

# NTS

# Newsletter

## Non Traditional Security



# CONTENTS

---

## ENERGY SECURITY

### News Analyses

#### National

- India needs \$2.3 trillion investment in energy sector by 2035: ADB

### News Articles

#### National

- India Looks to Finalize Energy Deals With Russia
- IOC buys 1mn bbl crude from Sterling Oil's Nigerian fields
- Outdated fuel policies make India dependent on coal imports

#### Global

- Global energy meet highlights challenge of growing demand
- OVL wins two blocks in Myanmar rounds
- India trumps China for Brazil offshore block

## CLIMATE SECURITY

### News Analyses

#### National

- Climate change talks: Who's looking at India's carbon budget plans & why is it important?

### News Articles

#### National

- Changing the climate of the India-US strategic partnership
- 'Frequent destructive storms as global warming intensifies'

#### Global

- How climate change is impacting Alaska's quest for oil
- Fracking hurts US climate change credibility, say scientists
- What next for climate change?

---

## WATER SECURITY

### News Articles

#### National

- India making up claims on water issue to gain sympathy: China

#### Global

- Water holds key to sustainable development, UN chief tells Budapest summit
- Kenya: Water Discovery in Kenya to Spark Development, Improve Security

## FOOD SECURITY

### News Analyses

#### National

- Food Security Act will not distort trade, India tells FAO

### News Articles

#### National

- India, Indonesia to team up for food security
- India may settle for compromise solution to Food Security issue at WTO

#### Global

- Biofuel development should not compromise food security, says CFS
- GHI calls for efforts to boost food security

## EDITOR'S NOTE

---

Climate change has become a geopolitical and geo-economic game changer cutting across political boundaries and exposing the world to risks and vulnerabilities. IPCC recent report (AR5) credits the enormous increase in the climate change to anthropogenic factors.

Thus the concept of a carbon budget has been brought into the picture, though it was there since the last decade - The Kyoto Protocol and was signed by many developed countries in 1990, it is now considered a failure as it had no impact on global carbon dioxide emissions.

It is the first time IPCC has given a number and announced the carbon budget in strong terms. This budget will form the basis of climate talks from now on, which will culminate in a global treaty to be signed in Paris in December 2015.

This issue of NTS Newsletter revolves around the recent IPCC finding and India's take on climate change.

## News Analyses

### National

#### **India needs \$2.3 trillion investment in energy sector by 2035: ADB**

SINGAPORE: India's energy sector will need \$ 2.3 trillion in investments by 2035, accounting for bulk of the energy share in South Asia, according to the Asian Development Bank.

In its 'Energy Outlook for Asia and the Pacific' report released today, ADB also said that energy pricing is a "core problem" in India.

"South Asia's investment needs are the second largest at \$ 2.4 trillion (or 20.6 per cent of total investment requirements in Asia and the Pacific)," said the report.

"India will account for an estimated \$ 2.3 trillion or 95.6 per cent of energy investment requirements in South Asia," it added.

The projections are for a period of 25 years from 2010 to 2035.

Besides India, other nations in the South Asia region are Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka.

In the business-as-usual scenario, the final energy demand of India is projected to increase at an annual rate of 2.7 per cent from 2010 to 2035, a slower rate compared with projected GDP growth rate of 5.7 per cent during same period.

"Coal will remain dominant through 2035, driven by the power sector. India will continue to account for the bulk of the energy share in South Asia at 92.5 per cent in 2035," the report said.

With energy demand expected to grow much faster than domestic energy production, the economic impacts of importing fossil fuel, oil, gas and coal are rising, and energy security has become a policy priority for India, ADB said.

It added: "A core problem in India is energy pricing. Oil prices are government-controlled and do not fully reflect the procurement prices. Kerosene and diesel, in particular, and even liquefied petroleum gas are priced far lower.

"In addition, electricity tariffs are also at low levels. Electricity for agricultural use, which is supported through a complex subsidy mechanism, is almost free in certain areas."

As per the report, electricity price controls have also curtailed the motivation to invest in new power plants, further hurting electricity supply.

Noting that low energy prices serve as disincentives for energy efficiency efforts, ADB said that on the supply side, “building a more reasonable energy price system, enhancing the efficiency of existing energy-using equipment, and diversifying the energy source will be important”.

<http://economictimes.indiatimes.com/news/news-by-industry/energy/power/india-needs-2-3-trillion-investment-in-energy-sector-by-2035-adb/articleshow/24155244.cms>

## News Articles

### National

#### India Looks to Finalize Energy Deals With Russia

NEW DELHI—India is looking to finalize multibillion-dollar deals on liquefied gas and nuclear-power technology with Russia before Prime Minister Manmohan Singh’s visit to Moscow later this month, a senior government official said Friday.

Foreign Minister Salman Khurshid is in Russia to decide on the agenda of Mr. Singh’s program, such as his meetings with Russian leaders including President Vladimir Putin, said the official who didn’t want to be named. He is scheduled to attend the annual India-Russia summit on Oct. 21.

Russia and India are traditional allies with their ties stretching back to the Soviet era when they were major trade partners. Their partnership has lost some sheen in the post-Cold War with India strengthening its ties with the West, especially the U.S. India is also increasingly buying defense equipment from the U.S. and Europe to upgrade its predominantly Soviet-era weaponry.

India’s trade with Russia totaled just over \$11 billion in 2012, nearly a quarter more than the previous year, according the website of the Indian Embassy in Moscow. That was significantly smaller than India’s bilateral trade of \$65.78 billion with China and \$61.35 billion with the U.S.

Moscow and New Delhi have a target to nearly double the value of their trade to \$20 billion by 2015. Russia’s exports to India include fertilizer, nuclear-power technology, iron and steel, and crude oil, while India’s exports to that country comprise mostly pharmaceuticals, electrical goods, tea and coffee.

