A new wave of LatAm wind

Prospects for wind energy in Latin America are bright. By **Dan Bartfeld**, partner, **Allan Marks**, partner and **Guido Giovannardi**, associate, **Milbank Tweed**.

Latin America is recovering quickly from the slowdown imposed by the global financial crisis, as this year the GDP of the region is projected to return growing at a rate of 3.4%. As the wind blows again in the sails of Latin American countries, bringing them back to the path of steady economic growth experienced between 2003 and 2008 (when the region's GDP grew, on average, by 5.5% per year), more energy will be needed for keeping the pace of the economic expansion. According to data by the US IEO, electricity generation in Central and South America is expected to grow by 2.1% a year until 2035, and over the same period Mexico's generation capacity will grow by 3.2%.

A recent study by IHS Emerging Energy Research helps in translating this reasoning into numbers, as it forecasts that by 2025 the installed wind capacity in Latin America will reach 46GW, with installation expected to grow annually by 12.5% on a compound basis. But besides economists' projections, market activity in 2009 and 2010 provides important signals that demand for wind capacity is becoming steadier, particularly in Mexico and Brazil.

In Mexico, the total installed wind capacity jumped from 85MW in 2008 to 202MW in 2009 and more than 560MW is currently under development. Most of these projects are concentrated in the region of Oaxaca, which still has a significant potential to be developed and, in the short run, may contribute to build up a momentum for further development of wind farms in the region.

In Brazil, the first "energy reserve auctions" for assigning wind power capacity took place in the last 12 months, awarding approximately 2.3GW of generation capacity. Also, manufacturers started opening new plants in Brazil, to meet the increasing demand for locally manufactured components.

According to the IHS research, the total level of investment in wind power infrastructure in Latin America is expected to climb from around US$1bn in 2009 to US$2.2bn by 2015. This growing demand poses an important challenge in terms of financing, as lending is still suffering the lingering effects of the financial crisis.

Although renewable energy projects are still particularly attractive for financial institutions, obtaining financing is more difficult than what it used to be before the crisis, when virtually all projects received financing with little or no equity involved. As it is unlikely that lending will grow back to pre-crisis level in the near future, sponsors are looking for new structures and different sources of financing that would prove effective in coping with the constraints faced by commercial lenders.

Significant help is expected to come from multilateral financing institutions. The IDB significantly expanded its lending capacity in response to the financial crisis and is now increasingly focusing on the promotion of sustainable energy. The bank will be particularly active in financing private initiatives with direct loans or guarantees, and reports state that renewable energy projects are expected to account for as much as 80% of the overall bank's financing in the energy sector.

This year, the IDB's lending for renewable energy is expected to reach US$1.5bn and, according to its president Luis Moreno, the bank intends to bring this figure up to US$3bn per year by 2012. Expectations are that such increased involvement of the IDB in financing private sector initiatives will serve as an effective incentive to step up private lending.

While most Latin American countries present a favourable environment for investing in wind generation, local peculiarities have a significant impact in determining which country or region is more attractive for foreign investors and lenders. While some important factors are common to any kind of foreign direct investment (such as political stability, reliability and effectiveness of the judicial system, as well as macroeconomic factors), others are

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peculiar to the development of renewable energy projects (such as the existence of a clear regulatory framework, the composition of each country's energy mix, the capacity of the transportation grid and, last but not least, the existence of incentive programmes). In the next sections, we will give a closer look at three countries in Latin America that, at the moment, present the most promising opportunities.

Mexico

According to the IHS research, installed wind capacity in Mexico is expected to reach 6.6GW by 2025, making the country the second largest wind power producer of Latin America. While the market is projected to be much smaller than the Brazilian one, the efforts shown by the government in recent years to create a favourable regulatory environment for the development of renewable energy projects are remarkable and are already producing significant results in attracting investments.

