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Energy for the Western Hemisphere: Revisiting Latin America's Energy Scene before the 5th Summit of the Americas

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Theme: Revisiting the energy scenario in Latin America, this paper analyses the region's various energy challenges and evaluates the need and potential for a region-wide energy strategy.

Summary: Growing energy demand in Latin America and the persistence of numerous barriers to expanded supplies of both traditional and alternative energies, together with the imperative to reduce carbon emissions and prepare for the effects of climate change, pose significant challenges to the countries of the region. For years, strong demand, rising oil prices and energy nationalism threatened sustainable growth, particularly in net-importing economies, but now the credit crisis, economic recession and falling oil prices threaten to destabilise some producer states and undermine the thrust towards unconventional hydrocarbons, renewable energy deployment and effective policies to ward off climate change. A collaborative, regional energy strategy, while difficult to conceive and design, would likely be a positive contribution to the policy quest for greater energy security and more rational energy stances in the face of climate change. Regional energy collaboration in the Americas is also an area in which the US and Spain might develop an effective partnership for the promotion of renewable energies.

Analysis:

The Energy Scenario in the Americas: Supply, Demand and Infrastructure

The Western Hemisphere is roughly self-sufficient in energy. This does not mean, however, that energy security does not pose a significant policy challenge for the Americas. Energy integration, in both infrastructural and institutional terms, remains relatively underdeveloped (certainly in light of projected future energy demand), while the region's supplies of traditional energy sources are very unevenly distributed. The US and the Southern Cone are the two principal centres of heavy and increasing consumption and external dependence, while Canada, the Gulf of Mexico and the Andean zone are the principal foci of hydrocarbons production and net exportation. Meanwhile, less than 1% of the Americas' primary energy demand is met with 'classic' renewable energy sources (ie, wind, solar and the various forms of ocean power –as opposed to nuclear, hydroelectric and biomass, the other 'conventional' low-carbon energy sources–). Traditional fossil fuels continue to dominate (over 80%) the Hemisphere's primary energy mix and will continue to do so well into the future if the region's energy scenario is not radically transformed.

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There exists much potential for increased energy supply, particularly in the realm of so-called 'unconventional' and 'difficult' hydrocarbons –like Canada's tar sands and Venezuela's ultra-heavy oil, which together (some 500 billion barrels) might be the equivalent of two Saudi Arabias– and the Hemisphere's many potential sources of offshore and ultra-deep water oil and gas (particularly in Brazil and Mexico, but also potentially in the US, Caribbean and Andean zones). The obstacles to increasing supply –including energy nationalism and the rising costs of technical and material inputs, both of which exercise a negative impact upon investment– are immense, while primary energy demand is set to continuing growing –less so in North America (0.6% annually to 2030) but significantly in Latin America (2%)–. Nevertheless, despite the region's apparent energy potential, the Hemisphere will become ever more dependent on hydrocarbon imports from the Persian Gulf –and ever more vulnerable to the destabilizing impacts of fossil fuel-induced climate change– unless status quo dynamics are drastically altered.

On the other hand, both the quantity and quality of energy infrastructure (including power plants, transmission grids and electricity distribution networks, oil and gas pipelines, refineries and LNG export and import terminals) is insufficient across most of the region, while nearly a quarter of Latin America's population lacks access to electricity. The International Energy Agency (IEA) reference (or 'business as usual') scenario foresees a trebling of electricity generation and a doubling of capacity –requiring an enormous amount of investment (over US$1 trillion in the electricity sector alone)– if demand is to be met in Latin America during the 25 years leading up to 2030. Even in North America, rising demand is already placing strains upon an increasingly antiquated energy infrastructure system. By itself, the infrastructure challenge is significant enough to constrict demand in many parts of the region, to say nothing of placing severe constraints on renewable energy deployment, particularly centralised forms of wind and solar power (ie, wind and solar farms), across the Hemisphere. The IEA estimates that Latin America will need to invest at least the equivalent of 1.5% of its total GDP to 2030 –some 50% more than average energy investment requirements world-wide– in expanded energy supply and infrastructure if its 'business as usual' energy demand is to be satisfied.