<http://online.wsj.com/article/SB10001424052702304176904579115052001343632.html>

#### IOC buys 1mn bbl crude from Sterling Oil’s Nigerian fields

India’s largest public sector oil refiner, Indian Oil Corporation Ltd (IOC) has purchased 1 million barrels (bbl) of Brent crude from Sterling Oil (Seepco)’s Nigerian fields, top officials informed. This is for the first time that an Indian PSU has purchased OKwuibome crude oil from Nigerian fields owned by Indian corporate, Sandesara Group.

The latest purchase is a part of the total five million barrels of crude purchase by IOC from West African fields. The move is aimed at exploring diversified oil sources amid Western sanctions over imports from Iran.

The PSU refiner and oil marketing company (OMC) is also understood to have purchased two very large crude carrier cargos (VLCCs) of each Nigerian EA, Qua Iboe and Usan grades and Angola's Palanca oil from the trader Vitol.

The crude will be processed at the refinery owned by IOC's subsidiary, Chennai Petroleum.

[http://www.business-standard.com/article/companies/ioc-buys-1mn-bbl-crude-from-sterling-oil-s-nigerian-fields-113101400667\\_1.html](http://www.business-standard.com/article/companies/ioc-buys-1mn-bbl-crude-from-sterling-oil-s-nigerian-fields-113101400667_1.html)

## **Outdated fuel policies make India dependent on coal imports**

Tata power's 1,050 Megawatt power station in Jharkhand is a textbook case of the absurd results that 1970s-era coal supply laws can produce, and why power utilities are lobbying the government to change them.

The Maithon power station is located in the heart of India's vast coal belt, but a shortfall in local fuel supplies has forced Tata to import some of the coal for the plant all the way from Indonesia - an expensive and cumbersome alternative.

The company has a coal mine nearly ready in the neighbouring state of Odisha, which is meant to feed another power plant whose construction has been held up by government red tape. Tata wants, but has so far not got permission, to use coal from that mine to fire the Maithon plant.

The case underscores how restrictive supply policies helped push up India's coal imports to a record high of nearly 138 million tonne in the last fiscal year. India sits on top of the world's fourth-largest reserves of the fuel, but it has become the third-biggest coal importer after China and Japan, an estimate by the World Coal Association showed.

## **Coal Shortages**

Prime Minister Manmohan Singh's administration has pledged to tackle chronic power shortages that hobble the growth of Asia's third-largest economy. But power companies are saddled with debt. Power stations do not have enough coal or gas to run at full capacity, and state-run distribution companies are too broke to pay for the power that utilities produce.

As a result, despite two decades of rapid economic growth, Indians consume only 900 kilowatt hours (kWh) per capita, compared to 7,000 in Europe and 14,000 in the United States, according to a recent note by consultants Bain & Company.

Most of the coal is dug up and doled out to power companies by state-run Coal India Ltd, the world's largest coal miner, which has struggled to modernise, raise its output and root out corruption within

its ranks. Its dominance is a legacy of the socialist policies of Prime Minister Indira Gandhi's government in the 1970s that nationalised coal mining.

[http://www.business-standard.com/article/companies/outdated-fuel-policies-make-india-dependent-on-coal-imports-113101400122\\_1.html](http://www.business-standard.com/article/companies/outdated-fuel-policies-make-india-dependent-on-coal-imports-113101400122_1.html)

## Global

### Global energy meet highlights challenge of growing demand

DAEGU: The challenge of providing sustainable energy to a growing global population at a minimal environmental impact dominated debate at the World Energy Congress on Monday.

"Today, less than one-third of the world's seven billion people consume more than two-thirds of its primary energy supplies," Khalid al-Falih, the president of the world's largest oil exporter, Saudi Aramco, said in a keynote address.

"But by 2050, a total of nine billion people will aspire to a prosperous life," Falih said.

In a report released Monday at its triennial congress being held in Daegu, South Korea, the World Energy Council (WEC) laid out a host of challenges posed by that population growth, coupled with accelerated urbanisation.

The report built two energy scenarios — labelled "Jazz" and "Symphony" — for the world over the next four decades.

Under the Jazz scenario, which envisages a market-led energy policy focused on energy access, affordability and quality of supply, total primary energy supply could increase by 61 per cent by 2050.

The government-led Symphony scenario — focused on environmental sustainability and energy security — envisages an increase of 27 percent.

But while both scenarios see a significant increase in energy access, the rate of that increase will remain insufficient.

Globally, between 730 million and 880 million people will still be without access to electricity in 2030, predominantly in sub-Saharan Africa, and this figure would only decrease to 319 million and 530 million people by 2050, it said.

"While there will be opportunities in the future for a range of technology solutions, the ultimate issue is that demand continues to grow at an unsustainable rate," said Karl Rose, the Council's director of policy.

Under both scenarios, Asia will account for nearly 50 per cent of global energy consumption by 2050.

Ensuring energy supplies will require enormous investment over the next two decades which Falih estimated at around \$40 trillion.

“That’s virtually the annual GDP of China, the EU, and the US combined,” the Aramco head said.

The WEC report put required investment in electricity generation alone at between \$19 trillion and \$25 trillion to meet demand levels in 2050.

While renewable energy is projected to increase rapidly, the Council said fossil fuels would continue to dominate the global energy mix, largely due to the demand for transport fuel.

As a result, both the scenarios put forward by the WEC envisage CO<sub>2</sub> emissions well-beyond the target levels deemed necessary to meeting the UN-set target of limiting global warming to 2 C (3.6 F) over pre-industrial levels.

