

Focus on Sustainability and Green Business Opportunities in Asia

In 2009, Asian governments have committed more than \$300 billion for green industrial projects as part of fiscal stimulus. The majority of these funds will be spent in 2010. (The Economist, Nov. 13, 2009) For APBO 2010, the Country Outlook sessions will feature "sustainability business opportunities"— energy and water conservation, renewable energy and clean coal technologies as well as the wider green technology industry. APBO's Country Outlook speakers will describe the best sustainability and green business initiatives in their respective countries, some of which are mentioned below.

AUSTRALIA / NEW ZEALAND: A 20% Renewable Energy Target by 2020.

Energy is a major driver of Australia's economy and energy security is a major focus for the Rudd Government. Australia ranks 20th as the world's largest energy consumer-- quite high relative to its population of 21 million. Australia's economy is energy intensive, and 84 percent of Australia's energy consumption comes from non-renewable energy sources. Energy exports are a significant percentage of Australia's trade balance. The production and use of clean energy is set to play an increasing role in Australia's future, with legislation passed in 2009 to require a 20% renewable-energy target by 2020. The government of Australia is investing A\$4.5 billion in renewable energy demonstration programs. Technology areas funded by the Australian government include, but are not limited to, wind, solar, geothermal, and wave technologies. There are significant opportunities for U.S. engineering, consulting, and equipment firms.

~ David J. Murphy, Senior Commercial Officer, Sydney

CHINA: A \$100 Billion Renewable Energy Market

Widespread pollution and environmental degradation has accompanied China's incredible economic growth. And facing limited energy resources and inefficient use of energy, the central government has made clean technologies and energy efficiency a strategic priority. The Chinese government set the 2006-2010 Plan targets to reduce energy intensity per unit of GDP by 20% and reduce major pollutant emissions by 10%. Although renewable energy now accounts for 6% of the energy mix, China's goal is to increase that percentage to 15% of total energy consumption by 2020. This is driving China's \$100 billion renewable energy market for Clean Transportation, Energy Efficiency in Buildings and Urban Planning & Design, Decentralized Power Generation & CHP, Renewable Energy, Hybrid/Smart Grid, Clean Coal (including Carbon Capture Sequestration), and Industrial Energy Efficiency.

~ William Zarit, Senior Commercial Officer, Beijing

HONG KONG: FTA with China Offers Cleaner Production Partnership Program

Hong Kong offers an excellent platform for U.S. suppliers of green technologies and services to take advantage of business opportunities in Greater China. One of the Hong Kong government's six top priority sectors, the Environmental Industry will create new programs worth billions in business opportunities. Hong Kong's free trade agreement with China and "Cleaner Production Partnership Program" with Guangdong Province gives companies with a presence in Hong Kong enhanced access to the Mainland's hundred-billion-dollar environmental products and services market. Hong Kong's strong IPR protection and rule of law provides a low-risk business environment that is especially attractive to SMEs venturing into the China market for the first time.

~ Andrew Wylegala, Senior Commercial Office, Hong Kong

INDIA: \$20B Solar Mission Launched

India has launched its National Solar Mission under the brand name 'Solar India'. The recently announced solar mega-project is the centerpiece of a National Climate Change Strategy. The strategy is aimed at expanding India's solar capacity from the current 3 MW to a reported 20,000 MW by 2022, costing an estimated \$20bn to implement. Solar India will create numerous opportunities for U.S. suppliers of solar energy technologies and services.

~ Carmine D'Aloisio, Senior Commercial Officer, New Delhi

INDONESIA: Institutional Barriers to Foreign Investment

As the world's third largest CO2 emitter and G-20 member, Indonesia wants to be a part of a global solution to climate change and realizes it must do its part to reduce emissions.

Indonesia is open to mitigation technologies to reduce its carbon footprint while not impeding the growth of two sectors which contribute enormously to the economy, agro-business and mining. Many clean energy technologies face stiff institutional barriers and a regulatory framework that prevents investment, so there is a lot of work to be done by the government before progress can be made.

~ Joe Kaesshaefer, Senior Commercial Officer, Jakarta

JAPAN: A \$540B Green Business Market by 2020

The Government of Japan's (GOJ) recently-announced environment & energy strategy anticipates a \$540 billion market in environment-related business by 2020, triggered by feed-in tariffs for renewable energy and an eco-point system of subsidies for energy efficient appliances and housing. More measures are expected in June 2010. By partnering with Japanese firms, U.S. firms with compelling environmental technologies and services can secure significant business both in Japan and in third-country markets. New laws in Japan are creating new business. For instance, Japan's recently revised Soil Contamination Law will increase demand for treatment/removal of contaminated soil prior to real estate transactions. This \$1.6 billion market will favor U.S. firms who have low cost in-situ soil and water treatment technologies and services for use in public and private remediation projects.

