

Environmental Business Opportunities in Pollution Prevention in Latin America

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As the financial crisis in the emerging market economies during the last two years diminishes, the attention of environmental businesses is again turning towards Latin America. Long dependent on natural resource industries (oil, mining, fishing, agricultural products), Latin America's past environmental business opportunities have primarily been in the environmental cleanup market. Now that a manufacturing sector is a significant component of the local economy in several countries in the region and a growing middle class is starting to demand measures to improve environmental quality, pollution prevention technologies and services has emerged as a new market in Latin America.

This paper is a summary of a one-day conference, sponsored by the US Agency for International Development (USAID), held on September 27, 1999, on the International Relations and Pacific Studies Campus of the University of California, San Diego. The purpose of the conference was to update environmental businesses about the emerging market for pollution prevention in Latin America and describe the range of support to US businesses provided by government agencies, non-governmental organizations, and lending institutions. The conference focused on the three countries in the Andean Region of South America—Peru, Ecuador, and Bolivia. In addition to several US environmental businesses, conference representatives were from federal and state trade agencies, banks, the National Pollution Prevention Roundtable, non-governmental trade organizations, and officials from Peru and Ecuador. NAEP was invited to send a representative as a means of providing information to its members.

Market Description

According to Joe Burton, International Trade Specialist with the US Department of

Commerce's US and Foreign Commercial Service Office, the global market for environmental technologies is one of the fastest growing sectors. The global market for environmental technologies is \$400 billion and projected to grow to \$600 billion by 2010. However, US exports of environmental goods and services are only \$10 billion, accounting for just 6% of the total global environmental business market. The principal markets for US environmental technology exports are:

- Argentina
- Brazil
- Chile
- China
- Czech Republic
- Hong Kong
- India
- Mexico
- Poland
- Taiwan
- Turkey

Environmental technology export business opportunities exist for US firms in the public sector, private sector, and with the multilateral development banks (World Bank, Asian Development Bank, Inter-American Development Bank, and North American Development Bank).

The focus of the USAID conference in San Diego was the market for pollution prevention in the Andean Region of Latin America. In 1999, the total estimated size of the environmental market in the three Andean region countries was \$650 million (see Table 1). The key drivers for investment in pollution prevention technology in

this region are international market pressure, regulatory pressure, and donor technical assistance. The major constraint to investment is the lack of financing; banks in the region have little money to lend for equipment upgrading and interest rates are very high for available money.

The following is a summary of environmental business opportunities in each of the three Andean countries.

Peru

Within the Andean region, Peru has over 60% of the total environmental market. Its principal industries are mining (50% of gross domestic product), manufacturing (70% of industry is in the capital city of Lima), and fishing (world leader in fishmeal and fish oil production). According to Mr. Luis Egocheaga with Peru's National Environmental Council (CONAM), the major market drivers are: 1) the country's significant environmental problems (lack of access to piped drinking water, industrial wastewater discharges, air pollution, and hazardous and solid waste); 2) private industry's willingness and ability to invest in environmental improvements due to competitiveness pressure in the exporting industries; 3) regulatory pressure; and 4) large amounts of donor funding in the public sector, primarily from the World Bank and the Japanese Overseas Economic Cooperation Fund.

Peru recently developed requirements for environmental impact assessment and mitigation, and its sectoral ministries (industry, fisheries, energy and mines) are actively developing environmental standards to

Table 1. Total estimated environmental market by country and market segment in the Andean region, 1999 (US\$ millions)

Market Segment	Bolivia	Ecuador	Peru	Total
Water supply and sanitation	55	75	275	405
Industrial wastewater treatment	3	3	20	26
Air pollution control	2	3	45	50
Waste management	5	12	40	57
Pollution prevention & cleaner technology	3	3	65	71
Environmental consulting services	12	14	15	41
Total	80	110	460	650

Source: USAID (1999). *Environmental Markets in the Andean Region*.

