

# DrumBeat: November 12, 2008

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Topic: Miscellaneous

# International Energy Agency report on oil gets angry Opec reaction

Opec has made a scathing attack on a report from the International Energy Agency which says that the world's existing oil producers face a "huge challenge" to keep up with a projected rise in global demand.

...Abdullah al-Badri, Opec's secretary-general, gave a withering verdict on the study. "I don't trust this report," he said. "I don't think the IEA is equipped to review these oilfields...I don't see how it will be useful."

He said that Opec, the cartel of 13 oil-exporting countries that produces 40 per cent of the world's oil, had not been involved in drafting the study, which he dismissed as alarmist. "We have the reserves, we have enough oil for the foreseeable future," Mr al-Badri insisted.

#### Oil Falls to 21-Month Low on Forecasts of Lower Global Demand

(Bloomberg) -- Crude oil fell to a 21-month low on speculation that the International Energy Agency will cut its global demand estimate tomorrow and the U.S. will report that stockpiles gained.

The IEA is `more than likely" to lower its oil-demand forecast for next year in its next monthly oil report, according to Executive Director Nobuo Tanaka. The U.S. Energy Department cut its oil-demand and price forecasts today. A department report tomorrow may show that crude-oil supplies rose last week.

``It's hard to see what will stop this slide," said Tom Bentz, senior energy analyst at BNP Paribas in New York. ``It's more of the same. The market is moving on continuing economic concerns."

Crude oil for December delivery fell \$3.17, or 5.3 percent, to \$56.16 a barrel at 2:46 p.m. on the New York Mercantile Exchange, the lowest settlement since Jan. 29, 2007. Prices have tumbled 62 percent since reaching a record \$147.27 on July 11.

The warning came as Brent crude slipped \$2.50 to below \$53.21, a 20-month low.

The report – the World Energy Outlook 2008 – said warned that there was a real prospect of global demand growth outstripping supply as the credit crisis hit investment.

# A peak oil warning from the IEA

What does it mean when a usually conservative International Energy Agency (IEA) issues a gloomy report?

It means that recent cheap oil isn't going to last - and that \$100 oil will soon be a part of our daily lives ... again.

# Slump's varied effects present mixed opportunities

HOUSTON -- The varying effects of economic troubles on exporting countries and national oil companies present a mixed slate of opportunities to international oil companies with cash to invest.

Lew Watts, chief executive officer of PFC Energy, told the RMI Oilfield Breakfast Forum in Houston Nov. 12 that most Persian Gulf members of the Organization of Petroleum Exporting Countries can weather the slump in the price of crude oil.

#### Pickens Tells CNBC Oil Near Bottom, Forecasts Another OPEC Cut

(Bloomberg) -- Billionaire hedge-fund manager Boone Pickens told CNBC today that oil prices are near a bottom and will be back above \$100 a barrel within a year.

``We're in a global recession now, and you've got to be close to the bottom because OPEC is going to cut supply and support the price," he said in an interview. ``Within a year from now, we'll be back above \$100 a barrel."

#### Bailout in the desert

(Fortune Magazine) -- As soaring oil prices enriched the Persian Gulf region in recent years, the United Arab Emirate of Dubai became the embodiment of global exuberance. Now even this boomtown has fallen prey to the credit crisis.

(Bloomberg) -- Venezuelan President Hugo Chavez said his country isn't immune to a global recession and will be affected by falling oil prices should they remain low for a prolonged period of time.

Chavez said Washington was to blame for the world economic slump that has contributed to a decline in crude prices. The country will confront the situation by strengthening its international reserves, he said in comments on state television.

# Government lowers 2009 gasoline price forecast to \$2.37 a gallon

WASHINGTON — Prices at the gasoline pump will average \$2.37 a gallon for regular next year, the U.S. Energy Information Administration predicted today.

But the slowing economy and volatile energy markets are making price forecasting a tough assignment. Just a month ago, the agency predicted regular would average \$3.56 a gallon next year.

### Chevron chief calls on Obama to create energy policy

NEW YORK (Reuters) - The head of oil giant Chevron Corp on Wednesday called on President-elect Barack Obama to create a national energy policy that promotes efficiency, opens up new areas for oil production and sets a clear policy on carbon dioxide emissions.

"The new administration has an opportunity to make realistic changes to our approach to energy and to create a comprehensive energy policy," David O'Reilly, chairman and chief executive of Chevron, said in a speech to the Council on Foreign Relations.