<http://www.channelnewsasia.com/news/world/global-energy-meet/847488.html>

## **OVL wins two blocks in Myanmar rounds**

**New Delhi:** State-owned ONGC Videsh Ltd (OVL) has won two onshore blocks of the 18 that were bid out by the Myanmar government for exploration.

Myanmar had received 75 expressions of interest for these 18 blocks and short-listed 59 companies for final bids. A total of 31 foreign companies are working in Myanmar along with state-owned Myanma Oil and Gas Enterprise.

“ONGC (Oil and Natural Gas Corp. Ltd) has won two onshore blocks in Myanmar,” said a senior Indian government official, requesting anonymity. A top OVL executive, who also didn’t want to be identified, confirmed the development. OVL is the overseas arm of ONGC.

There has been considerable interest in Myanmar’s energy sector from neighbouring countries including China and India. Of Myanmar’s overall trade of around \$19 billion, China accounts for around \$5 billion, and India \$2 billion. Of this latter, exports account for \$542.7 million and imports \$1.4 billion.

OVL has a presence in resource rich Myanmar with interest in five blocks. Overall, OVL has a portfolio of 32 assets across 16 countries. It invested \$16.75 billion in acquiring these assets.

While oil importing countries like India are seeking to acquire energy assets overseas to shield themselves against possible supply shocks, Myanmar has made a precondition that its domestic demand should be met before any exports are allowed.

OVL has been ramping up its overseas portfolio. The Myanmar development comes in the backdrop of recent stake acquisitions in Mozambique’s Rovuma 1 offshore block, said to be the largest gas discovery off Africa’s east coast, with estimated recoverable reserves of 35-65 trillion

cu. ft (tcf). Till now, state-owned firms have invested Rs.64,832.35 crore on overseas energy assets.

According to an Export-Import Bank of India (Exim Bank) paper, Myanmar has natural gas reserves of around 2.54 trillion cubic metres (tcm) and has emerged as a major supplier of gas to its neighbours.

India has been trying to leverage its aid and loan programmes to counter Chinese influence on the South-East Asian economy. India's total investments in Myanmar are around \$273 million, and the number is expected to rise to \$2.6 billion in the next few years. India is Myanmar's fourth-largest trading partner after Thailand, Singapore and China.

<http://www.livemint.com/Industry/jscZa6dYR5c81LFoEEGDaP/OVL-wins-two-blocks-in-Myanmar-rounds.html>

## India trumps China for Brazil offshore block

**New Delhi:** India has trumped China in acquiring a stake in a deep offshore block in Brazil, with state-owned ONGC Videsh Ltd (OVL) jointly acquiring Brazil's Petróleo Brasileiro SA's (Petrobras) 35% stake in the BC-10 block in the Campos Basin for around \$1.54 billion (around Rs.9,440 crore) along with Royal Dutch Shell Plc.

"ONGC Videsh, through its affiliates, signed definitive agreements to acquire a 12% participating interest in Block BC-10, Campos Basin, Deep Offshore Brazil, as part of the sale of 35% share made by Petrobras," Oil and Natural Gas Corp. Ltd (ONGC) said in a statement on Monday.

Prior to the transaction, the stakes of Shell, Petrobras and OVL were 50%, 35% and 15%, respectively. The Brazilian firm entered an agreement with China's Sinochem in August for offloading its 35% stake for \$1.54 billion.

This led to Shell and OVL exercising their pre-emptive rights to secure the stake for which OVL's share would be \$529.03 million for its 12% stake. With this acquisition, OVL will have 27% stake in the Parque das Conchas block, the licence for which ends in December 2032.

This comes in the backdrop of Indian and Chinese firms involved in a race for securing resources overseas to fuel the growing demand of their respective economies. An earlier attempt by OVL to buy ConocoPhillips' 8.4% stake in Kazakhstan's Kashagan offshore oil field was scuttled by China, with the Kazakhstan government exercising its rights to buy the shares on offer. It was later sold off to China.

"The acquisition of additional PI (participating interest) in the block is subject to approval of the Brazilian antitrust and regulatory authorities," the statement said.

OVL has been ramping up its overseas portfolio. The development in Brazil comes in the backdrop of recent stake acquisitions in Mozambique's Rovuma 1 offshore block, said to be the largest gas discovery off Africa's east coast, with estimated recoverable reserves of 35-65 trillion cu. ft (tcf).

---

Overall, OVL has a portfolio of 32 assets across 16 countries. It invested \$16.75 billion in acquiring these assets. The need for diversification of supplies is critical for India as it imports more than 80% of its energy requirements. India, the world's fourth largest energy-consuming nation, imports 80% of its crude oil and 25% of its natural gas requirements. It trails behind the US, China and Russia, accounting for 4.4% of the global energy consumption.

India's energy demand is expected to more than double by 2035, from less than 700 million tonnes of oil equivalent (mtoe) now to around 1,500 mtoe, according to the oil ministry's estimates.

In a separate development, OVL won two onshore blocks of the 18 that were bid out by the Myanmar government for exploration. These blocks are B2 (Zebyutaung-Nandaw) and EP-3 (Thegon-Shwegu).

"Block B2, having an area of 16,995 sq. km, is located in Northern Myanmar, bordering the state of Manipur in India, and Block EP-3, having an area of 1,650 sq. km, is located in Central Myanmar," ONGC said in the statement.

*Mint* reported about OVL's successful bid on Saturday. OVL has a presence in resource-rich Myanmar with interest in five blocks and has invested \$565 million in the country. Myanmar had received 75 expressions of interest for these 18 blocks and shortlisted 59 companies for final bids. A total of 31 foreign companies are working in Myanmar along with state-owned Myanmar Oil and Gas Enterprise.