The Mexican electricity system is not completely open to private operators, as the "public utility service" is reserved to the federal government, which, through CFE, acts as a vertically integrated operator. However, since the beginning of the 1990s, when public spending started lagging, the inflow of private capital became necessary to cope with growing energy demand. Thus, the government partly opened the electricity sector to private operators, in particular by allowing private investors (which mainly came from abroad) to enter the market for power generation.

Today, close to 30% of the installed generation capacity is owned by private producers, and part of that is beginning to be structured as renewable energy projects. Under the current regulatory framework, private producers can participate in the electricity market either by creating "self-consumption clubs", which allow designated offtakers to receive power from a privately owned plant, or as independent power producers.

In the latter case, IPPs may not sell electricity directly to private customers but are required to enter into long-term offtake contracts with CFE, which holds a monopoly in the sale to private customers other than the members of "self-consumption clubs".

While a complete overhaul of the electricity sector is still a long way off, the government approved in 2008 the Law for the Use of Renewable Energies and the Financing of Energy Transition (LAERFTE), aimed at promoting the diversification of energy sources through the use of renewable energies. In its application of LAERFTE, the government developed a renewable energy plan that set the objective of reaching 2.5GW of installed capacity by 2012, providing for a series of incentives to reach this goal.

From a regulatory perspective, CFE has developed special transmission agreements for electricity generated by renewable resources, providing for reduced transportation rates, while the government has introduced tax incentives for investments in renewable energy (including 100% depreciation of assets and the abatement of annual governmental fees).

These incentives contributed to lighting the spark for the development of the first wind projects of considerable size, mostly concentrated in the rather isolated Isthmus of Theuantepec, where 500MW is already installed and an additional similar amount is already in the pipeline.

The combined efforts of government, private investors and multilateral lenders put the Isthmus on the map of the world's hot spots for wind generation, by creating the conditions for exploiting a wind potential that the Electrical Research Institute (a state-run agency) estimates at between 5GW and 10GW.

The Energy Regulation Commission has already issued permits for wind projects on the Isthmus for approximately 3GW, the development of which will require a substantial expansion of transmission capacity in the area. To meet such increase in transmission demand, CFE has already structured plans to expand the network by allocating transmission capacity through a successful open season that required offtakers to provide the financial guarantees necessary to fund the expansion of the grid.

While the overwhelming majority of the projects developed so far are based on a self-generation scheme, in which offtakers commit to purchase the entire electricity output of the plant under a long-term contract (for example, in the Eurus and La Ventosa projects Cemex and Wal-Mart will use the electricity generated by the wind farms to power their plants or facilities located elsewhere in the country), interest in IPP projects is emerging.

In IPP schemes electricity must be purchased by CFE, so price determination is crucial for the economic viability of the projects. CFE is required to carry out public bids to purchase power from renewable energy producers, but is left free to determine the criteria and methodology for establishing the maximum price. While such price cannot directly subsidise energy producers, it may incorporate the benefit of the lower level of externalities of renewable energy, thus providing a return sufficient to make investments in IPP schemes attractive.

An additional incentive for IPP projects may come from the implementation by the Mexican government of the mechanisms established by the Kyoto Protocol for allowing renewable energy projects to obtain certificates of emission reduction, which can provide an additional source of financing for the projects.

In sum, Mexico has a good wind potential, a growing power demand coupled with the need to change its energy mix, and a stable investing environment where foreign developers and lenders already have significant experience in the energy sector.

Despite some regulatory uncertainties that may weigh on the long-term growth of renewable energy in Mexico, the country is presenting numerous good investment opportunities, particularly in the short run.

CFE has developed **special** transmission **agreements**

Brazil

Since the oil crisis of the 1970s, Brazil has been at the forefront in the use of renewable energy, which today accounts for almost 85% of its overall energy use. As most of the country's electricity is generated by large hydropower plants, since the beginning of the new century the government started developing policies aimed at modifying the energy mix in favour of alternative renewable resources, such as wind, biomass and small hydropower.

