committee, intends to start marking up transmission plans next week—though debate over other parts of the energy bill may delay progress.

[Would BP Please Buy Chesapeake Energy?](#)

Amid mounting furor from investors and analysts over Chief Executive Aubrey McClendon's \$110 million pay package, Chesapeake Energy's shareholders need a savior.

A BP takeover has been rumored since last November, when Chesapeake Energy suffered a liquidity crunch that collapsed shares. The troubled deepened when McClendon was forced to sell 90% of his holdings to satisfy margin calls.

[Oil price fall brings opportunity](#)

The collapse in oil prices had opened a huge opportunity for foreign investment in Iraq, officials and private investors said on Thursday.

Until recently, with prices above \$100 a barrel, the biggest hurdle to foreign investment had been resistance by Iraqi officials, who believed they could rely on their oil revenue to drive hard bargains. This, said investors was a far greater barrier than even security when it came to making decisions on putting money into the country.

But now with prices about \$50 a barrel, Iraqi officials had become far more receptive to the efforts of the World Bank and national development agencies to drum up investment and diversify the country's economy away from oil, one UK official said.

[Iraq could need soft loans from oilfield bidders](#)

LONDON, April 30 (Reuters) - Iraq will require soft loans possibly totalling billions of dollars from any firm successful in its second bidding round for developing new oilfields, unless the oil price recovers to \$70, the Iraqi oil minister said on Thursday.

International oil companies have already been requested to pay \$2.6 billion in the first bidding round to develop existing fields, which Hussain al-Shahrastani said were required to plug the holes in Iraq's budget created by the sharp drop in the price of crude to around \$50.

"These are not signature bonuses but soft loans that we expect the international oil companies to provide, that will be repaid by the oil produced," Shahrastani said.

[Repsol Says Refinery Strike in Spain to Curtail Production](#)

(Bloomberg) -- Repsol YPF SA, Spain's biggest oil company, said a strike at its domestic refineries will curtail operations.

[Is food the last thing to worry about?](#)

Our food system is woefully dependent on petroleum, as writers such as Richard Heinberg and Michael Pollan have eloquently pointed out. Soaring food costs have brought on riots in some countries, and in unstable nations, famine continues to be a regular visitor. Fears of empty grocery shelves have made food security the centerpiece of many a post-Peak Oil plan, and among those watching energy descent, a common refrain is that the best way to guarantee your food supply is to buy a piece of land and grow your own.

Yet in the developed world, especially the breadbasket nations such as the US, Canada, and other food-exporting countries, the food network may be one of the last system to fail during energy descent. In developing a wise post-Peak strategy, assessing relative risks is critical. Devoting large amounts of time and resources to events that are less likely leaves us unprepared for more probable difficulties. I don't want to discourage anyone from growing food — I'm a serious gardener myself and could list dozens of excellent reasons for doing it. But I think there are many reasons not to be focusing

primarily on food as the system most likely to fail. This isn't to say that industrial, oil-based agriculture is invulnerable, let alone sustainable. And we may see temporary shortages of specific foods. But there are many reasons why our fears of a food collapse—particularly when they lead us to a go-it-alone, grow-your-own response—may be distracting us from focusing on more immediate and likely risks.

[Officials in Three States Pin Water Woes on Gas Drilling](#)

Norma Fiorentino's drinking water well was a time bomb. For weeks, workers in her small northeastern Pennsylvania town had been plumbing natural gas deposits from a drilling rig a few hundred yards away. They cracked the earth and pumped in fluids to force the gas out. Somehow, stray gas worked into tiny crevasses in the rock, leaking upward into the aquifer and slipping quietly into Fiorentino's well. Then, according to the state's working theory, a motorized pump turned on in her well house, flicked a spark and caused a New Year's morning blast that tossed aside a concrete slab weighing several thousand pounds.

...Dimock, the poverty-stricken enclave where Fiorentino lives, is ground zero for drilling the Marcellus Shale, a prized deposit of natural gas that is increasingly touted as one of the country's most abundant and cleanest alternatives to oil. The drilling here -- as in other parts of the nation -- is supposed to be a boon, bringing much-needed jobs and millions of dollars in royalties to cash-strapped homeowners.

But a string of documented cases of gas escaping into drinking water -- not just in Pennsylvania but across North America -- is raising new concerns about the hidden costs of this economic tide and strengthening arguments across the country that drilling can put drinking water at risk.