"The acquisitions of producing and exploratory assets reflect the success of the strategy adopted by the company to quickly add reserves/production through a balanced portfolio approach," OVL chairman Sudhir Vasudeva said in the statement.

While OVL hopes to acquire 20 million tonnes per annum (mtpa) of capacity in overseas assets by 2020, India's efforts at energy security have been a mixed bag in the backdrop of faltering domestic production.

"OVL is currently producing 160 thousand barrels of oil and oil equivalent gas per day and has total oil and gas reserves of about 433 mtoe as on 31 March 2013," according to the statement.

<http://www.livemint.com/Companies/VdYjZFd57klkNWT7XDVaTM/ONGC-to-buy-12-of-Brazil-block-from-Petrobras-for-529-million.html>

## News Analyses

### National

#### **Climate change talks: Who's looking at India's carbon budget plans & why is it important?**

It was largely decided in the wee hours of the morning, after intense discussions, only a few hours before the report was released. Late last month, the Inter-governmental Panel for Climate Change (IPCC) meeting in Stockholm announced a carbon budget for the planet, a maximum amount of carbon dioxide the world can emit without inviting dangerous climate change.

On the surface it seems like a simple correlation: human beings can emit only another 350 giga tonnes of carbon dioxide if the warming has to be within safe levels of 2 degree centigrade. However, a lot of intricate science went behind this calculation, and it is set to lead to even more intricate political wrangling in the next two years.

The concept of a carbon budget has been around for at least a decade, but it is the first time IPCC has given a number and announced it in strong terms. This budget will form the basis of climate talks from now on, which will culminate in a global treaty to be signed in Paris in December 2015.

This new basis is actually advantageous for India, which otherwise has been steadily losing its position in climate talks. However, the government has little time to formulate a clear strategy in terms of carbon budget. "There is a small window to articulate our point of view in the climate talks if we want to shape an agreement for 2015," says Navroz Dubash, senior fellow at the Centre for Policy Research.

#### **The need for a plan**

There is a strong reason why IPCC introduced this concept now. Our understanding of the climate system has improved tremendously over the last decade. "In the last six years, our models have been able to link carbon emissions with temperature rise very well," says Govindaswamy Bala, professor at the Indian Institute of Science and one of the authors of the chapter on carbon budget.

Now that there is a carbon budget for the planet, climate talks will veer away from annual emissions to how to share the budget. "The evidence for warming is so strong that governments can no longer be complacent about it," says Krishna Kumar, professor at the Indian Institute of Meteorology in Pune and a co-author of the summary for policy-makers of the IPCC report.

So the next round of talks, to continue in Warsaw next month, will focus on how this budget is to be shared between countries. This decision would depend on many factors, one of which would be the strength of a country's arguments. This would, in turn, depend on a clear development and decarbonisation plan prepared by its government.

---

For India, with low accumulated emissions, it is a better deal than one based on annual emissions. But while China, the US and Europe have good plans based on carbon budgets, India is yet to develop one, say officials who have been part of negotiations in earlier climate talks.

“If we are silent on the carbon budget issue, we will not have something to put on the table during the talks,” says Mukul Sanwal, former lead negotiator for India and executive secretary of the United Nations Framework Convention on Climate Change.

### **China versus India**

The Kyoto Protocol, signed by many developed countries in 1990, is now considered a failure as it had no impact on global carbon dioxide emissions.

India had been refusing so far to be part of any deal, saying that it has development priorities that would be hurt by serious emission-reduction measures. This position is being gradually weakened over the years as other countries kept increasing the pressure on India. It does not help that climate change was never been a top priority in India, and has almost completely disappeared from the government radar in recent times.

Shyam Saran, former foreign secretary, quit his job in 2010 as special envoy on climate change. Since then, environment minister Jairam Ramesh, who had been driving India’s climate change policy, has also left the ministry. India’s team for climate change negotiations, if it exists in full, has no visible leadership.

While this is a problem, the biggest obstacle would be the absence of a study that linked the country’s development future with a carbon budget, something essential to put forth a strong case at the climate talks. “India’s climate policy has not yet fully come to terms with the carbon budget concept,” says T Jayaraman, professor and dean at the Tata Institute of Social Sciences at Mumbai.

Other big emitters had recognised this idea a few years ago. In May 2011, US National Research Council had jointly produced a report on America’s Climate Choices, and it had recognised carbon budgets as a key concept. This preparedness was probably the reason why the US did not oppose the introduction of the carbon budget idea in the IPCC report.

China, with the highest annual emissions, quite clearly gained from a shift away from annual emission reductions. Climate change talks participants also say that China is thoroughly prepared to deal with the carbon budget concept. They also say that both US and China were remarkably quiet during the discussions at the IPCC meeting in Stockholm.

Unless India articulates its plans clearly at least 18 months in advance of the treaty, there is no chance of it being heard loudly in these talks. This leaves the country little time to orient national development plans based on a carbon budget. China is expected to complete its major infrastructure projects by 2020, when the treaty is supposed to come into effect.

India's infrastructure development still has a long way to go, and therefore much to lose from a treaty forced on it. An expert group headed by Kirit Parikh, set up to develop strategies to reduce carbon intensity of the GDP by 25% by 2020, is yet to submit its final report even after three years.

In the end, even such reductions may fall far short of the requirements—from a climate change point of view—if the GDP grows well during the next decade.

[http://articles.economictimes.indiatimes.com/2013-10-08/news/42829214\\_1\\_carbon-budget-carbon-dioxide-carbon-emissions](http://articles.economictimes.indiatimes.com/2013-10-08/news/42829214_1_carbon-budget-carbon-dioxide-carbon-emissions)

## News Articles

### National

#### Changing the climate of the India-US strategic partnership

Apart from the usual rhetorical flourishes, the US-India joint statement noted considerable progress on the issues of nuclear energy and defence cooperation. But one particular aspect of the partnership that got a major boost and went nearly unnoticed is cooperation on combating climate change.