Table 2. Environmental business opportunities in Peru

Market Sector	Market Size (1999)	Best Prospects
Water supply and sanitation	\$275 million	Water and sewerage pipes, pumps, water meters, construction of new transmission lines, pumping stations, reservoirs, and water and wastewater treatment plants
Industrial wastewater treatment	\$20 million	Effluent treatment technologies for metals processing, oil refining, and fishmeal plants
Air pollution control	\$45 million	Scrubbers, baghouses, ambient air monitoring, and vehicle emissions inspection equipment
Waste management	\$40 million	Solid waste collection trucks, construction of transfer stations and sanitary landfills
Pollution prevention and cleaner technologies	\$65 million	Cleaner technologies in ore processing, smelting, fishmeal production, and brewing; solar and wind energy production
Environmental consulting services	\$15 million	Technical assistance in institutional strengthening, regulatory development, EIAs and environmental management systems (EMS)

support this regulatory framework. The new Peruvian regulations promote cleaner production as the preferred method of environmental compliance, which is creating demand for environmental technology by its industrial sector. Peru was also the first country in Latin America to try to institutionalize ISO 14000. USAID is actively funding technical assistance projects to strengthen Peru's institutional capacity in environmental management, with over \$21 million in grants expected between 1997 and 2002.

Table 2 provides a summary of environmental business opportunities in Peru.

Ecuador

The environmental technologies and services market in Ecuador is approximately 17% of the total environmental market in the Andean Region, about one-third the size of Peru's market. Its principal exporting industries are petroleum (accounting for one-third of both public sector and export earnings), shrimp, and bananas (the world's largest exporter). Ecuador has been particularly beset by financial problems because of the collapse of oil prices in the 1980s and El Niño's impact on its agricultural sector.

Dr. Marco Encalada with Corporacion Oikos described business opportunities for

US environmental firms. His company is a Quito-based non-governmental organization that promotes pollution prevention to Ecuador's industrial sector. Ecuador's major market driver is the need to provide basic environmental services to its population (potable water, sewerage, and sanitary waste disposal). Large amounts of donor funding are available to address these problems. The Inter-American Development Bank (IDB) is the largest environmental donor in Ecuador (with \$350 million committed and another \$150 million in the pipeline), followed by the World Bank.

According to Dr. Encalada, local industry is using obsolete equipment, generating a need for technical transfer; however, Ecuador lacks interagency coordination and enforcement of environmental regulations. The best prospect for environmental technologies is process control equipment, but most Ecuadorian manufacturing industries are small and reluctant to invest in environmental control technologies in the absence of effective enforcement. The demand for environmental consulting services is small, but expected to grow as the government and municipal environmental agencies work to implement the new environmental regulatory framework. Institutional strengthening and regulatory support will likely dominate the environmental consulting market in the future.

Environmental business opportunities in Ecuador are summarized in Table 3.

Bolivia

The smallest environmental market in the Andean Region is in Bolivia, with only 12% of the region's market. The Bolivian economy is dominated by the mining sector, which accounts for 10% of gross domestic product. Industry is mostly small and medium-sized. Widespread poverty and public indebtedness remain significant challenges for the government institutions.

The major environmental market driver is the need to provide basic environmental services to its population. The availability of donor funding to address these problems is providing opportunities for US providers of environmental goods and services. The best prospects for environmental technologies are in municipal water supply and sanitation, process control equipment, and renewable energy technologies (solar, geothermal, biomass) in rural areas.

The environmental regulatory framework in Bolivia is weak with little or no enforcement, except for the multinational companies, particularly the oil industry, which are under scrutiny by regulatory agencies. The demand for environmental consulting services is likely to grow as Bolivia's regulatory agencies attempt to implement an environmental management framework adopted

Table 3. Environmental business opportunities in Ecuador

Market Sector	Market Size (1999)	Best Prospects
Water supply and sanitation	\$75 million	Water and sewerage pipes, pumps, water meters, construction of new transmission lines, storage tanks, pumping stations, and water and wastewater treatment plant equipment
Industrial wastewater treatment	\$3 million	Effluent treatment technologies for oil refining and food processing; effluent monitoring equipment
Air pollution control	\$3 million	Scrubbers, baghouses, and other emission control equipment for cement and petrochemical industries; ambient monitoring equipment, and vehicle emission inspection equipment
Waste management	\$12 million	Solid waste collection trucks, construction of transfer stations and sanitary landfills
Pollution prevention and cleaner technologies	\$3 million	Process control equipment
Environmental consulting services	\$14 million	Technical assistance in institutional strengthening, regulatory development, pollution prevention and energy efficiency, environmental management systems (EMS), project feasibility studies