Energy Nationalism and Market Pragmatism

Another salient characteristic of the region's current energy scene has been the return of energy nationalism, now influencing the energy policies of many of the Hemisphere's oil and gas producers. While many emerging markets in Asia successfully took advantage of the economic globalisation of the last 20 years –and, as a result of their consequent economic growth, contributed much of the new energy demand that has been partially responsible for the recent spike in prices–, a number of less-than-developed oil and gas producers in Latin America (particularly Venezuela, Bolivia, Ecuador and Argentina) have become sceptical –even resentful– of globalisation dynamics. Such economies have remained –for whatever reason, for better or for worse– on the margins of the globalising economy. Partially as a result, they have also become highly dependent on oil and gas exports, while their energy sectors have become increasingly dominated by the state. Although prices have recently collapsed from their peaks, and now stand at only 30% of their historic levels some six months ago, the massive revenues that such historically high prices potentially represent have combined with brewing resentment towards liberally-tinged globalisation to produce the potent political cocktail of energy nationalism.

The ultimate result has been more prohibitive restrictions on foreign and private sector exploration and production (in the form of tighter fiscal and access conditions for international oil and gas companies) in Latin American hydrocarbons provinces and a

stagnation of upstream investment and oil and gas output levels. Now that oil prices have fallen just as dramatically as they rose, national oil companies are faced with even more severe financial pressure to skimp on investment even further. Even with high prices, energy nationalism prejudices the level of upstream investment; with low prices, the effect of energy nationalism on upstream investment is potentially mortal. The impact can be seen in the evolution of production levels. Both Venezuela and Argentina are producing approximately 25% less petroleum than when at their respective production peaks some 10 years ago.

At the same time, a number of other countries in the region, including Brazil, Chile, Peru and Colombia, have continued to pursue more pragmatic energy policies which, without abandoning –or denying a legitimate role for– the state, remain more open, transparent, rules-based and market-oriented. Such policies not only acknowledge the reality of global economic integration –even in the realm of energy– but actually embrace it as a positive, constructive force. These pragmatic, rules-based, market-oriented energy policies express a broader political and economic stance of openness, transparency and flexibility that reveal such countries to be rising above the region's traditional ideological deadlock between 'good revolutionaries' and 'free marketers' to forge what Javier Santiso has called a new 'political economy of the possible' in Latin America.

Still other countries, like Mexico, remain stuck between these two ideologies, for the moment incapable of overcoming the domestic geography of special-interest resistance to energy-sector reform, even though they continue to engage the liberal and globalising economy beyond energy. Central America and the Caribbean nations, on the other hand, as the poorest and most energy import-dependent economies of the region (Trinidad and Tobago is, however, an important exception), remain the most vulnerable to energy price volatility and the least equipped –institutionally and economically– to handle energy and climate change-related challenges.

The Brazilian Example

If Venezuela is currently the regional leader of the energy nationalists and globalisation sceptics –a grouping President Hugo Chavez has tried to articulate in the so-called 'Alba' formation–, Brazil is the epitome of the new energy pragmatism. Brazil is the only country in the Hemisphere that has significantly reduced not only its excessive dependence on external sources of fossil fuels, but also its very dependence on fossil fuels themselves. Since the energy crises of the 1970s, Brazil has consistently maintained strategic support for its sugar-based ethanol industry, now the largest in the world. As a result, Brazil has become the world's largest producer and exporter of biofuels, which domestically provide more than 25% of the Brazilian transport sectors' energy needs. Brazil has also tapped the massive potential of hydroelectric power (which provides as much as 80% of the national power supply), making it one of the only countries in the world, along with France (where nuclear power accounts for some 80% of the electricity mix), to have displaced the dominance of fossil fuels in the electricity mix with a low-carbon energy source.

Furthermore, as Petrobras has developed into a world-class petroleum company, discovering as much as 50 billion barrels of oil (along with large amounts of gas) in the country's offshore provinces and developing a niche as one of the world's leaders in ultra-deep water drilling, Brazil has also become one of the only countries in recent times to have moved from oil-import dependency to self-sufficiency (while maintaining a good chance of becoming a significant net oil exporter in the not-so-distant future). Finally, Brazil has achieved these significant improvements in its energy outlook while maintaining

a pragmatic, rules-based market-oriented energy model, characterised by significant government guidance and strategic state direction on national energy policy without falling prey to the temptation to nationalise the energy sector, shut out private and foreign investment and seize the sector's rents. The hydrocarbons sector remains liberal and open, while the state holds only a minority –if large (40%)– stake in Petrobras, the Brazilian national oil company, and does not intrude upon company investment decisions.

