

**INSIDE THIS ISSUE****• ENERGY SECTOR IN LAC REGION**

- OIL & GAS SCENARIO
- RENEWABLE ENERGY SCENARIO
- BIOFUELS SCENARIO
- NUCLEAR POWER SCENARIO

**• BUSINESS NEWS**

- NEWS RELATED TO ENERGY SECTOR IN LAC COUNTRIES

**FOREWORD****Ambassador (retired) R. Viswanathan**

Former Ambassador to Argentina, Uruguay & Paraguay and Consul General, Sao Paulo, Brazil.



Latin America has emerged as a long term contributor to India's energy security accounting for over ten percent of India's crude oil imports. The region has discovered more oil and gas and has undertaken energy reforms and investment to increase the oil production in the future. Venezuela has the largest reserves in the world after taking into account its extra-heavy crude reserves in the Orinoco belt. Brazil has discovered over 20 billion barrels of pre-salt oil. Mexico has reformed its energy sector recently opening it to private sector and foreign companies. This will lead to substantial increase in production and exports.

Besides conventional oil, some countries such as Argentina, Mexico and Brazil have found shale reserves. Argentina has the world's second largest shale gas and fourth largest shale oil reserves and has

Even while the region is set to increase production and exports, US, their main market has started reducing imports of crude oil and gas after the increase in domestic production thanks to the fracking revolution. So the Latin Americans are looking for new long term markets. India is an attractive bet for them given its large imports which are increasing. Their targeting of India coincides with India's own policy of diversification of imports of crude and reduce over-dependence on the imports from the politically unstable middle east.

India has invested in oil fields in Venezuela, Colombia, Brazil and Cuba. Given the prevailing low price of oil, the oil fields are even cheaper now. India should take advantage of this moment to acquire more oil assets in Latin America. The assets in Argentina, Venezuela and Brazil are particularly less expensive these days due to the current economic difficulties and political issues faced by these countries. The competition for investment in these countries is less at this time because of low credit ratings and political and economic situation. But these countries are sure to bounce back soon. India has excellent relations with these countries who welcome Indian investment as part of their strategy of diversification of economic partners.

There is also potential for India to import coal and invest in coal fields in countries such as Colombia.

There are huge opportunities for Indian companies to invest as well as supply equipments and get contracts to wind and solar energy projects which are under priority implementation in Latin America. Suzlon has done 750 MW projects in Brazil and has set up a plant in Brazil to make equipments. Chile has the largest ongoing solar energy projects in the Atacama desert region which receives very intense solar radiation.

India should also consider emulating the successful example of Brazil using sugarcane ethanol as fuel to reduce petrol consumption and pollution. This will save precious foreign exchange and the money in rupees will go to the Indian farmers and the sugar/alcohol industry.



## ENERGY SECTOR IN LAC REGION

Latin America has 20 percent of the world's oil reserves, 4 percent of gas reserves, and almost 600 GW of hydroelectric potential, making it attractive energy security. India has entered into major equity and/or trade relationships in energy with Venezuela, Brazil, Colombia and Cuba. Venezuela, as the region's 'oil superpower' with the world's largest reserves of petroleum, has been of particular focus. Joint ventures between ONGC Videsh and Venezuela's state-owned oil company PdVSA have involved a total of US\$ 2.6 billion of investment over the coming years, with production projected to reach 85,000 barrels per day (bpd) by 2016. India needs to build on this for its energy needs.

The Latin American and the Caribbean (LAC) region is also ripe for renewable energy development. The present scenario of strong electricity demand growth, decreasing costs for renewable energy, increasing prices of fossil fuels, the desire for energy security, and concerns about climate change in the LAC region presents interesting opportunities for the expansion of renewable energy. This is a huge opportunity for Indian companies in the renewable energy sector.

### Latin America: Oil & Gas Scenario

Total production of crude oil was 9.5 million barrels per day in 2010 and will increase in the coming years. Four countries (Venezuela, Mexico, Brazil and Argentina) are accountable for 84% of total regional production. New investments aim to increase refining capacity to 9.560 thousand barrels per day by 2030.

Natural gas has increased its energy matrix participation in the region. In Brazil, demand will grow from 2.4 to 3.3 billion cubic feet per day by 2020. Natural gas as a new source of supply (from pre-salt reserves) will also ramp up petrochemical investments, new fertilizer plants and improve the current natural gas passenger fleet of 1.7 million cars. In Argentina, production is around 4.1 billion cubic feet per day. New shale gas reserves may dramatically change the oil and gas supply costs depending on future government regulations. By 2030, natural gas is expected to represent nearly 30% of the region's total energy matrix.

