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## PARTNER TO BUILD AND SUSTAIN ENERGY SECURITY

### The Context

Each nation in the Western Hemisphere seeks to secure the energy future of its citizens. While natural energy resource endowments and energy demand patterns vary widely throughout the hemisphere, geographical proximity creates important interdependence. Normal economic forces naturally encourage mutually beneficial arrangements within the region, but it is quite certain that concerted action by governments can facilitate the potential economic benefits and social welfare from cooperation.

### The Challenge

The challenge for the Fifth Summit of the Americas is to identify constructive steps towards “energy security” and “environmental sustainability” that are central to the summit’s theme of “Securing our citizens’ future.” There are two overriding, interrelated challenges: securing stable energy supply and avoiding climate change. On the one hand, it is unrealistic and unnecessary to seek a comprehensive energy plan for the region. On the other hand, hemispheric cooperation to adopt market mechanisms and new technologies that encourage efficient energy use and a shift away from carbon emitting fuels will benefit all countries in the region. But

because the size of the energy infrastructure is so massive, change requires tremendous investment that takes time and the sustained attention of governments. Thus, it is wise to begin with the selection of a few subjects for cooperation.

### Hemispheric Opportunity

- **Establish a hemispheric group to address climate change.** Climate change is the paramount global energy issue. Avoiding the adverse consequences of climate change requires an agreement to cap emission of greenhouse gases by both developed and developing countries. Although a global solution is necessary, a Western Hemisphere agreement would be a significant step forward. It is very unlikely that Western Hemisphere countries could agree on a policy to stabilize greenhouse gas emissions. But more modest goals such as an agreement that Western Hemisphere nations should not subsidize electricity or motor gasoline and move to global market prices would contribute greatly to reducing energy demand and hence limiting carbon dioxide emissions.

There are several reasons that recommend a serious, expanded, hemispheric deliberation on cli-

mate change. First, this issue is, after all, the greatest environmental threat to the future wellbeing of the planet. Second, expansion of electricity generating capacity in every country is being slowed by the uncertainty about future emission regulations. At a minimum, the hemisphere should agree on the quality and extent of reporting of emission measurements and energy statistics. Further, environmental policies adopted in one country will affect its neighbors.

Perhaps the most important reason to deepen the hemispheric dialogue on climate change is that the larger hemispheric nations, notably Brazil and Mexico, should want Washington to understand their interests and potential flexibility. Latin America faces the danger that United States participation in a global dialogue focusing on reaching a climate change understanding with China and India could effectively present countries in the hemisphere with a *fait accompli*. And there is the small but interesting possibility that engagement in the hemisphere would reveal a way forward that would be influential in making progress globally. The hemispheric climate dialogue could be recognized as subsidiary body within the structure of the United Nations Framework Convention on Climate Change.

- **Encourage biofuels production and eliminate the U.S. import tariff of 54 cents/gallon on ethanol imported for fuel use.** Biofuels is a renewable energy source of special importance in the Western Hemisphere. Biomass is a unique renewable energy source, because it leads to liquid fuel that can displace oil. Some energy models project worldwide production of biofuels of 20 million barrels of oil equivalent per day by mid-century. There is con-

siderable biofuels production in the hemisphere, notably in Brazil and the United States. The climate and land use in the Caribbean and Central America offers the potential for expansion for biofuel production to countries that lack any domestic hydrocarbon reserves.

It is technically possible to use cellulosic feedstock as a source of liquid fuel, but advances are needed to demonstrate economic attractiveness. Pursuing alternative technical pathways (including algae) could answer the two growing criticisms of current ethanol production: (1) use of a biomass feedstock for biofuels production that does not compete with food crops and (2) higher yields of liquid fuel from biomass with reduced input of natural gas or petroleum fuel for cultivation, conversion, and separation.

The United States currently has a 54¢ per gallon tariff on ethanol imports destined for fuel use. This protectionist tariff restricts lower cost ethanol produced in Brazil from entering U.S. markets and artificially maintains high domestic U.S. ethanol and corn prices. The tariff should be removed. In the longer-run, because of competition for food production, corn and sugar biofuels feed stock should be replaced by cellulosic biomass. Hemispheric cooperation on cellulosic biomass technology development, both with regard to more productive biomass production and more efficient biomass conversion would be of great value to the region.

