



Clean energy to keep Latin America competitive

By Juan Araluce y Martinez de Azagra,
President, Vestas Mediterranean

In these rough and tough times, growth remains sluggish in some of the major economies of the world. Latin American economies are, however, charging on despite global economic woes, with annual GDP growth rates of 7 per cent or even higher in some countries. Energy needs are expected to grow in tandem or even faster; for instance power demand grew a whopping 11.5 per cent in Brazil in 2010, and an average 4.5 per cent per year since 2001 in the region as a whole. Brazil and Mexico, among other Latin American economies, are in dire need of new electricity generation to fuel their growing economies.

Economies need to become more resilient to price shocks and price variability risks, in energy as well as in everything else. Several countries in the region depend on imported fossil fuels for power, especially in Central America. Ever growing energy needs, energy security concerns, rising fuel costs, and in some cases fluctuating weather patterns affecting the region's sizeable hydro resources, have led to energy being a key focus area for the region.

Furthermore, the need to curtail increasing carbon emissions resulting from strong economic growth is an imperative to Latin American countries, if they are to remain competitive and to maintain a sustainable energy growth. Demand for goods is becoming ever more sensitive to the carbon footprint they carry, especially in developed countries. The IEA's Current Policies Scenario from their yearly World Energy Outlook publication states that Latin America could increase its CO₂ emissions by roughly 50 per cent between 2008 and 2035. Clean energy can be an important part of averting this outcome.

The good news is, the potential for wind and other clean energies in Latin American countries is tremendous. Latin America already has a long tradition of utilising renewable energy sources like large-scale hydropower, biofuels and biomass; hydropower capacity in Latin America is 20 per cent of the global installed capacity. Brazil boasts up to 350GW wind potential at 100 metre hub height; for comparison, global installed wind power capacity at the end of 2010 was 197GW. Mexico could have 11GW of wind potential with an above-30 per cent capacity factor; and Argentina's wind resources could "supply Latin America's entire electricity demand several times over" according to GWEC, the Global Wind Energy Council. Wind adds to the existing portfolio of renewables and helps offset some of the challenges that climate change-related changes in weather patterns can mean for hydropower and other renewables.

In fact, in some areas of Latin America the wind blows strongest in the periods where hydropower basins are at their lowest levels, making wind energy an ideal complement to hydropower and allowing energy storage in hydro basins when the wind is blowing.

While classically, clean energy comes at a premium, this general convention doesn't hold in Latin America. Clean energy is available, and at a competitive price relative to conventional energy sources. For instance, wind energy is much cheaper than oil in the Dominican Republic, whose power is based on almost 90 per cent imported fuels. This is also the case in neighbouring countries. Although the tariff for wind in the Dominican Republic is nearly double what is available in some other Latin American countries, that value is still lower than the local spot market price for electricity. The average spot market price for power in Chile's Central Grid, supplying the needs of the vast majority of the population, has averaged over US\$200/MWh in 2011, a result of imported fuel prices, drought and power demand growth. Homegrown, clean energy investments, such as wind, can protect Latin American countries from price shocks and price variability risks in the rest of world.

The competitiveness of wind energy is reflected in the prices being paid for wind power and installed capacity trends in the region. Brazil's national development bank BNDES was one of the two top global lenders to clean energy projects in 2010, lending over US\$3 billion. Investments in clean energy in 2010 in the region were 40 per cent above those of the previous year; and wind energy is expected to continue to be the technology of choice after receiving almost half of all investment dedicated to clean energy the same year. Installations of wind power in 2010 jumped 62 per cent compared to 2009, and the renewable energy auctions in December 2009 and August 2010 and 2011 have led to contracts for 5 GW in Brazil, besides the already built 1GW wind plus additional installations to come, contracted for outside the auctions just mentioned. The pace of wind capacity installations in Latin America could nearly double every year, reaching 17GW in 2015 if the current trend continues. Uruguay, for instance, aims to reach 20 per cent wind in its electricity generation mix by 2015, in relative terms a commitment comparable to those of Spain and Denmark. Tariffs for wind energy have nearly halved in the last decade, coming below conventional fuel costs in some countries already.

Brazil and Mexico, as the strongest wind energy markets

in Latin America, are setting examples for the rest of the region in the development of clean energies. The support of key institutional and development lenders has been crucial. Several Latin American countries are now turning to reverse auctions to contract for wind energy and other renewables, following closely the developments in Brazil. At the most recent Brazilian auction, the average price for wind was lower than the prices for hydropower and natural gas. Transmission build-out rights, like power contracts, are sold at auction in Brazil; with Mexico building transmission based on rental agreements drawn up prior to construction for use of the new transmission capacity. As the interconnectedness of transmission systems across Latin America increases, all energy resources benefit; the output of variable sources like wind evens out and helps provide stable base load power.

Latin America's growth potential, vast resources and solid business case present a win-win opportunity for the region and for clean energy investors. All countries that have designed and implemented regulatory frameworks to encourage clean energy have borne the fruits of this development in terms of investments, and no country has turned back on their decision. Brazil has already become a regional production hub for the wind industry, with several international manufacturers having already built, or committed to building, production facilities.

We are one of the players in the wind industry that have established local production in Brazil. Our facility in Fortaleza, Ceará, to assemble V90 and V100 nacelles, will be operational by the end of 2011. We will also establish a new operations cluster including a Service Centre, Training Centre and Supply Chain and Spare Parts Centre. We are working to create a strong network of local suppliers, supported by the solid industrial infrastructure already in place. This is the first major milestone of a larger

industrial plan to develop a top-class local value chain in Brazil, following our "in the region for the region" approach. Our turbines are designed for performance with a low cost of energy and, we believe, this gives us a strong position in a competitive market with strong wind conditions and demanding customers. Brazil has a qualified workforce as a result of other manufacturing industries, who can bring valuable expertise and experience. We have been actively recruiting in recent months, and will continue to support local job creation. As the local wind value chain expands and matures, the economics of wind energy are expected to improve even further.

Latin America is still developing more coherent policies and regulatory frameworks for all renewable energy sources, as commitment to renewables in general grows. We expect that current challenges will be ironed out in time, allowing clean energy investments to increase even more in the region. This will secure a clean and competitive future energy supply that will support economic growth, also positioning the region's countries well, as the cost of fuels and emissions increases in the future. Wind energy will help keep Latin America competitive. □

The Gargau wind power plant in Brazil