[Exxon Has Biggest Profit Drop in 5 Years as Oil Falls](#)

(Bloomberg) -- Exxon Mobil Corp., the world's largest company by market value, posted its lowest profit in more than five years after the global recession sapped energy demand, pulling down oil and gasoline prices.

Net income dropped 58 percent to \$4.55 billion, or 92 cents a share, from \$10.9 billion, or \$2.02, a year earlier, Irving, Texas-based Exxon Mobil said today in a statement. Per-share profit was 3 cents lower than the average of analyst estimates compiled by Bloomberg. The earnings decline was Exxon Mobil's biggest since 2002.

[Oil earnings resilient despite oil price collapse](#)

LONDON (Reuters) - The oil and gas industry showed resilience to a collapse in crude prices, with most producers and service companies reporting better-than-expected profits on Thursday, leaving only Exxon Mobil (XOM.N) to disappoint.

[Iraq's navy step up to protect oil exports](#)

US and UK forces today handed over to the Iraqi navy the responsibility for protecting one of the country's crucial floating oil export terminals.

[UK sees new role in Iraq oil play](#)

The UK wants to get involved in protecting oil supplies from Iraq after its combat role there comes to an end, Prime Minister Gordon Brown said today.

[Oil and the lucky country](#)

Australia has a reputation as being the “lucky country”. I am a firm believer that “luck” is simply where preparation meets opportunity. In other words, being lucky is no accident. If we are to remain the “lucky country” however, we need to adapt as circumstances change. Nowhere is this more pertinent than in adapting to Australia’s future oil supply.

Before we start considering this issue, it is vitally important to understand why energy is so important to our economy. Energy is important because it allows us to do work. Work is important because it is the basis of all economic activity. So the more energy we have, the more work that can be done and the greater the level of economic activity. If we continue to expand the amount of energy that is available then so too will the level of economic activity, resulting in what we call growth.

Of course, the opposite situation is also true. If the available energy declines, the amount of work that can be done declines as does economic activity. The result is economic contraction or what is commonly called a recession or depression.

[Monbiot: The media laps up fake controversy over climate change](#)

Proof of paid-for climate denial at the Global Climate Coalition comes as no surprise, but it is no less depressing for that.

[Chrysler to file for bankruptcy](#)

NEW YORK (CNNMoney.com) -- Chrysler LLC is going to file for bankruptcy, an administration official confirmed to CNN Thursday.

The filing comes after some of the company's smaller lenders refused a Treasury Department demand to reduce the amount of money the troubled automaker owed

them.

Chrysler officials had no comment on the bankruptcy report. The company faces a Thursday deadline from the Treasury Department to reach deals with creditors who had loaned the company about \$7 billion.

But the filing will not mean the halt of operations or liquidation for the troubled 85-year old automaker. Instead, the administration expects to use the bankruptcy process to join Chrysler with Italian automaker Fiat.

[U.S. auto sales may have hit bottom, some experts say](#)

DETROIT — There are early signs auto sales may have hit bottom in the first quarter, industry leaders say, and even could recover in the second half if the government encourages car buying.

But experts such as Ford Motor CEO Alan Mulally also warn that optimism could turn to panic if major auto suppliers collapse.

"Clearly, the health of the supply base is the most critical issue as the government helps GM and Chrysler restructure," Mulally said in a conference call last week on Ford's first-quarter earnings.

[PEMEX implements emergency plan to avoid swine flu](#)

CIUDAD DEL CARMEN, CAMPECHE: Mexican state oil company Petroleos Mexicanos (PEMEX) said that there are no cases of workers infected with swine flu on its offshore platforms and facilities. However, PEMEX has initiated its Plan for Health Emergencies in Sonda de Campeche and is implementing all medical recommendations of Mexico's federal government to avoid an outbreak among PEMEX employees.

[Nigeria: Fuel scarcity hits airlines, causes flight delays](#)

Slight flight delays were experienced by some local airlines at the Murtala Mohammed Airport, Lagos on Wednesday, as the scarcity of JET A1, also known as aviation fuel, hits airline operators.

[Securing America's Energy Independence Through Energy Diversification](#)

This time a year ago, the United States and the world were reminded of the devastating costs of a global energy crisis. Consumers, businesses, and industry leaders alike watched helplessly as crude oil prices skyrocketed to \$147 per barrel, and the domestic consequences were reminiscent of the energy crisis of the late 1970s. Consumers

suffered, costs of living soared, the auto industry contracted, proponents of domestic drilling gained momentum, and global oil companies raked in record profits.