### Does Natural Gas Have an Ally in Rahm Emanuel?

New hope for natural gas fuel interests may be on the way: When President-elect Barack Obama chose Representative Rahm Emanuel of Illinois to be his chief of staff, he chose one of Congress's biggest proponents of compressed natural gas cars.

### Norway plans more gas exports to Europe

BRUSSELS (Reuters) - Norway plans to increase exports of natural gas to Europe, which is trying to wean itself off its dependence on Russian energy, Prime Minister Jens Stoltenberg said on Wednesday.

His pledge came as Russia threatened to scrap a pipeline to Germany if European

squabbling continued to delay the controversial project.

#### Gas well burns out of control in northeastern B.C.

A ConocoPhillips Canada gas well is burning out of control in a remote area of northeastern B.C. near Chetwynd, the company says.

The company said in a news release that it doesn't know how long it will take to get control of the fire, which broke out early Tuesday morning.

The flames are visible from Highway 97. A rig crew has been removed from the site, but no injuries have been reported.

## Obama to Act Quickly on Global Warming in 2009

(Bloomberg) -- President-elect Barack Obama will act quickly on a campaign promise to address climate change upon taking office in January, his environment adviser said.

Obama will borrow from initiatives in place in Europe and some U.S. states to control heat-trapping emissions, Jason Grumet said today in Washington. While he avoided talk of new policies today, the adviser last month said Obama may continue international climate negotiations endorsed by his predecessor, George W. Bush, former U.K. Prime Minister Tony Blair and others.

# Pickens' wind plan hits a snag

NEW YORK (CNNMoney.com) -- Billionaire oilman T. Boone Pickens is scaling back his massive Texas wind project, citing a drop in natural gas prices and the tightening credit market.

"The capital markets are problematic for everyone and...may lead us to scale back a bit," Jay Rosser, spokesman for Pickens' company Mesa Power, said in a statement.

On Tuesday, Pickens, who has spend millions promoting his "Pickens Plan" to wean the United States off foreign oil by switching to wind and natural gas, told a utility trade group falling natural gas prices were responsible for the changes, according to a report in *The Arizona Republic*.

# UK steps up wooing of oil-rich Gulf states

LONDON (AP) -- Britain stepped up its attempts to woo oil-rich Gulf states on Wednesday, with Business Secretary Peter Mandelson urging leaders in the region to

bring investment here as a delegation of Saudi businessmen toured key British finance centers.

#### Russia looks to reserves for budget cash, stocks fall

MOSCOW (Reuters) - Russia's financial crisis will last at least another year and the government will have to dip into reserves to plug gaps in next year's budget if oil prices remain low, Finance Minister Alexei Kudrin said on Wednesday. His comments came as stock markets slumped, and dealers estimated the central bank had spent \$2-3 billion to support the rouble around the 30.70 mark versus a euro-dollar basket -- seen as the central bank's new support level.

There were also signs that some banks were delaying withdrawals and state bank VEB said companies and banks had asked for 50 percent more in aid on foreign debt refinancing than allocated for the purpose.

# Delayed projects piling up

I'm participating in a webcast with some of my Standard & Poor's colleagues later this week. As I was preparing slides for it, I wanted to highlight some of the large-scale capital projects that have been delayed because of the combination of lower prices, weaker refining margins and the credit crunch.

I figured I had enough for the slide when I got to five. To find five, I had to go back all of...one week.

## Putin says Russia may scrap Nord Stream pipeline

MOSCOW (Reuters) - Russia may scrap its Baltic Sea gas pipeline project, Nord Stream, and build gas liquefaction plants instead if Europe keeps delaying the pipeline, Russian Prime Minister Vladimir Putin said on Wednesday.

"Europe must decide whether it needs this pipeline or not," Putin told Finland's Prime Minister, Matti Vanhanen, at a meeting in Moscow.

"If you don't we will build liquefaction plants and send gas to world markets, including to European markets. But it will be simply more expensive for you. You are free to make the calculations yourself," he added.

#### No Bailout Needed for Oil and Gas

Finally. Thanks to the recent trillion-dollar bailout of Wall Street, the public has found a

group of corporations they hate worse than the oil industry. You can say a lot bad things about Big Oil, but you can't say it needs a bailout. Surely, the American people will now begin to express their gratitude in a spontaneous outpouring of cards and letters to the nation's oilmen. Allow me to provide a template, just in case spontaneity is lacking.

