

6. Environment and Pollution Control Equipment/Services

Rank of Sector: 8

Name of sector: Pollution Control

ITA Code: POL

Overview

	2003 (actual)	2004 (actual)	2005 (estimated)
Total Market Size	430	480	520
Total Local Production	275	290	320
Total Exports	0	0	0
Total Imports	155	190	200
Imports from the U.S.	13	15	20
Exchange rate (US\$/VND)	15,450	15,700	15,900

* The above statistics are in USD millions and are unofficial estimates.

* Based on the total ODA funding of environmental projects underway and in the pipeline, as well as projects undertaken by urban and industrial entities including water resources funds.

As a result of rapid economic development, population growth, and urbanization, Vietnam faces significant environmental challenges. In 2005, Vietnam's pollution "hot spots" included solid waste, water and air pollution, with water pollution and solid waste treatment being the biggest challenges for the Ministry of Natural Resources and Environment (MONRE). According to MONRE, Vietnam's environmental situation is deteriorating due to a lack of governmental resources to address these issues.

Best Products and Services

Equipment and services for municipal water supply and wastewater treatment

Municipal Water Supply

According to Vietnam's Ministry of Construction, only 200 of the country's 689 cities provide clean drinking water through central municipal treatment plants. These potable water treatment plants have an average capacity of 500-3000m³/day. Two-thirds of the potable water is derived from surface water and one-third is from underground sources.

At the above production rate, only 60 percent of the population has access to clean water. Meanwhile, the average rate of clean water leakage in urban areas is 36 percent and reaches 50 percent in some places. In order to improve this situation the government issued a development plan for water supply with the objective of providing clean water for 80 percent of the population by the year 2010. The Vietnam Water Supply and Sewage Association (VWSA) estimates that total investment for water supply projects will be more than \$2 billion over the next ten years.

Pollution levels in surface water and ground water are another critical concern of the government. According to new research by the Department of Natural Resources and Environment in Ho Chi Minh City, total organic carbon (TOC) content of groundwater in some places is 31-86mg/l. Biochemical oxygen demand (BOD) of some large rivers supplying water to municipal water treatment plants is higher than 5mg/l. Meanwhile, all drinking water treatment plants in Vietnam lack the ability to reduce BOD levels. In order to upgrade the current treatment process in Ho Chi Minh City alone, the government must invest \$133 million per year for the next five years, which represents one percent of the city's GDP.

Wastewater

Domestic wastewater

Drainage and sewage problems also represent a growing concern. Vietnam's rapid urbanization and industrialization over the last ten years have placed huge demands on its outdated sewage systems, most of which were constructed in the 19th century. Most drainage systems are for combined usage, mixing rainwater runoff with untreated domestic wastewater. At present, except for Can Tho and Danang, both of which have projects underway to collect domestic wastewater for treatment, none of the cities or provinces within the country has a centralized wastewater treatment plant.

Industrial wastewater

Industrial wastewater is also having a negative impact on the environment. Throughout the country, there are 74 industrial zones (IZs) operating, four of which are export processing zones and another two being high-tech parks. According to a 2004 government report, only 15 IZs have centralized wastewater treatment plants. In Ho Chi Minh City, only five out of 15 IZs & EPZs have established wastewater treatment systems. This has resulted in the direct discharge of untreated industrial wastewater into the environment. However, responding to the lead of good corporate citizenship standards practiced by many multinational corporations, this problem is drawing greater attention from both the government and private sector. City authorities have decided to relocate industrial polluters from residential areas to regulated zones or industrial parks. To help local businesses with relocation efforts, financial assistance programs have been launched under the Environmental Revolving Fund and the Development Assistance Fund, which should attract more pollution control equipment investment in the coming years.

Solid waste

Domestic solid waste

Another great concern is the mass accumulation of solid waste in the country. According to the Ministry of Natural Resources and Environment, more than 20,000 tons of solid waste is generated in Vietnam each day, of which 6,000 tons is generated in Ho Chi Minh City.

Up to now, burying domestic solid waste at landfills has been the only treatment method used in Vietnam. In Ho Chi Minh City, there are three landfills under operation and another is planned. However, only one of these three landfills has a treatment facility for

the wastewater leakage. The leachate from the other landfills is causing severe pollution to underground water in the surrounding area. Several American companies are now pursuing investments in solid waste treatment facilities in Ho Chi Minh City and other parts of the country. Two major projects proposed by American firms have already received Vietnamese Government approval.

Hazardous solid waste from factories and hospitals

Except for solid waste from hospitals that is collected and burned in a controlled environment, most industrial waste is still disposed together with domestic waste without proper treatment. Currently, there is no industrial waste management and control system in place in Vietnam. Contamination from pesticides and agricultural chemical runoff is growing at an alarming rate.

Opportunities

American technology is considered the leader in environmental equipment and technology. Vietnam currently has a huge requirement for equipment, technology and services, thus American environmental companies will find numerous opportunities to export their products and services to Vietnam.

Resources

Information relating to environmental projects can be collected by working with the Ministry of Natural Resources and Environment / Division of Environment and the Environmental Protection Agency of every city.

Further information on environmental projects can be obtained from the U.S. Commercial Service in Ho Chi Minh City and Hanoi via the following addresses and website:

- Ms. Ngo Anh, Commercial Specialist
U.S. Commercial Service
U.S. Embassy in Hanoi
Email: ngo.anh@mail.doc.gov
- Ms. Vo Thuy, Commercial Specialist
U.S. Commercial Service
U.S. Consulate General in Ho Chi Minh City
Email: vo.thuy@mail.doc.gov