But unlike in the aftermath of the first two energy crises, innovation and efficiency—not just conservation—have now taken the spotlight as the solution. In the past, as oil prices fluctuated, so did our commitment to energy independence. Not so today. With advancements in technology, conflicts in the Middle East, and the clear threat of climate change, America's energy interests are no longer based on swings in oil prices. Efforts to reduce oil consumption and to develop alternative energy continue to grow, and they must do so.

[Weaving a new Silk Road](#)

“Power is moving from West to East,” says a top Gulf investor as the Arab world, distrustful of the US, builds wide-ranging commercial links with Asia.

For more than 1,000 years, the Silk Road that ran for 11,000km from the Mediterranean across Asia to China brought east and west together and helped lay the foundations of the modern world. The fabled network circled the planet, until, in the 16th century, it faded into history as ships were able to transport goods cheaper and faster to far-off Cathay than over the hazardous land route that crossed some of the world's most inhospitable terrain. Now, more than five centuries later, a new Silk Road is emerging, a commercial corridor that runs from the Middle East, with Dubai as its unofficial commercial capital, to Beijing, Shanghai and Hong Kong, Mumbai, Chennai, Kuala Lumpur, Singapore and Tokyo. Trade between the Gulf and Asia is mushrooming with oil, gas, petrochemicals, water technology and banking moving east, while consumer products, - migrant labour, energy investment, and so on, is moving west. This is establishing a new strategic link that is reviving the historic commerce of the ancient caravan network across the mountains, deserts and steppes of Asia.

[National Grid loses fine appeal](#)

National Grid has lost an appeal against a record fine imposed by regulator Ofgem last year for hindering the roll-out of new "smart" meters.

The Competition Appeal Tribunal said National Grid abused its dominant position through contracts with energy suppliers which imposed penalties for replacing large numbers of its meters with cheaper or more advanced devices.

[Sunset High senior may have solution to energy crisis](#)

Ashutosh Patra is doing his part to find efficient ways to tackle our energy crisis.

At 17, the Sunset High School senior has designed a low-cost microbial fuel cell, which

produces electricity and forms clean water while treating wastewater in the process.

The fuel for the entire process is bacteria found in wastewater.

[A potential breakthrough in harnessing the sun's energy](#)

New solar thermal technology overcomes a major challenge facing solar power – how to store the sun's heat for use at night or on a rainy day.

[Scythe festival](#)

I first bought a scythe after meeting a smallholder who told me he'd raced to neighbouring farmers to mow identical areas of grass. He used a scythe, they used trimmers - and he won.

[Climate crunch: A burden beyond bearing](#)



In 2007, environmental writer Bill McKibben approached climate scientist James Hansen and asked him what atmospheric concentration of carbon dioxide could be considered safe. Hansen's reaction: "I don't know, but I'll get back to you."

After he had mulled it over, Hansen started to suspect that he and many other scientists had underestimated the long-term effects of greenhouse warming.

[To meet climate goal, cut fossil fuels use: study](#)

PARIS (AFP) – Meeting a widely-supported goal to tackle global warming means that humanity will be able to burn less than a quarter of the proven reserves of fossil fuels by

2050, a study released on Wednesday said.

The paper, published by the British journal Nature, implies only a revolution in energy use can achieve the aim of limiting warming to less than two degrees Celsius (3.8 degrees Fahrenheit) above pre-industrial levels.

[U.S. oil refineries a tough sell in a recession](#)

NEW YORK (Reuters) - U.S. oil companies may need to start pulling their unwanted refineries off the auction block if they want to avoid selling into the worst market for energy assets in more than six years.

The gloomy market is bad news for companies seeking to shrink their exposure to weak fuel demand in the recession-hit United States, but presents an opportunity for upstarts and national oil firms hoping to expand into a recovery.

"Clearly, the sellers are selling into what can only be called a distressed market," said Addison Armstrong, director of market research at Tradition Energy in Stamford, Connecticut.

[Power sector worries slash Gazprom 2008 profit](#)

MOSCOW (Reuters) - Russian gas export monopoly Gazprom reported profits below expectations on Wednesday, reporting over \$1 billion in writedowns as it braced for a slowdown in its key domestic power generation market.