Climate change has been a testy topic for India-US relations. While both countries officially recognise the need for urgency in combating climate change, they have been at different poles in international negotiations. The US emphasises that all countries (including developing countries like India) should take on commitments, with transparency and review systems to verify compliance. India on the other hand, along with the so-called 'G-77+China' bloc of developing countries, emphasises that the primary responsibility of taking action rests with developed countries. They argue that the developed countries have created the climate change problem in the first place, that they have a 'historical responsibility' to address it, and that the principle of 'common but differentiated responsibilities' (CBDR) must govern all actions. This effectively means that the primary effort to reduce greenhouse gas (GHG) emissions should be made by developed countries, and to the extent that developing countries are expected to act, they must be given access to appropriate technologies and adequate finance to enable action.

[http://www.business-standard.com/article/opinion/varad-pande-changing-the-climate-of-the-india-us-strategic-partnership-113101200638\\_1.html](http://www.business-standard.com/article/opinion/varad-pande-changing-the-climate-of-the-india-us-strategic-partnership-113101200638_1.html)

#### 'Frequent destructive storms as global warming intensifies'

Intense and destructive storms are likely to occur more frequently as global warming intensifies, Greenpeace said Saturday.

"Such intense and destructive storms are likely to become more frequent in the future as global warming intensifies. Even a small increase in the ocean's warmth can turn tropical disturbances

into hurricanes or pump up an existing storm's power," said Greenpeace India member Biswajit Mohanty.

According to the organisation, cyclone Phailin which is expected to hit the coastal areas of Odisha and Andhra Pradesh is likely to be the strongest such to affect India in 14 years, since the 1999 Odisha cyclone.

[http://www.business-standard.com/article/news-ians/frequent-destructive-storms-as-global-warming-intensifies-113101200612\\_1.html](http://www.business-standard.com/article/news-ians/frequent-destructive-storms-as-global-warming-intensifies-113101200612_1.html)

## Global

### How climate change is impacting Alaska's quest for oil

Last winter, when he set out to drill 80 miles south of the Arctic Ocean for Australia's Linc Energy Ltd., regulators opened the roads for 126 days. The rest of the time, warm weather left the routes too mushy for vehicles, Bloomberg Markets magazine will report in its November issue.

Then in January, in a twist that embodies the perplexing reality of life and commerce amid a changing global climate, the temperature dropped suddenly to minus 40 degrees Fahrenheit (minus 40 degrees Celsius), encasing drilling-rig components in ice as Otto waited for roads to solidify to ship the gear to Linc sites.

After thawing the equipment with blowtorches, he discovered that the cold was decreasing oil flowing into Linc's well. With 200 workers standing by, the company lost US\$300,000 a day with each delay, ending 2012 with a US\$61-million deficit.

It's getting more unpredictable

Otto plans to try again in December, this time drilling sideways into a hill to get underneath 1,000 feet (300 meters) of permafrost and up into reservoirs he says hold 1.2 billion barrels of light, sweet crude.

"It's getting more unpredictable," says Otto, 59, who runs Brisbane-based Linc's drilling rig in Umiat, Alaska, which is within the National Petroleum Reserve that President Warren G. Harding created in 1923 to guarantee oil for the Navy.

"We're in a race against Mother Nature. If we don't get cold weather early enough, or if it gets too warm too fast in the spring, it could stall the project."

### Collapsing Cliffs

Otto and others already braving the extremes of a region where sunlight disappears for 60 days a year are experiencing a new phenomenon: daily life navigating the risks and opportunities of climate change.

The Arctic has heated up twice as fast as the rest of the planet in the past three decades. By August 2013, sea ice had lost 76% of its volume compared to 1979, according to the University of Washington's Polar Ice Center. Citing core samples taken from ice sheets, the Intergovernmental Panel on Climate Change, a United Nations group, reported on Sept. 27 that the three main gases blamed for global warming — carbon dioxide, methane and nitrous oxide — are at their highest level in at least 800,000 years.

On Alaska's Arctic coast, 30-foot-high cliffs that haven't budged since the last ice age are tumbling into the ocean overnight and village coastlines are eroding, leaving residents in peril. Lightning-sparked forest fires have charred more than 1 million acres (405,000 hectares) in five of the past 10 years. By midcentury, the average area burned by wildfires each year is likely to double, the U.S. Environmental Protection Agency says.

*<http://business.financialpost.com/2013/10/02/how-climate-change-is-impacting-alaskas-quest-for-oil/>*

### **Fracking hurts US climate change credibility, say scientists**

As fracking catapults the United States to the top of the list of the world's largest crude oil and natural gas producers, climate scientists worry that the nation's booming fossil fuels production is growing too quickly with too little concern about its impact on climate change, possibly endangering America's efforts to curb global greenhouse gas emissions.

The U.S. is likely to become the world's top producer of crude oil and natural gas by the end of 2013, producing more hydrocarbons than either Russia or Saudi Arabia, the Energy Information Administration recently announced.

America achieved its new role as world leader in crude oil and natural gas production because of advancements in horizontal drilling and hydraulic fracturing, or fracking, technology, that have made tapping hard-to-reach shale gas and oil deposits more economically feasible than ever before, according to the EIA.

Energy development in four shale oil plays alone — in Texas, along the Gulf Coast, in North Dakota and in California — was tapping a store of 24 billion barrels of crude oil considered technically recoverable, according to a 2011 EIA report on emerging U.S. shale oil and gas plays.