Mexico is poised for an energy renaissance. Mexico's energy reform will bring the country enormous benefits and will be a "game changer" for the nation's role in the global economy. Opening the country's oil to foreign investors will accelerate foreign investment and generally improve the lives of its people. The reforms enacted allow for a "compelling framework for growth across the energy sector" with the government predicting over \$50 billion in new investments between now and 2018 and will generate a 2 percent GDP boost by 2025, and add about 2 million jobs.

Argentina is South America's largest natural gas producer and a significant producer of oil. Argentina has proven natural gas reserves of 13.4 trillion cubic feet (Tcf) as of January 1, 2012. Almost three-quarters of proven reserves are in the Neuquén basin (42 percent) and Austral basin (30 percent), with the remainder in the Noroeste (Northwest), Golfo San Jorge, and Cuyana basins. Natural gas – used widely in the electricity, industrial, and residential sectors, and increasingly in transportation – comprises approximately one-half of Argentina's total energy consumption. The Neuquén and Golfo San Jorge basins comprise the vast majority of Argentine crude oil production, each accounting for slightly more than 40 percent of national output. Chubut (Golfo San Jorge basin) is the most prolific oil province, followed by Neuquén, Santa Cruz, and Mendoza.

### Latin America: Renewal Energy Scenario

Clean energy has been a key driver of the transformation of the global energy system. Between 2006 and 2013, Latin America and the Caribbean attracted a cumulative US\$ 132bn for renewable energy sources, namely biofuels, biomass, geothermal, solar, small hydro and wind. This significant investment has benefitted countries' clean energy value chains and has made an important contribution to the region's low carbon economic development, energy security, and poverty reduction.

Contd..../

<b>Key Destinations of Investment in Renewable Energy</b>	<b>2008-2013</b>
Brazil	US\$ 34 billion
Chile	US\$ 16 billion
Mexico	US\$ 15 billion
Uruguay	US\$ 11 billion

The bulk of investment was for wind energy, which accounted for 60% of renewable energy investment in the region in 2013. However, solar power is also becoming more common in the region, responsible for \$1.3 billion of investment in 2013. This investment led to the installation of 1 GW of new wind energy capacity in 2013 and 200 MW of new solar photovoltaic (PV) capacity, with the first megawatt-scale solar projects being deployed in Chile, Peru, and Mexico.

While Brazil and Mexico are the twin pillars of the Latin American market, others cannot be ignored. In 2013, Argentina installed 76 MW of wind plants, thanks to support from its GENREN program. Chile added 200 MW, nearly doubling its cumulative installed wind capacity to 413 MW. In Peru, 30 MW of new wind capacity was installed, while the rights to develop a further 232 MW were awarded via two government tenders. Despite political upheaval, Venezuela installed 149 MW in 2013. Uruguay installed just 11 MW last year, but a series of government-sponsored power contract auctions mean it is poised to reach triple-digit growth rates, potentially installing over 1 GW between 2015 and 2017.

Overall, by 2015, Latin America should begin to install over 3 GW wind on an annual basis, eventually reaching 4.3 GW annually by 2022. The total amount of wind power capacity projected to be installed from 2014 to 2022 is almost 31.5 GW.

### **Latin America: Biofuels Scenario**

The region has great potential to export bio fuels in large volumes. It has the basis for bio fuels growth: available arable landmass, feedstock potential (mainly ethanol, corn, soybeans and palm oil), mandates across the region and the understanding of bio fuels as means of energy security. By 2020, Brazil, 2nd global largest ethanol producer, will export 4.5 billion liters of ethanol. Argentina remains the most competitive biodiesel supplier in the continent. Colombia is another significant player in bio fuels production. In Colombia, the country plans to increase its production capacity for ethanol by 50% and biodiesel production capacity by 60% during the 2014/15 crop year. Currently the country produces 600,000 metric tons of biofuels annually, providing for 300,000 direct jobs.

In Brazil, the government will put into force the 27% ethanol blend on Feb. 15, down from the 27.5% blend approved by Congress in September. Mills have been holding back stocks in anticipation of the blending level, with analysts suggesting 7 billion liters of stocks are currently on hand, up 13% over last year at this time.