"The negative macroeconomic background characterised by the slump in global oil prices in the second half of 2008 and an ongoing decrease in demand for fuel in export and domestic markets will have a significant impact on the group's financial results in 2009," Gazprom said in a statement.

[Royal Dutch Shell's profits fall 58pc on oil price slide](#)

Royal Dutch Shell's profits more than halved in the first quarter as oil prices tumbled, forcing the energy group to increase its debt to support both the dividend and its investment programme.

Despite the 58pc fall in profits to \$3.3bn on a current cost of supplies basis, which takes into account changes in the value of oil and distillate inventories, Shell beat consensus forecasts of \$2.6bn. The group's performance for the three months to March reflected the oil price, which averaged \$43.20 over the period compared with \$97.86 in the first quarter of 2008.

[Indian producers miss output target](#)

Indian upstream players missed the country's crude production target by almost 7% for the financial year ended 31 March, the Ministry of Petroleum & Natural Gas said.

In a statement released today, the ministry said oil companies in the country produced 33.5 million tonnes of crude oil from April 2008 to March 2009, with an almost 14% dip in production for March this year.

[Woodside's Vincent Oil Field to Restart By End-June](#)

(Bloomberg) -- Woodside Petroleum Ltd., Australia's second-biggest oil and gas producer, expects to resume production at its fire-damaged Vincent oil project by the end of June, subject to regulatory approval.

Woodside will lose about 500,000 barrels of oil a month of output while the field off the northwest coast is shut down, the Perth-based company said today in a statement to the Australian stock exchange.

[Shell CEO Expects to Cut Jobs This Year to Lower Costs, FT Says](#)

(Bloomberg) -- Royal Dutch Shell Plc Chief Executive Officer Jeroen van der Veer expects to cut jobs this year as the company reduces costs in response to lower oil prices, the Financial Times reported.

[Iran: We Can Cope with US Fuel Trade Sanctions](#)

(IsraelNN.com) Iran would find gasoline supplies even if the United States imposes sanctions targeting companies that ship fuel to the Islamic Republic, a senior Iranian oil official said on Thursday.

[Can China demand fuel energy majors' profits?](#)

With oil prices having more than halved from a year ago, the key question for investors in China energy is whether a recovery in China's fuel demand can offset that decline in crude prices?

[World Oil Snapshot: Big Picture and Investable Advice](#)

As you can see from this chart, Saudi increase/decrease in oil production moves the total

OPEC output almost barrel for barrel, moderating supply and demand fluctuations to accommodate buyers and to facilitate rolling supply agreements -- which explains why the US turns a blind eye to Saudi political repression and treats the Kingdom as a military ally. Here's a list of the weapons we sold and a recap of US strategic involvement.

Left to their own devices, the doofus Saudis would have collapsed Ghawar ten years ago. It's kept alive by Western engineers led by Dick Cheney's Halliburton (HAL). That's my first actionable stock pick at any price you like. I agree with Matthew Simmons that the Saudi reserves are in decline. All the more reason to buy and hold Halliburton.

[Investors able to prop up \\$50 oil, for now](#)

Dietz argues one of two things has to occur: either oil demand has to increase or the price of oil has to fall. Dietz has calculated that the price of oil will fall, and is short oil, with numerous monthly contracts. He expects oil to retest lows below \$40 by mid-year. Or as he puts it, "Reality will reappear soon."

Veteran oil analyst Matt Simmons, founder of Simmons & Co., a Houston-based investment bank, holds a different view. Simmons argues oil's price decline from record-highs has taken many oil fields out of production. That decreased production, plus aging oil fields and the credit crunch's impact on oil exploration, are likely to lead to a spike in prices, after both the U.S. and global economies resume growing. With the above in mind, investors seeking to "get ahead of the pack" or anticipate the economic recovery, are positioning themselves in oil now, which is boosting its price above where it would be, given current, relatively light demand conditions.

[Gazprom may pre-pay Ukraine for gas transit](#)

MOSCOW, April 29 (RIA Novosti) - Russia could pay Ukraine in advance for the transit of Russian gas to enable Ukraine's Naftogaz to pay for Russian gas supplies, a source in the Russian delegation said Wednesday.

Advance payments "will enable Naftogaz of Ukraine to pay for April gas supplies," the source said.

[Hyundai Heavy 1st-quarter net profit gains](#)

SEOUL, South Korea (AP) -- Hyundai Heavy Industries, the world's largest shipbuilder, reported a 12.7 percent rise in first quarter net profit on foreign exchange gains, but in a sign of tough times said it hasn't received a single new order in more than six months.