### Petrobras Falls After Credit Suisse Cut, Oil Decline

(Bloomberg) -- Petroleo Brasileiro SA fell the most in two weeks in Sao Paulo trading after Credit Suisse Group cut the Brazilian state-controlled oil company's stock to ``neutral" and oil prices tumbled to a 20-month low.

``We are becoming increasingly concerned with the company's deteriorating cost structure and earnings outlook" with oil prices at \$60 a barrel, analyst Emerson Leite wrote in a note. He previously had an ``outperform" rating on the shares.

# US shipping fuel to North Korea

WASHINGTON: The United States says it has shipped 50,000 metric tons of heavy fuel oil to North Korea as part of a nuclear disarmament deal. The fuel is scheduled to arrive in the North in late November and early December.

The announcement comes as North Korea complains about a delay in energy aid shipments. North Korea said Wednesday that it has slowed disabling its Yongbyon nuclear reactor in response.

# Obama administration to ratchet up hunt for bin Laden

WASHINGTON (CNN) -- President-elect Barack Obama wants to renew the U.S. commitment to finding al Qaeda leader Osama bin Laden, according to his national security advisers.

# IEA Says LNG Underinvestment May Lead to Shortages After 2012

(Bloomberg) -- Underinvestment in liquefied natural gas production plants may boost gas prices from 2012, the International Energy Agency said.

``Shortfalls in the availability of LNG could push up prices and encourage the faster development of indigenous resources in importing regions," the IEA said in its World Energy Outlook 2008. Up to 2012 there will be a ``massive expansion in LNG supply."

# Greenhouse gases could rise 45 per cent, IEA say

The world is on course for a 45 per cent increase in greenhouse gas emissions by 2030, the International Energy Agency (IEA) has warned.

This would lead to a temperature rise of 6°C when scientists have warned that this must be kept below 2°C to avoid catastrophic climate change.

# OPEC mulls further cuts as oil falls to US\$57

LONDON -- Oil fell almost 4% to nearly US\$57 a barrel on Wednesday, its lowest for 20 months, on expectations of weaker energy demand and as global stock markets headed downwards.

The fall in oil prices prompted OPEC officials to say they might decide to cut oil production further in an attempt to adjust the balance between oil output and demand.

U.S. crude for December delivery hit a low of US\$57.04, down US\$2.29 and its lowest point since March 20, 2007, before rallying to around US\$57.59 by 1500 GMT.

# Credit crisis adds to risk of oil supply crunch: IEA

LONDON (Reuters) - The credit crisis increases the risk the world's oil reserves will not be drilled fast enough to meet global demand growth, the International Energy Agency said on Wednesday.

The agency's World Energy Outlook for 2008 stopped short of sounding the alarm oil supplies could have peaked.

But it highlighted obstacles to accessing new fields that include the increasing dominance of national oil companies as well as dwindling amounts of credit.

# Running on empty, GM's fate is debated

As General Motors burns through cash, edging its way toward possible financial collapse, a growing number of analysts have said bankruptcy might be inevitable. GM insists such a move is out of the question, and as the debate roils, people on both sides point to two past scenarios for lessons.

# Russia rejects U.S. missile proposals

MOSCOW (Reuters) - The Kremlin on Wednesday rejected U.S. proposals aimed at easing concerns over a missile defense system in Europe and said it would try again to

resolve the row once Barack Obama is in the White House.

Russia says the planned U.S. system will threaten its national security and that the administration of George W. Bush, which leaves office in January, has failed to allay its concerns.

## Uganda: 4-axle truck ban causing fuel shortage, agents say

"Unlike the transporters of dry cargo, reducing the axles from four to three for fuel transporters has called for redesigning the sizes of the tankers, to fit the recommended three axles," Mololo said.

He said when the Kenyan government enforced the rule three weeks ago, his clients' transporters went on a sit-down strike.

"The Kenyan government did not relent, saying the tonnage carried by the four-axle trucks ruined the roads."

# Hamas relying on underground supply lines, cut-rate fuel from Egypt

Although Hamas has reported a fuel shortage that was hampering its power facility, the military has determined that Hamas, despite increasing tension with the regime of Egyptian President Hosni Mubarak, was receiving most of its fuel requirements from Egypt's Sinai Peninsula.

The sources said that in July 2008, Hamas constructed at least two pipes from Sinai for the transfer of diesel oil and natural gas to the Gaza Strip.