But it's also happening in the suburbs of Denver, where oil and gas wells tapping the Niobrara shale and other hydrocarbon-bearing formations are being drilled in and around residential neighborhoods. It's happening in North Dakota, where companies tapping the Bakken shale hope to send their crude to market using the proposed Keystone XL Pipeline. It's happening in the Marcellus shale of western Pennsylvania and throughout the Northeast, where the EIA reported this week that natural gas production has increased 30 percent — an increase of 3.2 billion cubic feet per day — so far this year over 2012.

---

The EIA reported Oct. 4 U.S. petroleum production has increased 7 quadrillion Btu (British thermal units) since 2008, particularly because of growth in oil production in the Eagle Ford shale region of South Texas, the Permian Basin area of West Texas and in the Bakken shale region of western North Dakota. At the same time, natural gas production increased by 3 quadrillion Btu, primarily because of production growth in the eastern U.S.

Climate scientists say America's oil and gas boom is having unintended consequences, not just for the climate or the local environment in energy producing regions, but for America's global role in tackling climate change.

<http://www.theguardian.com/environment/2013/oct/11/fracking-us-climate-credibility-shale-gas>

### **What next for climate change?**

The Inter-Governmental Panel on Climate Change (IPCC), a network of scientists from different countries nominated by their governments, and tasked by the UN with preparing "consensus" reports on the earth's climate, technology options, costs of response measures, and now, even the ethical basis of burden-sharing among countries, is to shortly discuss this finding. At stake is the future evolution of negotiations towards an international treaty to comprehensively address climate change, hoped to be concluded by 2015 and widely expected to be the mother of all economic treaties yet since nothing less than the future rights of countries to use commercially proven energy is at stake. However, this is also an existential issue for the IPCC itself since it must be unambiguously seen to apply the stringent tenets of the scientific method in dealing with this result if it is to retain and enhance its own credibility among both scientists and voters from different countries whose intellectual and political support respectively are crucial to successful negotiation of the new treaty. Several explanations have been offered to explain this 17 year "hiatus". Some scientists have pointed to stronger than expected La Nina ocean events during this period. However, this begs the question why, at least, those models which couple the atmospheric and oceanic circulation systems did not anticipate the strength of the La Nina events.

<http://www.financialexpress.com/news/what-next-for-climate-change-/1179162>

# WATER SECURITY

---

## News Articles

### National

#### **India making up claims on water issue to gain sympathy: China**

India might be accusing China of attempting to jeopardise its water security by controlling flow of rivers but it's actually New Delhi which is ratcheting up the turbulence by making false claims and attempting to gain international sympathy, a top government think-tank has said. Further, India is building reservoirs on the Brahmaputra river – known as Yarlung Zangbo in China – to bolster its “control” over disputed Arunachal Pradesh, the article quoted in People’s Daily-owned Global Times said.

The two neighbours, who share a long and disputed border, a mechanism to exchange data on trans-border rivers including information on the measurement of water flows.

The article noted that China has begun building dams in Tibet, which could potentially be used to control water flow into India but dismisses the misgivings as fantasy.

“China has already begun to develop Tibet’s water resources on the Yarlung Zangbo River, and the first unit at the Zangmu Hydropower Station is scheduled to start operation in 2014,” Li Zhifei with the Chinese Academy of Social Sciences, considered the Chinese government’s top think-tank, wrote.

“The Indians think of the Brahmaputra River as a lifeline, especially since it is a main tributary of the sacred Ganges River. If China stores water at the upper stream, there will be less water flowing through India, causing negative effects on the water use for its industrial and agricultural sectors which are mainly located in the basin of the Ganges river,” Li said.

*<http://www.hindustantimes.com/world-news/China/India-making-up-claims-on-water-issue-to-gain-sympathy-China/Article1-1132611.aspx>*

### Global

#### **Water holds key to sustainable development, UN chief tells Budapest summit**

Secretary-General Ban Ki-moon stressed the vital role of water in sustainable development, highlighting in particular its importance with regard to food security, climate change and sanitation.

“Water holds the key to sustainable development. We need it for health, food security and economic progress,” Mr. Ban said in his opening remarks at the Budapest Water Summit. “Yet, each year brings new pressures.”

He noted that by 2030, nearly half the global population could be facing water scarcity and demand could outstrip supply by 40 per cent.

“We must address unsustainable use... We must use what we have more equitably and wisely. We cannot expect governments to do this alone. Guaranteeing a water secure world will require the full engagement of all actors, not least the world of business.”

Mr. Ban noted that agriculture is by far the largest user of freshwater, and there is growing urgency to reconcile its demands with the needs of domestic and industrial uses, especially energy production.

“Small farmers and industrial giants alike must learn to get more crop per drop,” he said. This means improved irrigation technologies, and less water-intensive and more climate-resilient crops.

Climate change, he continued, poses the risk of diminished water supplies in much of the world.

“We must make sure that water remains a catalyst for cooperation not conflict among communities and countries,” Mr. Ban said.

The UN stands ready to assist in this area, he added, noting for example the UN Development Programme’s (UNDP) Shared Waters Partnership that is supporting political agreement on common resources, such as in the Nile Basin.

He recalled that last month, the Intergovernmental Panel on Climate Change (IPCC) reported that climate change is affecting the global water cycle, noting that ‘extreme precipitation events’ will very likely become more intense and more frequent by the end of this century, as global surface temperatures increase.

“In layman’s terms, this means more floods,” said Mr. Ban. “We will also see more droughts.

That is why we must do everything we can to keep global temperature rise to below 2 degrees Celsius above pre-industrial levels. To do that, we need to finalize a robust legal agreement on climate change in 2015.”