### **Latin America: Nuclear Power Scenario**

Nuclear power is not a prevalent source of energy in Latin America. Only three countries in Latin America have functional nuclear reactor power plants, Argentina, Brazil, Mexico. The amount of nuclear power used in those countries, however, is very little. Brazil only has two nuclear reactors, only one of which is currently operational. The country halted its plan to build a third reactor partly due to the Fukushima incident and is favoring its energy policy towards wind. Nuclear power and wind energy each currently account for ~1% of Brazil's energy generation with Brazilian policy favoring development of wind infrastructure.

In Latin America, the current plans for nuclear expansion are ambitious. Argentina and Brazil may seek to double or triple existing nuclear capacity. Mexico may build as many as eight more reactors by 2025. Chile, Venezuela and Uruguay are similarly caught up in the enthusiasm for nuclear energy.

**Reliance shows interest in entry into the energy sector in Mexico**

Reliance Industries has signed a MOU with Pemex for joint exploration and production in Mexico as well as for ventures in third countries. Reliance is said to be interested in acquiring a Mexican oil field.

[Read More>>](#)

**Praj secures a prestigious contract with Petrobras**

Praj of Pune has got a 40 million dollar order for supply of processing systems and equipments to Petrobras of Brazil. Praj has already done a number of ethanol projects in Latin America.

[Read More>>](#)

**OVL signs MOU with Pemex of Mexico**

The MOU between ONGC Videsh Ltd (OVL) and the Mexican public sector oil company Pemex is for cooperation in upstream areas of the oil sector. This is a timely initiative since Mexico has just opened up the oil sector for private and foreign participation. India has been regularly importing Mexican crude.

[Read More>>](#)

**ONGC Videsh signs Memorandum of Understanding and Cooperation with Pemex-Exploracion Y Produccion (PEP)**

Oil & Natural Gas Corporation Ltd has informed BSE regarding a Press Release dated September 27, 2014, titled "ONGC Videsh signs Memorandum of Understanding and Cooperation with Pemex-Exploracion Y Produccion (PEP)"

[Read More>>](#)

**RIL, Mexican firm join hands for oil and gas hunts**

Reliance Industries Ltd (RIL) and Mexican state-owned company Petroleos Mexicanos (Pemex) have entered into a memorandum of understanding (MoU) for cooperation in the oil and gas sector.

[Read More>>](#)

**Suzlon commissions 350 MW wind energy projects in Brazil**

Suzlon Group, the world's fifth largest wind turbine maker announced that it has successfully completed installing and commissioning of over 350 MW wind energy in Brazil over a period of 16 months ending Nov 2014 with bulk of 309 MW being added in Calendar Year (CY)2014.

[Read More>>](#)

**Mexico reforms to foster electric power competition - Fitch**

Mexico's energy reforms will create a more competitive electricity market, according to a report by Fitch Ratings. State utility CFE will remain Mexico's largest generator and maintain its monopoly on transmission and distribution, while preferential tariffs for agricultural and residential customers will likely continue in the medium term, the report states. But by allowing large industrial consumers to contract electric power directly from new private investors, independent power producers or CFE, the reforms will create an open and competitive wholesale market.

[Read More>>](#)

**The Caribbean's Energy Potential**

ENERGY SECURITY is at the top of the agenda for Caribbean leaders and it has been for some time. With an average cost of electricity four times higher than in rich nations such as the United States, high energy costs are not only a daily hardship for Caribbean people, but also one of the key bottlenecks for unleashing economic growth and prosperity in the region.

[Read More>>](#)

**Energy: Caricom challenges**

Contemporaneously with the drastic fall of oil prices, Caribbean states found themselves, towards the end of January, required to be in Washington to attend what was referred to as the First Caribbean Energy Security Summit, a multilateral meeting attended by the other major Western donors, Britain and Canada.

[Read More>>](#)

**Mexico's oil and gas reforms an opportunity for Pittsburgh firms**

Mexico's reforms aim to reverse declining production and increasing reliance on imports. For the first time in 75 years, Mexico is opening up its oil and gas prospects to foreign investment, hoping to collect at least \$50 billion from private companies by 2018.

[Read More>>](#)

**India scales up ties with distant Latin America**

Distance is no bar as India seeks to majorly scale up ties with Latin America and the Caribbean, the source of 20 percent of this country's crude imports, given China is far ahead in its engagement with the region that has a combined GDP of over \$5.5 trillion and has shown resilience in the face of the global economic downturn.

[Read More>>](#)

For further queries, please write to:  
Partha Ghosh, Senior Assistant Director, LAC Division  
[partha.ghosh@ficci.com](mailto:partha.ghosh@ficci.com)