[Petroleum Marketers Respond to Costco's Attempt To Settle 'Fair Fuel' Lawsuit](#)

ARLINGTON, Va. – When Costco last week agreed to settle a lawsuit over the sale of "hot gasoline" by installing automatic temperature compensation (ATC) equipment at the pump, the Consumer Watchdog group applauded the move. Other players in the gasoline industry, however, made a few other gestures.

[12 slain in shooting at Azerbaijan oil academy](#)

BAKU, Azerbaijan – A gunman opened fire at Azerbaijan's prestigious oil industry academy on Thursday, killing 12 people and wounding 13 before turning the gun on himself, the government said.

[Time to face the energy reality](#)

Imagine a world in which oil production is declining, and prices are rising with no end in sight. Sooner or later, that world will be a reality. Peak oil is the point at which 50 percent of the world's oil - the easiest 50 percent to get to - has been extracted. From that point onward, production will decline while prices rise. Almost no one disputes that peak oil is coming (if we haven't reached it yet). The only questions are how soon it will hit, and how painful it will be for society.

[BLM, Forest Service sued over air pollution in NM](#)

ALBUQUERQUE, N.M. – Environmentalists claim in a lawsuit that federal agencies violated the law by approving plans that would expand oil and gas development in New Mexico's San Juan Basin – one of the nation's largest natural gas fields.

[EPA raids Ill. city accused of using tainted water](#)

CRESTWOOD, Ill. – Federal agents raided a Chicago suburb's government offices Wednesday to look for evidence of any crimes related to allegations the village knowingly drew drinking water from a tainted well for decades.

[Energy Sec. announces \\$193M for energy research](#)

GOLDEN, Colo. – The primary U.S. lab for renewable energy will receive \$110 million in federal stimulus funds and another \$83 million will go toward wind energy and other alternative power and efficiency projects, Energy Secretary Steven Chu said Wednesday.

"Wind energy will be one of the most important contributors to meeting President

Obama's target of generating 10 percent of our electricity from renewable sources by 2012," Chu said.

Also on the administration's priority list is making buildings more energy efficient.

[French nuclear power plant evacuated in bomb alert](#)

PARIS (Reuters) – A nuclear power station at Chinon in central France was evacuated on Thursday after a phone call warning of a bomb, power supplier EDF said.

EDF said the anonymous phone call was made at 0355 GMT and that, while searches continued, the core areas of the plant had been secured.

The nuclear plant was still functioning, EDF added.

[Tokyo Electric Loss Exceeds Estimates on Cost of Reactor Repair](#)

(Bloomberg) -- Tokyo Electric Power Co., Asia's biggest utility, posted double the loss analysts had expected after it took a charge for repairing the world's biggest nuclear plant that was shut after an earthquake in July 2007.

[Three nuclear power sites bought](#)

Three nuclear power sites have been bought by European energy firms, the Department of Energy and Climate Change (DECC) has said.

[Brazil slave labor complaints rise](#)

RIO DE JANEIRO – Reports of debt slavery reached record numbers in Brazil last year, and most of the cases were connected to the nation's booming sugarcane ethanol sector, according to a report released Wednesday by a watchdog group.

The report from the Catholic Land Pastoral, indicated there were 280 cases debt slavery reported in 2008, a 6 percent increase over 2007.

The report — relying on government data — also showed that 36 percent of those cases were linked to sugarcane production, which drives Brazil's much-lauded production of ethanol.

Debt slavery is common in Brazil's Amazon, where poor laborers are lured to remote spots where they rack up debts to plantation owners who charge exorbitant prices for everything from food to transportation and force the workers to sleep in cramped quarters.

[Warming up to Sunshine](#)

It's a sign of the times. Once considered a niche technology embraced by the most eco-conscious consumers, solar thermal hot-water systems are now seen as an economical way to reduce the use of natural gas and electricity by extracting clean energy from the sun.

The systems, which range in price from \$6,000 to \$9,000 installed, don't produce electricity like their photovoltaic cousins. Instead, they use sunlight to preheat cold water before it enters the hot-water tank in your basement. The more heated water you get from the sun, the less natural gas or electricity you consume.