He added that water and sanitation feature large in the anti-poverty targets known as the Millennium Development Goals (MDGs), whose deadline is 2015. While the MDG target for providing access to improved water sources has been reached, 780 million people lack this basic necessity.

<http://www.un.org/apps/news/story.asp?NewsID=46214&Cr=water&Cr1#.UlzvzdKBncE>

## **Kenya: Water Discovery in Kenya to Spark Development, Improve Security**

Garissa — The discovery of aquifers in Kenya’s arid Turkana County could transform the region’s economy and solve a water scarcity problem that has long exacerbated droughts, malnutrition and conflict, observers say.

The Kenyan government and United Nations Educational, Scientific and Cultural Organisation (UNESCO) announced in September the discovery of two aquifers in north Turkana region, including a huge one that “could potentially increase Kenya’s strategic water reserves”, according to UNESCO.

---

Follow-up drilling had confirmed results of mapping data from satellite-imaging that pointed to a number of aquifers in Turkana.

“Two aquifers — the Lotikipi Basin Aquifer and the Lodwar Basin Aquifer — were identified using advanced satellite exploration technology,” UNESCO said in a press release September 11th. “Their existence was then confirmed by drilling conducted recently by UNESCO, but there is need for further studies to adequately quantify the reserves and to assess the quality of the water.”

**‘Game changer’ for Kenya:**

The two aquifers have a minimum reserve of 250 billion cubic metres of water, which is replenished yearly at a rate of 3.4 billion cubic metres from rainfall in the Kenyan and Ugandan highlands, according to Radar Technologies International (RTI), the firm that made the discovery.

Lotikipi Basin Aquifer alone stores an estimated 207 billion cubic metres of water, “the same volume of the nearby Lake Turkana”, RTI said in a news release. The firm’s surveys found three more aquifers — Gatome, Kachoda and Nakalale — which may hold another combined 30 billion cubic metres of water, but further drilling would have to confirm this.

“This new wealth of water could boost Kenya’s share of available water by 17% and alone represents nearly double the amount of water that Kenyans consume today,” RTI said. “This groundwater raises the prospect for improving the livelihoods of the Turkana people, most of whom live in poverty and have limited access to basic services and clean water.”

*<http://allafrica.com/stories/201310030239.html>*

# FOOD SECURITY

---

## News Analyses

### National

#### **Food Security Act will not distort trade, India tells FAO**

India made it clear at the just-concluded Food and Agriculture Organisation (FAO) meeting of the Committee on World Food Security in Rome that the procurement of foodgrains and distribution under the new Food Security Act will not be substantially higher than the ongoing public distribution system, indicating that it will not contribute to international price distortions.

India had to make its position clear in the wake of some of the World Trade Organisation countries questioning the huge stocks that the country is holding to provide subsidised foodgrains under the new legislation. Procuring at a minimum support price from farmers and selling at subsidised rates to 67 per cent population (as provided for in the Act) will distort international trade, countries like the United States, Canada and Pakistan fear. WTO members are meeting in Bali in December for a Ministerial meeting where the issue will be discussed.

India backs the G-33 proposal that wants subsidies, which are a part of the procurement of foodgrains for public stockholding for poor and marginal farmers, not to be regarded as a prohibited subsidy by the WTO. The Agreement on Agriculture allows “market distorting subsidies” up to a limit of 10 per cent of the total production. Some developing countries, including India, are demanding that this limit be raised.

The Minister said that in his separate meeting with FAO chief Jose Graziano da Silva, he was assured of the food body’s “support and cooperation in sending the right signal” about the food law. The law enables provision of subsidised foodgrains to 67 per cent population.

Mr. Silva said the FAO was eager to help India publicise the legislation and raise its voice in the international arena. He drew comparisons with the Brazil’s Zero Hunger programme. Several initiatives in the Indian Food Act such as women empowerment and reforms of the public distribution system were similar to Brazil’s programme.

#### **Role of India**

Both the officials also discussed with Mr. Thomas the role India could play in addressing issues of poverty and hunger in the least developed countries.

The Indian delegation included Union Food Secretary Sudhir Kumar and Minister (Agriculture) in Indian Embassy in Rome Vimlendra Sharan.

*<http://www.thehindu.com/news/national/food-security-act-will-not-distort-trade-india-tells-fao/article5231824.ece>*

---

## News Articles

### National

#### India, Indonesia to team up for food security

Food security appeared a major priority for Indonesian President Susilo Bambang Yudhoyono during his one-to-one meeting with Prime Minister Manmohan Singh and at delegation-level talks here. More than once in his media statement after the talks, the President brought up the need for the two sides to work together to ensure adequate food stocks for the people of two of the four most populous countries. According to External Affairs Ministry officials, both sides acknowledged that the two countries could not afford imports and were of the view that food security should be met bilaterally.

Mr. Yudhoyono stressed the need to safeguard the food market from price distortions. Also there is an intent to work together further in the World Trade Organisation to make it more just for protecting food security requirements.

Acknowledging the urgency shown by Mr. Yudhoyono, Dr. Singh said officials were asked to work towards drawing up concrete proposals in this regard. Officials said the two countries would look at possibilities of common stockpiling of food reserves. Indonesia also evinced interest in India's food security law.

#### Annual Summit

On other issues, the two countries decided to explore collaboration in sale and production of defence equipment and security cooperation, and agreed to renew the Agreement on Cooperation regarding the Utilisation of Nuclear Energy for Peaceful Purposes.

The two leaders decided to hold annual summits, including on the margins of multilateral events, and have the Joint Commission Meeting annually instead of engaging at this level every alternate year.