Brazil's evolving regional leadership could also prove useful in the Hemispheric effort to expand the use of biofuels. Given the persistence of the traditional shortcomings of Brazilian regional leadership, however, such efforts may need to be underpinned by deeper Hemispheric cooperation with the US. An interesting and constructive example of such collaboration is the recently launched US-Brazil Biofuels Partnership. At this juncture, however, Brazil should also attempt to extend its energy revolution beyond sugar-based ethanol to second-generation cellulosic biofuels production, and even beyond biofuels themselves to renewable energies like wind, solar, geothermal and ocean power, among others, that are capable of generating electricity, reducing the country's –and the region's– excessive dependence on hydroelectric power, moderating the growing demand for gas and avoiding a future desperate rush to coal. Aside from producing controversial cultural and local environmental side-effects, hydroelectric power is also far more vulnerable to the impacts of climate change than are these other 'classic' renewable energy sources.

But Brazil's biggest energy challenge will be to avoid the temptation to follow so many other oil and gas producers down the road of energy nationalism, particularly once oil prices begin to rise again in the future (as they most surely, eventually, will), in a risky and desperate attempt by the state to monopolise the country's rents from hydrocarbons. So far, President Lula's pragmatism on economic policy, in general, and energy policy, in particular, suggest that Brazil will continue to set this realistic example for other countries in the region. But significant oil discoveries in the Santos and Campos basins, together with the spike in oil prices last summer to US$145/bbl, have generated demands from certain quarters in Brazil to significantly alter the national hydrocarbons legislation, a development which would likely undermine the revolution in Brazilian oil and gas production currently underway. Such demands are unlikely to thrive in the current low-price environment, but should prices rise significantly again in the future, the Brazilian government will face intense pressure, not only to tighten fiscal conditions on oil production, but also to limit foreign and private sector access to oil and gas, and possibly even to take over Petrobras altogether. While higher taxes and royalties might be called for with prices well over US$100/bbl, a state monopoly over the hydrocarbons sector would eliminate its longer-term potential to become a significant net exporter.

The Changing Context: From Energy Crisis to Economic Crisis

In the five years from 2002 to 2007, world oil prices trebled; during 2008 oil prices doubled again, reaching nearly US$150/bbl in July. Prices then plummeted to as low as US$35/bbl in December and rose again in January 2009 to almost US$50/bbl. This oil price level was still nearly double the long-term average in real terms, if only 30% of July 2008 peak levels, and still below the US$60/bbl threshold that many large oil producers, like Venezuela, use as their national budget reference price.

Such price volatility has implied a rapid change of context. For most of this decade, the world lived in a context characterised by rapid economic growth and rising energy, food and other commodity prices. While such growth was beneficial in general, and helped to

generate unprecedented wealth, rising energy and food prices ultimately began to prejudice the poor (offsetting the anti-poverty effects of growth), threatened the continued viability of sustainable inflation-free growth (particularly in net-importing countries) and generated a sense of crisis in the realm of energy and food. Meanwhile, such dynamics implied large transfers of income and wealth from consumers to energy and commodity producers –both nation-states and companies– prompting the re-emergence of energy nationalism, the elaboration of ambitious social spending programmes, the articulation of foreign policy challenges to the US by particular oil and gas producers (like Russia, Iran and Venezuela), and the rise of geopolitical competition between the US, Europe, China and India for (politically, if not geologically) limited oil and gas supplies.

In six brief months, however, all of this has changed, as the world has lurched abruptly into a different context, one defined by world-wide financial crisis, economic recession, slowing growth in energy demand and plummeting energy and commodity prices. Given the increasing openness of the Latin American economies and their deepening integration with not only the US and Europe but also the rising emerging market powers in Asia, the 'end of dependence' and the economic 'decoupling' that so many observers had recently perceived in Latin America has proved to be an illusion. All American economies –North, Central and South– are being intensely affected by the financial and economic crises. Energy prices have fallen once again as a result, but aside from the perennial problem this presents (ie, the undercutting of investment in future traditional sources, like oil and gas, but also in low-carbon alternatives, like renewables), the current recession and collapse of energy prices have also dried up investment funds for new energy ventures and pushed energy security and climate change, as policy priorities, down several positions on national agendas.

Furthermore, as lower prices translate into intense budgetary pressures in producer economies, the international political subsidisation of energy imports in poorer countries (eg, Venezuela's subsidisation of Central America and the Caribbean through Petrocaribe) become more and more difficult to sustain, with implications both positive (less radical influence exerted within Hemispheric relations) and negative (increasing economic vulnerability of the poor and deepening energy poverty).