[What does living 'green' look like?](#)

By this point, we all know we need to do something about climate change, but will switching lightbulbs or hauling groceries in a hemp sack really stop the Arctic meltdown? Sure, the Prius is kind of sexy, at least when Cameron Diaz drives it, but hey, the family SUV is paid off, and that big gas-guzzler feels safe. Lowering the thermostat makes sense — you cut heating bills and trim your carbon footprint. But just one long plane trip more than cancels out the carbon savings you achieved by freezing all winter.

[Report: Shoreline at risk of global warming flood](#)

A new report by the state agency responsible for protecting the San Francisco Bay shows thousands of acres of shoreline may be in danger of flooding in coming decades if some climate change predictions prove correct.

The April 7 draft report of the San Francisco Bay Conservation and Development Commission includes maps of the Bay shoreline showing broad swaths of low-lying areas likely to be flooded by mid-century, and even greater areas by 2100, by rising sea levels due to global warming.

[From Smokestacks to Your Tank](#)

IF the government regulates carbon dioxide emissions, power plants and other factories will probably start removing CO₂ from their smokestacks and will have to pay to get rid of it. The conventional wisdom is that it will be sequestered underground.

But one audacious concept is to recycle the carbon by turning it into liquid hydrocarbon fuels.

[Canada Plans Clampdown on Coal-Powered Plants, Globe Reports](#)

(Bloomberg) -- Canada plans to phase out traditional coal power for its electrical-generation industry as it seeks to lower greenhouse-gas emissions, the Globe and Mail reported.

Any new coal-powered plants would have to include technology to capture the emissions and inject them underground for permanent storage, the newspaper said today, citing an interview with Environment Minister Jim Prentice.

[Soot new culprit in Arctic's rapid melt](#)

Greenhouse gases may not be the only reason the Arctic is thawing so rapidly.

A report released yesterday at an international meeting in Norway says scientists have discovered a new factor behind the surprisingly rapid meltdown – so-called "black carbon," otherwise known as soot.

[Timeline: Earth's Precarious Future](#)

Humans will face widespread water shortages. Famine and disease will increase. Earth's landscape will transform radically, with a quarter of plants and animals at risk of extinction.

While putting specific dates on these traumatic potential events is challenging, this timeline paints the big picture and details Earth's future based on several recent studies and the longer scientific version of the IPCC report. This timeline is an updated version of one first published by *LiveScience* in 2007.

[Climate scenarios 'being realised'](#)

The worst-case scenarios on climate change envisaged by the UN two years ago are already being realised, say scientists at an international meeting.

In a statement in Copenhagen on their six key messages to political leaders, they say there is an increasing risk of abrupt or irreversible climate shifts.

[Hit the brakes hard](#)

There is a climate splash in Nature this week, including a cover showing a tera-tonne weight, presumably meant to be made of carbon (could it be graphite?), dangling by a thread over the planet, and containing two new articles (Allen et al and Meinshausen et al), a "News & Views" piece written by two of us, and a couple commentaries urging us to "prepare to adapt to at least 4° C" and to think about what the worst case scenario (at 1000 ppm CO₂) might look like.

At the heart of it are the two papers which calculate the odds of exceeding a predefined threshold of 2°C as a function of CO₂ emissions. Both find that the most directly relevant quantity is the total amount of CO₂ ultimately released, rather than a target atmospheric CO₂ concentration or emission rate. This is an extremely useful result, giving us a clear statement of how our policy goals should be framed. We have a total emission quota; if we keep going now, we will have to cut back more quickly later.

['Safe' climate means 'no to coal'](#)

About three-quarters of the world's fossil fuel reserves must be left unused if society is to avoid dangerous climate change, scientists warn.

[Climate countdown: Half a trillion tonnes of carbon left to burn](#)

The world has already burned half the fossil fuels necessary to bring about a catastrophic 2C rise in average global temperature, scientists revealed today.

The experts say about half a trillion tonnes of carbon have been consumed since the industrial revolution. To prevent a 2C rise, they say, the total burnt must be kept to below a trillion tonnes. On current rates, that figure will be reached in 40 years.

[Catastrophic Climate Future: Are We That Stupid?](#)

Until the economic downturn late last year, actual emissions have been higher than those in the IPCC scenario. So without any mitigation, "that's the track we're on now," Schneider told LiveScience.

Schneider doesn't think emissions will continue on this path, however: "I don't think the world is going to be that stupid for most of the century," he said.

Eventually, as we see more of the effects of warming, Schneider thinks that people will be galvanized into action and begin implementing cleaner technologies and cutting emissions.



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