# Three days of deadly blasts rattle Baghdad

BAGHDAD - A series of blasts struck Baghdad for the third consecutive day, killing nine people and wounding more than 30 others Wednesday, police said. The attacks underlined the fragility of recent security gains in the Iraqi capital.

## Michael Pollan: Eating Is a Political Act

Michael Pollan has got people talking. His recent books, *The Omnivore's Dilemma: A Natural History of Four Meals* and *In Defense of Food: An Eater's Manifesto*, have captured the public imagination, setting off countless coffee shop discussions, dinnertime arguments, and oh-so-many blog posts.

Even more impressively, his exploration of modern-day agriculture and the

dysfunctional American diet has prompted his readers to look at their own eating habits with a new sense of understanding and often a desire for change.

## California's car tax may be on the road again

The vehicle license fee that got Gray Davis recalled and Arnold Schwarzenegger elected looks like a good idea again.

### Bolivia holds key to electric car future

High in the Andes, in a remote corner of Bolivia, lies more than half the world's reserves of a mineral that could radically reduce our reliance on dwindling fossil fuels.

Lithium carries a great promise. It could help power the fuel efficient electric or petrolelectric hybrid vehicles of the future.

But, as is the case with fossil fuels, it is a limited resource.

#### Thieves make off with church furnace oil

St. Mary's Roman Catholic Church in Newcastle is facing a sudden oil shortage On Nov. 8, they reported 1900 litres of oil was stolen from the church. The big red tank was located at the back of the building.

# Ex-official says Mexico may have to halt oil exports

The U.S. could soon find itself scrambling to make up 11 percent in lost oil imports.

Mexico, the third-largest foreign supplier of U.S. oil, faces the real possibility of having to halt oil exports in four years, a former top Mexican energy official was reported as saying Tuesday in Mexico's El Universal newspaper.

Rogelio Gasca Neri, the former head of Mexico's federal electricity commission, blamed the inability of the nation's oil industry to produce enough oil to meet rising demand.

Neri's comment, made in Mexico at a business forum on reforms in the nation's energy industry, also joins that of a growing number of energy experts who see an end to Mexican oil exports coming soon.

#### Study Points to Major Source of Natural Gas in Alaska

Federal scientists have concluded that Alaska's North Slope holds one of the nation's largest deposits of recoverable natural gas in the form of gas hydrates, a finding that could open a major new front in domestic energy exploration.

Researchers have speculated for years that gas hydrates -- a combination of gas and water locked in an icelike solid that forms under high pressure and low temperatures -- could provide an important source of natural gas in the United States and worldwide.

Today the U.S. Geological Survey will release a study estimating that 85.4 trillion cubic feet of natural gas can be extracted from Alaska's gas hydrates, an amount that could heat more than 100 million average homes for more than a decade.

# Putin Denies Plan of OPEC-Style Gas Cartel

Prime Minister Vladimir Putin sought to ease fears Tuesday over the possibility of Russia joining an Opec-style cartel of gas exporting countries, he said in talks with his Egyptian counterpart Ahmed Nazif.

"We support this idea. But we know about apprehensions and even fears voiced by certain energy consumers," Putin was quoted by news agency Interfax as saying. "I wish to state once and for all: there are no grounds for such fears."

#### Australia: Handouts fuel a destructive course

THE federal Government's \$6.2billion Car Industry Rescue Package is a lifeline to industry and our skilled workforce, but given that for years governments have tossed good money after bad into the automotive money pit, taxpayers will want results. Positive aspects include more than doubling the Green Car Fund, and the \$3.4billion Automotive Transformation Scheme, which one can only hope will do just that in the next decade.

The real problem we face - and in the US it's far worse, with car makers bleeding money - is that the car is unviable and has been for a long time. We have all known the need for change since the first oil shock of 1973, but almost nothing was done about it. We know oil is a finite resource - we may already have hit "Peak Oil" - just as we have long known that the petrol-driven car contributes to global warming. As such, it is a double-whammy evildoer: polluting the skies while guzzling a scarce resource, and that's not to mention its daily toll of death and mayhem.

## Mass-Transit Projects Fared Well at Polls

U.S. voters approved billions of dollars for mass-transit projects, highlighting a growing desire to overhaul the nation's aging transportation systems.

The increasing political support for transportation investment comes as Democratic leaders in Congress are pushing for a second economic-stimulus bill that could include tens of billions of dollars in additional spending on infrastructure projects. It also signals a potential boon for companies that provide everything from locomotives to collision-avoidance technology.