Six Memoranda of Understanding were signed during this first bilateral visit by Dr. Singh. These seek to establish partnerships in health, disaster management, fighting corruption, combating trafficking in narcotics, and training public officials. With the ratification of the Extradition Treaty and Mutual Legal Assistance Treaty in Criminal Matters, the two sides decided to explore cooperation on transfer of sentenced persons.

*<http://www.thehindu.com/news/national/india-indonesia-to-team-up-for-food-security/article5226253.ece>*

## **India may settle for compromise solution to Food Security issue at WTO**

India may have to settle for a temporary solution to its concerns about the validity of its Food Security legislation at the World Trade Organisation in return for its consent for a pact to facilitate movement of goods across borders being pushed by developed countries.

A “peace clause” that would allow developing countries like India legal protection against action by other members for breaching food subsidy limits for a two-three year period is what developed countries seem to be willing to offer at the moment.

WTO members are trying to arrive at an agreement on a small package of issues that includes Trade Facilitation and Food Security at the forthcoming Ministerial meeting in Bali, Indonesia.

### **‘Long-term solution after Bali’**

“There is appreciation of legitimacy of food security concerns in India and other developing countries. Work is going on intensely to find a solution which will probably include a peace clause and a conversation for a long-term solution will happen very meaningfully after Bali,” visiting WTO Director-General Roberto Azevedo said at a press conference on Monday.

Azevedo is in India to seek the country’s support for a successful Ministerial in Bali. The Doha Development Round, launched 12 years back, remains stuck, but members are hopeful that a limited agreement in Bali would give the Round a much-needed boost.

Although India had been demanding a change in the WTO’s Agreement on Agriculture to remove limits on public stockholding and food aid, it now seems willing to go in for a compromise solution.

The Agreement allows so called ‘market distorting subsidies’ up to a limit of 10 per cent of total production. India is apprehensive that once its Food Security legislation is fully implemented, its food subsidies will breach the 10 per cent mark.

Sharma said that India was in favour of a trade facilitation pact too as long as it was balanced and served the interests of both developed and developing countries.

<http://www.thehindubusinessline.com/economy/india-may-settle-for-compromise-solution-to-food-security-issue-at-wto/article5210230.ece>

## **Global**

### **Biofuel development should not compromise food security, says CFS**

Following a week of intense discussions, the Committee on World Food Security stressed the link between biofuels and food security, saying that the “progressive realization of the right to adequate food for all” should be a priority concern in biofuel development.

The world's most important intergovernmental and multi-stakeholder platform for food security and nutrition said biofuel development "should not compromise food security, and should especially consider women and smallholders."

The 7-11 October meeting drew nearly 750 people, including over 130 government delegations, 100 civil society and 50 private sector organizations. Following the talks, the CFS also agreed on the importance of integrating smallholder agriculture into national policies, strategies, and research aimed at boosting investment and sustainable development.

Family farmers, fishers and others whose livelihoods depend on smallholder agriculture in developing countries account for most of the 840 million chronically hungry people in the world, according to the recent UN hunger report, the *State of Food Insecurity in the World*.

The CFS encouraged FAO and other stakeholders to look at ways to help countries strengthen their capacities to assess their situation with regards to biofuels, taking into account food security concerns at global, regional and national levels, and legitimate land tenure rights. On the issue of investment in smallholder agriculture, also informed by an HLPE report, the CFS adopted a policy recommendation calling on governments, together with smallholder organizations, civil society, the private sector, research institutions and international development partners, to work together to "build a country-owned vision" designed to boost investments in smallholder agriculture.

The CFS recommended countries consider how agricultural, urban and rural sector policies, strategies and budgets could best enable smallholder access to productive assets, local, national and regional markets, appropriate training, research, technology and farm support services - especially for women.

<http://www.eco-business.com/news/biofuel-development-should-not-compromise-food-security-says-cfs/>

## **GHI calls for efforts to boost food security**

The developing world is becoming more vulnerable to a variety of shocks and stressors, from extreme weather events, climate change and environmental degradation to population pressures, macroeconomic crises, conflict, and poor governance, according to the International Food Policy Research Institute (IFPRI).

The traditional approach to dealing with shocks is temporary infusions of aid, with separate development efforts focused on mitigating stresses and making people less vulnerable in the longer run. Yet the persistent vulnerability of regions—such as the Sahel and the Horn of Africa—suggests the traditional separation of relief and development efforts is not working.

In recognition of this situation, the 2013 Global Hunger Index (GHI), released for the eighth year by the International Food Policy Research Institute (IFPRI), Welthungerhilfe, and Concern Worldwide, calls for greater resilience-building efforts to boost food and nutrition security.

The Index identifies hunger levels and hotspots across 120 developing countries and countries in transition. It scores countries based on three equally weighted indicators: (1) the proportion of

people who are undernourished, (2) the proportion of children under five who are underweight, and (3) the mortality rate of children under five.

The 2013 Index indicates that global hunger is decreasing: the 2013 world GHI score has fallen by 34 percent from the 1990 GHI score. Yet world hunger still remains “serious,” with 19 countries suffering from levels of hunger that are either “alarming” or “extremely alarming.” South Asia has the highest regional GHI score, followed by Africa south of the Sahara while Burundi, Eritrea and Comoros have the highest levels of hunger.

*<http://www.thenews.com.pk/Todays-News-3-208254-GHI-calls-for-efforts-to-boost-food-security>*

**Cover Illustration Courtesy:**

<http://questgarden.com/116/11/6/101206202446/process.htm>

<http://environmenttechnology.wordpress.com/2012/01/29/climate-changes-due-to-global-warming/>

<http://foreignaid.nepal.im/2010/05/food-security-a-concern-in-nepal/>

<http://www.philstar.com/opinion/2013/03/16/920235/editorial-water-security>