Brazil has a good track record at succeeding in such policies (the case of ethanol, which now fuels most of the private cars running in the country, is exemplary) and installed wind capacity grew from 22MW in 2002 to 602MW in 2009. This initial growth was mainly fuelled by PROINFA, a programme created by the government in 2002 that allowed developers to enter into long-term power purchase agreements with Eletrobras and to receive financing by BNDES (a state-run development bank) for up to 70% of the costs of the project.

The first phase of PROINFA expired at the end of 2008 and discussions are still ongoing on whether a second phase will be implemented. But the uncertain destiny of PROINFA did not slow down the interest of investors in wind generation, and Brazil is expected to keep leading Latin America for installed wind capacity, climbing to 31.6GW in 2025, according to research by IHS.

As the Brazilian electric market is partly liberalised, power producers are now able to sell energy directly to "free consumers" (ie, larger consumers that are allowed to purchase energy directly from the producers), and may also benefit from a system of "energy reserve auctions" organised by the National Agency of Electric Power (ANEEL), through which developers can secure long-term PPAs for electricity produced through wind generation. So far, ANEEL has held three auctions, awarding a total of 2.3GW of wind capacity to 90 projects. Interestingly, investors' interest increased during the third auction, as the average cost per MW dropped by 18% compared with the winning bids in the second auction.

In terms of financing, the role of BNDES will remain paramount despite the termination of PROINFA. Only a portion of the capital allocated by BNDES to finance renewable energy projects was actually used during PROINFA, thus leaving rooms for further lending in the future. Also, interest rates on senior loans offered by BNDES are generally more competitive than those offered by commercial banks, due to the extremely low cost of capital enjoyed by BNDES.

Nonetheless, in the near future commercial lenders are expected to play a stronger role, particularly in subordinated structures (like mezzanine and equity financing). Traditionally, international banks with local operations in Brazil have been more active in the market than local banks, partly due to their stronger expertise in financing renewable energy projects. However, PROINFA helped bring financing of renewable energy project into the mainstream, and involvement by local banks is likely to expand in the future. Also, as numerous projects will be located in the northeastern regions of Brazil, Banco do Nordeste (a state-run development bank that focuses on the development of public infrastructure in the northeast of the country) may take part in financing the initiatives.

But while projects located in the northeast may still enjoy the help of state-run financing institutions, grid connection may be a bottleneck to developments in the region. While the northeastern regions are interconnected to the rest of the national grid, transmission capacity is still limited and further investments are needed to catch up with growing transportation demand. Nonetheless Brazil is, and will most likely remain, the leading country in Latin America for installed wind generation capacity, making it a place to be for investors, lenders and manufacturers of components.

Chile

Chile's interest in developing non-conventional renewable energy stems from the need to reduce the country's dependence on hydropower and gas imports, which mainly come from Argentina. Unlike most other countries in Latin America, Chile's electric market is fully privatised and choices between alternative energy resources are mostly price-driven. Chile's traditional reliance on its free market and the government's commitment to keep energy price low has so far favoured the development of larger projects (mainly hydropower) over non-conventional renewable energy, whose generation and capital costs are higher.

However, change is now in sight, as in 2008 the government passed a law aimed at fostering the development of non-conventional renewable energy, which is set to account for 10% of the country's energy mix by 2025. The law requires power producers (including large hydropower generators) to purchase or produce at least 10% of the electricity put into the grid through non-conventional renewable resources (although the obligation will apply gradually, starting from 5% between 2010 and 2014, with annual increases of 0.5% per year afterwards).

Although the lack of direct subsidies and power purchase guarantees is still a significant hurdle to overcome, the enactment of the law boosted interest in the development of new wind farms. Already in the pipeline is the 500MW Talinay Oriente wind farm, whose construction is set to begin next year and in which Vestas, the world's largest producer of wind turbines, already teamed up with a Chilean partner to invest US$250m.

As the market for wind power starts picking up, foreign developers and lenders will find in Chile a particularly attractive investment environment, making investments in the region easier than anywhere else in Latin America.

For new wind energy projects, prospects in these three nations and throughout Latin America are bright.

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