### Saudi Arabia to Export More Oil to China

BEIJING (SinoCast via COMTEX) -- Abdallah S. Jum'ah, CEO and president for Saudi Arabian Oil Co. (Saudi Aramco) yesterday said in Beijing that the Saudi Arabian stateowned oil producer intended to export more petroleum to China, so as to further strengthen their energy cooperation.

### World needs to tap oil reserves more quickly - IEA

LONDON (Reuters) - The world is not about to run out of oil, but there is a risk its reserves may not be exploited fast enough to meet global demand growth in the years ahead, the International Energy Agency said on Wednesday.

The agency's World Energy Outlook for 2008 stopped short of sounding the alarm that oil supplies may have peaked, but highlighted obstacles to accessing new fields that include the increasing dominance of national oil companies.

"Some 30 million barrels per day of new capacity is needed by 2015," said the IEA, which advises industrialised countries.

"There remains a real risk that under-investment will cause an oil-supply crunch in that timeframe."

# **IEA Warns of Energy Supply Crunch**

LONDON (AP) -- The International Energy Agency on Wednesday predicted world energy demand will rise 1.6% a year on average between 2006 and 2030 and called for massive investment in energy infrastructure to prevent a supply squeeze.

The IEA's base scenario for energy demand has fallen because of the global economic slowdown and higher oil prices, but the agency stressed that a delay in spending on new projects because of the credit crisis could lead to a "supply crunch that could choke economic recovery."

The IEA expects demand for oil to rise to 106 million barrels a day in 2030, 10 million barrels a day less than projected last year, from 85 million barrels a day currently.

London: Dismissing fears of peak oil, the International Energy Agency has however warned that the world runs a risk of failing to match supply and demand. Releasing the full version of its World Energy Outlook for 2008 today, the IEA has highlighted obstacles to accessing new fields and increasing supply.

## IEA doesn't see peak oil by 2030

LONDON (MarketWatch) -- The International Energy Agency on Wednesday dismissed fears about peak oil, but the group said under-investment could lead to production troubles.

..."Although global oil production is not expected to peak before 2030, conventional crude-oil production is projected to level off toward the end of the projection period," it said.

## From credit crunch to energy crisis?

OTTAWA -- Global oil companies are sowing the seeds of a new supply crisis and a return to record-high prices by cutting back on current investments in response to the global slowdown, the International Energy Agency warns.

Four months ago, economists warned of "demand destruction" as record prices and a slumping economy slowed the growth of global crude consumption. But now, the IEA is worried about "supply destruction" as producers delay expensive projects, including some in Canada's oil sands, that would bring much-needed supplies to market.

#### World Needs a Kuwait a Year to Meet Demand, IEA Says

(Bloomberg) -- The world must find an extra 64 million barrels a day of oil production by 2030, equivalent to replacing Kuwait's output every year, to meet demand growth and counter the decline of existing fields, the International Energy Agency said.

# Costly oil, gas drive world to burn more coal - IEA

LONDON (Reuters) - Coal, already the world's second-most used fuel after oil, will grow more competitive after 2015 as oil and gas prices are expected to rise, the International Energy Agency said on Wednesday.

Coal's share of global energy demand would rise to 29 percent in 2030 from 26 percent in 2006 -- driven by booming power generation growth mostly in China and India.

# Sub-Saharan Africa energy exports on sharp rise - IEA

LONDON (Reuters) - Energy exports from sub-Saharan Africa will rise significantly as the region opts to maximise foreign currency earnings rather than attend to domestic fuel needs, the International Energy Agency said on Wednesday.

Oil exports from the region would hit 6.4 million barrels per day (bpd) by 2030, out of the 7.4 million bpd expected to be produced, the IEA said in its latest World Energy Outlook.

### Oil slips below \$59 on global growth pessimism

VIENNA, Austria – Oil prices slipped below \$59 a barrel Wednesday as investors grappled with the prospect that global growth next year will slow more than originally feared, cutting demand for gasoline and other crude products.

Expectations that a snapshot of the U.S. inventories will also show reduced consumption of oil and derivatives also acted as a drag on the market.

# Oil below \$60 "overshooting" to the downside - IEA

LONDON (Reuters) - The price of oil, which sank below \$58 a barrel on Wednesday, is "overshooting" to the downside, said the head of the International Energy Agency.