- **Establish a solar and renewable energy laboratory for the hemisphere.** The Caribbean and Central America have extremely attractive levels of solar insolation, but the region also contains many countries that are poor and completely dependent on oil imports. Despite much talk and a considerable

number of demonstration projects, there has been little penetration of solar technology into the region beyond solar hot water heating. Neither the private sector nor government sponsored development organizations have found effective mechanisms to create new solar-based technologies that are both affordable and appropriate for application in poor rural and urban communities that lack public services.

The conventional approach to renewable energy development is for development entities, such as USAID or the UNDP to fund local projects on a case-by-case basis. The virtue of this approach is that project execution is the responsibility of a local authority that understands local conditions. However, each project is unique, project evaluation is mixed or non-existent, there is no effective learning transferred to new situations, and, in some cases there is local corruption.

An alternative approach is for the Western Hemisphere led by the United States and Canada, to establish a “Renewable Energy Laboratory of the Americas” for an initial 10-year period, at a level of \$200 million per year. The purpose of this laboratory is to develop a suite of new affordable appropriate renewable technologies, testing and documenting these systems, and demonstrating them in cooperation with local authorities. This new central organization would have the responsibility to accumulate transferable knowledge. The laboratory should be located in Central or South America, in order to encourage better exchange of technical personnel and technology transfer.

- **Encourage peaceful uses of nuclear power.** Concern about the risks of global warming has revived interest in commercial nuclear power around

the world. Greater economic growth and, in particular, growth in electricity demand is projected for developing economies of Latin America and the Caribbean. Expanded deployment is most likely to take place in Brazil, Mexico, and Argentina but could also occur elsewhere, such as in Chile and Colombia.

If nuclear deployment increases significantly during the next decades, Latin American nations will want to assure effective safety regulation, and waste management practices and low cost generating cost. Cooperation between United States and Canada with their large nuclear industry, more developed regulatory structure, and government laboratories could be of benefit to all nations in the region. Hemispheric engagement on proliferation issues involving fuel cycle activities and international supervision would also be helpful.

- **Integrate energy infrastructure and deal with resource nationalism.** The anticipated growth in energy consumption will require significant investment to replace and expand the existing energy infrastructure capital base in the following areas: (1) electricity generation, transmission, and distribution; (2) natural gas pipelines and LNG terminals for liquefaction and re-gasification; and (3) petroleum production (especially in the deep off-shore), refining and distribution. The efficiency of this energy infrastructure depends on the way the infrastructure is designed, built and operated. Cooperation between firms and harmonized regulation among jurisdictions capture benefits for each nation and every consumer in the hemisphere.

North America has experienced significant integration in its energy infrastructure over the past two decades. The North American natural gas pipeline

system has become highly interconnected as a result of commercial initiative supported by regulation. Progress has been made on the integration of the electricity grid, but sitting issues hamper much needed new investment. Most experts believe that a more intelligently managed and rationally designed smart network could realize significant improvements in efficiency of electricity distribution.

In contrast to progress in North America, political turmoil has slowed the development of a regional distribution system in South America. The most egregious example is Bolivia's reluctance to participate in a regional natural gas transportation system that its location and resource base makes potentially beneficial. An integrated natural gas pipeline system encompassing Venezuela, Brazil, Bolivia, Argentina, Chile, Peru, and Ecuador would have important regional economic benefits, but issues of resource nationalism, state ownership, and regulatory differences currently are precluding progress.

The North American experience should be an important example to Latin America of the benefits that accompany integration. While direct involvement by the U.S. government is unlikely to be effective in encouraging integration, revitalization of the Western Hemisphere energy ministers meetings could play a constructive role by discussing possible steps forward.

The magnitude of anticipated energy infrastructure investments in Latin America, as in other regions, is spectacular and will require and surely attract capital from many places. A significant portion of the financing can and should originate in the United States, although it is noteworthy that Europe and Asia, including China, are eager to gain access to the Latin American energy infrastructure market.

### Want to Know More?

"Rethinking U.S.-Latin America Relations: A Hemispheric Partnership for a Turbulent World," Report of the Partnership for the Americas Commission, The Brookings Institution (November 2008).