



**Central America Energy: Renewables, Integration & Investment**  
**December 12, 2008 • San Salvador, El Salvador**

**Background**

Central America has a population of approximately 39 million people with a regional average GDP per capita of US\$2000; varying from US\$4500 in Costa Rica to \$500 in Nicaragua. Over half of the population lives in poverty and more than one in every two of those who are poor live in extreme poverty. In addition, Central America is a net importer of hydrocarbons with only Guatemala and Belize counting a small amount of oil production. Hydroelectricity has dominated the electricity generation of the region but in recent years there has been a strong growth of thermoelectric generation using diesel, natural gas and coal. The region's main source of energy for household use remains traditional biomass.

The region has made great strides on a series of economic reforms in the last few years, and has been able to achieve a fragile recovery, mostly driven by the huge impact of remittances and foreign investments. Recent developments in Nicaragua call into question that country's prospects for advancement, but some Central American economies have engaged in an economic diversification strategy favoring tourism, labor intensive manufacturing (maquilas), and the service sector. As a result, the economies are more exposed to the cost of energy, in particular the cost of imported oil products.

In order to address these energy challenges, efforts at diversifying the region's energy matrix have been heavily discussed, with an emphasis on increasing the incorporation of renewable energy sources such as biofuels, wind energy, and geothermal. In addition, a long-discussed integration effort, the Central American Energy Electrical Interconnection System (SIEPAC) project aimed at creating an integrated power market across the region has picked up speed and is under construction. Important obstacles for security of supply, diversification and integration are numerous and range from regulatory to geopolitical issues.

Given the increasing burdens caused by the fuel import price tag, and the need for enhanced regional dialogue between government policy makers and the private sector, the Institute of the Americas collaborated with the United States Department of State and the Organization of American States (OAS) on an energy forum in San Salvador, El Salvador which brought together government, industry and civil society representatives to discuss these and other issues.

The event held on December 12 featured several important presentations including those by Matthew Rooney, the State Department's Director for Economic Policy and Summit of the Americas Coordination for Western Hemisphere Affairs, wind energy project developers Steve Ihnot of Mesoamerica Energy and Rick Lammers from the Amayo project in Nicaragua, Deborah Haggard and Judy Siegel, consultants actively working in El Salvador on that country's biofuel potential. The following is a brief summary of some of the key points set forth during the day's discussions as well as some short conclusions.

### **Conference Discussion**

Several speakers began their presentations by underscoring the important level of economic growth seen across Central America over the last 4 years – growth rates not seen since the 1960's. Yet for many, mixed in among the praise for the economy was the clear message that the region still has very high levels of poverty and, worse, income inequality. And, the region continues to deal with the issue of economies of scale. That is to say that each country on its own is an inefficient market vis a vis its energy sector. Moreover, Central America retains a large dependence on biomass and imported petroleum products and has a severely underutilized potential in hydro and other renewable energy sources while power generation has seen an increase in the unhealthy dependence on imported diesel and fuel oil.

An overarching and resoundingly clear point for the entire discussion of energy in Central America was set forth by the Institute of the Americas' president, Amb. Jeffrey Davidow, during his opening remarks. Amb. Davidow called for governments across the region to deepen their efforts at establishing clear and consistent rules of the game when it comes to energy policy. His point was seconded and continuously repeated by the ensuing speakers, many of whom stressed the weakness of the region's energy regulatory environment. Several speakers noted three specific challenges for policy making and regulatory systems: 1) the vulnerability due to political intervention and populism; 2) the lack of commitment to date from each country in the region toward regional energy integration; and, 3) the lack of a regional regulatory framework and operation procedures.

For many years the SIEPAC project has been heralded as a key element of a leap forward in regional cooperation. SIEPAC, a regional power line that is set to be completed next year and will provide for electric interconnection from Panama to Guatemala and at the outset allow for 300MW of electricity to move in both directions, provides insight into some of the answers but simultaneously prompts further questions, particularly when it comes to the patchwork of regulatory regimes across the region.

Executives speaking on and about the potential for renewable energy in Central America urged governments to set clear and consistent long term policies and to not change course in the midst of the recent gains made to bring more renewable sources on line. The concern that regional policy makers would suffer from amnesia in line with the downward spiral of the price of oil was a real concern and one voiced by more than one speaker.

The issue of oil price also figured in the emerging discussion of the possibility for increased biofuel development in Central America. Yet, in a more positive tone, the biofuel panelists expertly detailed Central America's many attributes that well position

the region to ramp up its production and use of biofuels primarily sugar cane based ethanol, despite the downward oil price trend. Key issues outlined by speakers ranged from the high output of the region's sugar cane, the cluster of mills and thus economies of scale, the push by governments in the region to improve socio economic development, as well as the preferential access to the booming US ethanol market (mandates in the US will see demand grow to over 35 billion gallons per year by 2030). Panelists and participants also pointed to the advances made as part of the US-Brazil biofuels accord as a unique opportunity for many countries in Central America to fully examine their respective energy matrices and economies.

### **Conclusions**

Central America's energy sector clearly has important challenges ahead but as the potential for increased development of renewable and alternative sources demonstrate, within those challenges are important opportunities. Moreover, the clarion call for true energy integration seems closer to being answered today than at any time in the past. The SIEPAC project reflects both the challenges and opportunities for energy integration in Central America. At its most optimal, the project will deal with the challenges of economies of scale, provide the possibility for one unified power market in Central America, ease shortages, and drive down prices for the region's consumers. Yet its delayed completion and the twists and turns of the project over the last several years underscore the challenges such integration projects bring. But perhaps even if it attains a more modest goal of simply enhancing the region's security of supply it will still be an important milestone as, in the estimation of many, there may be no more important priority for Central America, especially in terms of economic consolidation, than security of supply.

In sum, and leaning toward a more optimistic outlook, the SIEPAC project may also show that the entire region can work together to bring to fruition a regional project that will integrate diverse energy markets from Guatemala to Panama. And therein perhaps sums up the day-long discussions: Integration is not only important but vital for the long term in Central America.

The presentations made at the conference are available on-line at: <http://www.iamericas.org/presentations/energy/Salvador08/>