Table 4. Environmental business opportunities in Bolivia

Market Sector	Market Size (1999)	Best Prospects
Water supply and sanitation	\$55 million	Construction of water supply and sewerage networks, drinking water and wastewater treatment plants; supply and installation of related equipment
Industrial wastewater treatment	\$3 million	Effluent treatment technologies for mining and oil and gas industry
Air pollution control	\$2 million	Ambient air monitoring and vehicle inspection equipment
Waste management	\$5 million	Collection vehicles, transfer and hauling equipment, sanitary landfill design and construction; mine tailings remediation technologies
Pollution prevention and cleaner technologies	\$3 million	Process control equipment, renewable energy technologies
Environmental consulting services	\$12 million	Technical assistance in institutional strengthening, regulatory development, pollution prevention and energy efficiency, environmental management systems (EMS)

in 1995. This will require significant outside assistance in environmental institution building through funding from multilateral and bilateral donor agencies.

Table 4 summarizes the environmental business opportunities in Bolivia.

Sources of Market Information and Assistance

US environmental firms considering the Andean market should start by consulting the report, recently published by the US Agency for International Development

(USAID), *Environmental Markets in the Andean Region: Bolivia, Ecuador and Peru* (August 1999). The report was prepared by Hagler Bailly Services, Inc. for the Environmental Export Council under the Latin-American Initiative for Environmental Technology, a cooperative agreement with USAID. The initiative is an umbrella program in Latin America that seeks to increase the role of the private sector in environmentally sustainable development by educating the private sector and encouraging investment in environmental technologies and services. The object of the report

is "to identify the most promising environmental markets in the Andean Region for US environmental technologies and services and to educate US environmental exporting companies on how to access those markets."

One of the objectives of the USAID conference in San Diego was to provide US environmental firms with sources of governmental and non-governmental organization market information and assistance. US and state export trade development agencies can assist US firms in finding trade

leads, identifying local partners and distributors, and securing financing. The USAID market report and its appendices contain detailed lists of agencies and contacts, both in the US and Andean Region, which should provide invaluable assistance to US firms exploring market opportunities. Included among the list of US agency contacts are:

Business Development Assistance

US Department of Commerce

- Office of Environmental Technologies Exports (ETE)
- US and Foreign Commercial Service (The Commercial Service)
- Advocacy Center
- Trade Information Center
- Office of Multilateral Development Bank Operations
- Export Assistance Centers

US Agency for International Development (USAID)

- Global Technology Network (GTN)
- Environmental Technologies Network for the Americas (ETNA)
- Business Support Services (BSS)
- Technology Assistance Centers (TACs)
- Latin America Fund for the Environment (LAFE)

US Trade and Development Agency

Financing Assistance

Export-Import Bank of the United States (Ex-Im Bank)

Overseas Private Investment Corporation (OPIC)

- OPIC Allied Capital International Small Business Fund
- OPIC Global Environmental Emerging markets Funds I and II

US Small Business Administration

US environmental firms can also receive export assistance from several non-governmental organizations including: the Environmental Export Council and the International Technology and Trade Network. Specific assistance in pollution prevention can be obtained from the National Pollution Prevention Roundtable and the Western Region Pollution Prevention Network.

Summary and Conclusions

The Andean Region of South America has emerged as a potentially significant new market for US environmental businesses that provide pollution prevention technologies and services. Peru is the largest market for environmental goods and services in the Andean Region, with over 60% of the market, followed by Ecuador and Bolivia.

The largest market segment is water supply and sanitation, with the best prospects in process control equipment. New environmental impact assessment requirements in Peru, Ecuador, and Bolivia have also created a market demand for environmental consulting firms. A local partner is not a requirement, but is extremely helpful in overcoming language and cultural barriers.

The major market constraint in the Andean Region is the lack of financing to pay for new environmental technologies, especially for small and medium-sized businesses. US firms attempting to market technologies in the region should include a source of financing in their package. The US Department of Commerce can be very helpful in identifying market opportunities, business partners, and sources of financing.

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