#### OPEC must consider if further cut needed - Nigeria

"I think we need to look at the market and see if there is need for cut, because we took out 1.5 million barrels per day but to no effect," Oil Minister Odein Ajumogobia told Reuters.

### Russia-China oil loan talks suspended on differences

MOSCOW (Reuters) - Russia and China have suspended talks over \$25 billion in loans to Russian oil companies due to disagreements over interest rates and state guarantees, two Russian sources close to talks told Reuters on Wednesday.

# China boosts oil storage capacity

China will add 26.8 million cubic metres of storage capacity in the second phase of its

strategic oil reserve build-out, the National Development and Reform Commission said today.

It did not provide details about where the bases would be located or how much investment would be involved, wrote Reuters.

The world's second largest oil user will complete the construction of its first phase, including 16.2 million cubic metres of capacity, by the end of this year, but it has remained tight-lipped about when these bases would be filled.

#### China's economic stimulus plan targets its infrastructure

"China will be under a lot of pressure to come up with more money to rescue the global economy," says Frank Gong, a Hong Kong-based economist at J.P. Morgan, ahead of Saturday's summit of the G-20 group of countries.

"But this plan helps China stand by its position: To stabilize the Chinese economy is the best contribution China can make," he says.

# Paul Krugman + Al Gore = The Way Forward

Nobel Laureates Paul Krugman (2008, Economics) and former Vice President Al Gore (co-recipient with the Intergovernmental Panel on Climate Change for the 2007 Peace Prize) contributed wonderful op-ed pieces in the New York Times which, taken together, provides a way forward out of the economic malaise along with solutions to America's energy problems and to the global climate crisis.

#### Iran test-fires new missile

TEHRAN, Iran (AP) — Iran has successfully test-fired a new generation of its longer range surface-to-surface missile using solid fuel, making them more accurate than its predecessors, the defense minister announced Wednesday.

# Obama's plan for Iraq about to meet reality

Some outside observers say that like other U.S. presidents who have taken office in wartime, Obama may have to improvise to a degree that neither he nor his advisers can fathom.

"Obama is going to find he has to chart a different course in Iraq than he campaigned on," says Reidar Visser, who runs the Iraq-focused website historiae.org.

# As Exxon Valdez checks near, fishermen resigned to disappointment

After a nearly 20-year wait, thousands of commercial fishermen and other plaintiffs are on the brink of collecting punitive damages for the Exxon Valdez oil spill of 1989.

The checks won't be anything like the blockbuster payments many hoped for after a federal jury awarded them \$5 billion -- an amount the U.S. Supreme Court this summer cut by 90 percent.

Still, dozens of fishermen can expect checks for more than \$100,000. And a few will range up to around \$400,000.

### Norway Statkraft buys UK wind farm developer

OSLO (Reuters) - Norway's state-owned utility Statkraft bought the 50 percent it did not own in a developer of a Wales wind farm expected to produce 65 gigawatt hours of electricity per year, it said on Wednesday.

#### The US nuclear waste issue - solved

Nashville, Tenn. – President-elect Barack Obama supports nuclear power to increase US energy independence and fight global warming – but only if a path to safe nuclear waste disposal is opened. Fortunately, there is a two-step plan that can open that path and lead to an effective waste solution within eight years. And it embraces citizen consent.

# Japan CO2 hits record

TOKYO (Reuters) - Japan's greenhouse gas emissions rose to a record high in the year to March, putting the world's fifth-largest carbon dioxide producer at risk of an embarrassing failure to achieve its Kyoto target over the next four years.

The increase of 2.3 percent last year, largely due to the closure of Japan's biggest nuclear power plant after an earthquake, will ratchet up the pressure for it to give up its efforts to control emissions through voluntary measures and adopt tougher limits on industry like the European Union and Australia.

## IEA stokes doubts over world's climate fight

LONDON (Reuters) – The world will have to bet on extreme measures to avoid serious global warming, the International Energy Agency said on Wednesday, adding to growing worries that governments have under-estimated the problem.

The world will have to suck greenhouse gases out of the atmosphere because it was too late to rely on gradual curbs in heat-trapping greenhouse gas emissions, it said.

# World Needs a Backup Plan

World leaders need an emergency backup plan to stave off catastrophic climate change if cuts in greenhouse gas emissions don't work, says climate scientist Ken Caldeira of the Carnegie Institution in Washington, D.C.

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