Currently a battle is on within the US political elite over what kinds of initiatives to include in the economic stimulus package which the new President, Barack Obama, wishes to sign into law soon after taking up office. Some are pushing for investments in energy efficiency and renewable energies to be included, while others are resisting the inclusion of such significant policy-agenda items, like energy transformation or health care reform, considered to be incompatible with economic recovery. This battle mirrors a broader struggle around the world over the relative prioritisation of energy and climate change policies –both of which are widely perceived to imply significantly higher costs to consumers, companies and national economies– within the current context of the global economic crisis.

However, while the critical nature of the climate change challenge, and the concomitant need to significantly cut fossil fuel consumption on a global scale, became apparent during the unfolding of the first context of strong demand and rising prices, it remains even more so in the new scenario of recession and price collapse. While nearly everything else has changed with the abrupt shift in context from energy crisis to economic crisis, the imperative to transform the world's energy economy and fight against climate change remains as an important continuity between these two scenarios.

Potential for Regional (Hemispheric or Transatlantic) Energy Collaboration
Given that dependence has not died, and that interdependence is now clearly the defining framework of the world economy, a Hemispheric approach to energy issues –while not as ideal as a global, multilateral framework– is certainly superior to an uncoordinated –or even competitive jostling of possibly incompatible– national strategies.

In this regard, Barack Obama's proposed 'Energy Partnership for the Americas' would certainly be a welcome initiative, and could easily dovetail with the energy aspects of the Draft Declaration of the 5th Summit of the Americas to be held this April in Trinidad and Tobago. A renewed push towards deeper Hemispheric collaboration on energy issues would be a potential antidote to the recent wave of energy nationalism in the region, and it would certainly be a logical mechanism for smaller, import-dependent economies to use in the attempt to augment their energy security.

The big question is what kind of specific content should or could be included in such an initiative. A couple of areas seem to offer at least some promise. The first would be in the realm of renewable energy promotion. Although the US-Brazil Biofuels Partnership is still too young to present us with tangible results, it does offer a useful template for further collaboration. A big push in renewable energy deployment –both in the realm of transport and electricity generation– is needed across the Hemisphere, and Brazil and the US could provide the collective stimulus for such an effort. The Hemispheric effort might even consider merging its efforts with the Ibero-American space, inviting Spain –one of the world's leaders in wind and solar energy, and a European leader in biofuels– to participate in a broader renewable-energy partnership.

A logical area where such efforts might focus would be Central America and the Caribbean. This subregion is the poorest and most economically vulnerable to both external dependence and oil-price volatility in the region, and would therefore particularly benefit from any attempts at regional energy integration or replacement of fossil fuels with renewables in their primary energy mixes. In any event, as difficult as it might be to conceive of useful Hemispheric energy collaboration in concrete terms, and to design it in a workable fashion, it would certainly be worth the effort.

Conclusion: Much more emphasis should be placed on energy collaboration and integration at the regional level, based upon open, transparent and rules-based, market principals. Also, more explicit emphasis should be given to promoting further physical integration and regulatory harmony in the Hemisphere's energy arena, building on current efforts, like the SIEPAC electricity system in Central America, and the regulatory coordination and harmonisation efforts of the Asociación Iberoamericana de Entidades Reguladoras de Energía (ARIAE), working in collaboration with the Spanish National Energy Commission (Comisión Nacional de Energía, CNE).

It is true that many oil and gas producers –like Venezuela, Ecuador, Bolivia and Argentina– are unlikely to cooperate with such an endeavour, particularly if it were to be based on open, transparent and rules-based, market principles, but if the Energy Charter Treaty of Europe and Eurasia is any guide, the opposition of a few countries does not necessarily doom regional collaboration to failure. As long as the US and Brazil are committed to cooperating and to leading together, a Hemispheric energy initiative would have a decent chance of serving some positive function. Furthermore, it is always possible –particularly given a low-price environment– that some producers might alter

their energy policies in the future, once the economic logic behind energy nationalism begins to evaporate.

If the majority of the Hemisphere's countries can commit to a new Hemispheric Partnership for Energy Security, it is possible that energy nationalism –particularly in an environment of relatively moderate prices– can be kept at bay, and the future may be brighter for more rational regional energy integration and more rapid transformation of the Latin American energy economies. In this sense, more explicit Hemispheric backing should be given to the US-Brazil Biofuels Partnership and possibly even to an extra-Hemispheric arrangement like a new Spain-US Renewable Energy Partnership, embracing not only the Spanish and US economies but also those of the Americas and beyond.

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