~ John Peters, Senior Commercial Officer, Tokyo

KOREA: Unprecedented Green Growth Programs Underway

Korea is the world's 10th largest energy consumer with virtually no domestic sources of energy. Korea imports 97% of its energy resources and ranks 6th in world in terms of oil imports. The Government of Korea has launched a series of initiatives to promote renewable energy, including campaigns for a "Low Carbon, Green Growth Plan." The program calls for the increase of renewable energy from 2.4% to 11% (as a percentage of their aggregate energy sources) by 2030. Targets for photovoltaic power are to increase from 80 MW to 3,504 MW; 2) targets for wind energy targets are 7,301 MW, from the current 199 MW; 3) similarly, bio energy is expected to grow from 1,874 KGcal to 36,487 KGcal; 4) and, geothermal energy from 110 KGcal to 5,606 KGcal. These ambitious targets are driven by a two-pronged effort: first, to stimulate and expand domestic industry through targeted investments; and, secondly, through partnering, technology exchange, or importation of advanced energy and energy-saving technologies. The United States is considered the foremost source of energy innovation technology for Korea. As the eighth-largest export market for the United States, consisting of nearly 30% "advanced technology products", Korea is a market with significant prospects for U.S. energy, energy-related, "green" technologies and products.

~ John Fogarasi, Senior Commercial Officer, Seoul

MALAYSIA: Challenges Remain for Solar Technology in Residential and Commercial Sectors

Malaysia has a roadmap for solar power with an anticipated installed capacity of 40 MWpv by 2030. This however would very much depend on the price parity of solar technology against fossil fuel. Malaysia being in the equatorial belt receives about 10 to 12 hours of sunshine daily and a radiation of approximately 4,500 kWh/m² but the take-up rate for solar power is low due to the high investment cost and the current efficiency of solar conversion technology available to the consumers. The potential for Building Integrated Photovoltaic (BIPV) in the residential and commercial sector is huge. Considering only the low power PV of 1kWp for every home, with the potential demand for 1 million units of housing and commercial space over the next 5 years, the potential market size is US\$7 billion. However all these will come to naught if the following are not addressed: 1. the level of competency of local PV service provider; 2. Capabilities of service providers to improve their services and quality; 3. Installation and maintenance expertise. It is very important to provide the market with quality installation, reliable products and basic awareness to improve public confidence on this new technology. We know there are US firms that are able to compete overseas, but in these times of global competition with financial constraints, it will be challenging to look for firms with competitive technologies and services that are genuinely interested in competing for business in this region.

~ Nasir Abbasi, Senior Commercial Officer, Kuala Lumpur

MEXICO: Water Management, Treatment and Supply Opportunities

Mexico will host the UN Conference of the Parties (COP) 16, the next round of negotiations on climate change in November 2010. This event is expected to draw significant attention to Mexico, not only to its carbon emissions reduction efforts but green projects in all categories. From now until 2012, the end of President Calderon's term, Mexico set a goal to generate almost 8% of all electricity from renewable sources, up from the current 3.3% and a country-wide wastewater treatment goal of 100%, up from the current figure of 50%. U.S. companies will find opportunities in water supply, waste water and waste management and well as renewables. Take advantage of this over 3 billion dollar market.

~ Ann Bacher, Senior Commercial Officer, Mexico City

PHILIPPINES: A Renewable Energy World Leader

The Philippines' National Economic Development Authority (NEDA) is preparing a Medium Term Development Plan 2011-2017. This will serve as the government's economic blueprint for the new administration and incorporate policies and plans on environmental sustainability. The Philippines is already a world leader in renewable energy with a third of its total electric power needs met through renewable sources. A new Philippine renewable energy law (RE law) establishes a supportive policy environment that offers fiscal and non-fiscal incentives to equipment manufacturers with the goal of achieving 60% renewable energy generation by 2017. The Philippines is blessed with rich renewable energy resources including robust wind energy sites, ideal solar conditions, and an abundance of hydro and biomass resources. The RE law seeks to spur the development of renewable sources by providing incentives to investors, equipment manufacturers and suppliers.

~ Patrick Wall, Senior Commercial Officer, Philippines

SINGAPORE: A \$70M Energy Efficiency Technology and Services Market

According to a January 2, 2010 article in the *Straits Times*, energy efficient technology and services such as the reduction of electricity, water and gas consumption is a cornerstone of Singapore's sustainability drive. The market, worth approximately US\$70 million today, offers strong opportunities for consultants. The Government of Singapore has a number of programs and incentives designed to encourage and promote sustainability, for example, buildings can qualify to be certified with a Green Mark label which also confers tax benefits. Singapore hosts

the Singapore International Water Week annually in June to promote clean, affordable, sustainable water. Last year 420 exhibitors from 28 countries participated in the trade show element.

~ Dan Thompson, Senior Commercial Officer, Singapore

TAIWAN: 12 Major Projects Represent \$100B Investment

In 2009, Taiwan passed a Renewable Energy Act offering incentives to develop its renewable energy sources and reduce Taiwan's greenhouse gas emissions. Taiwan's goal is to increase its renewable energy capacity by 6,500 megawatts within the next twenty years and diversify the sources in to solar, geothermal, ocean, wind, non pumped-storage hydro, and waste-to-energy conversion projects. For example, Lockheed Martin Corp. and Taiwan have partnered on an Ocean Thermal Energy Conversion Project. In January 2010, Taiwan announced the master schedule of its i-Taiwan 12 Major Projects for the sustainable development of Taiwan featuring a combined investment of more than US\$100 billion, including public and private funds, over a six-year period (2010-2016). The 12 projects include urban and industrial zone renewal; coastal regeneration; flood prevention and water management; and sewer construction. These projects present an ideal opportunity for U.S. companies to penetrate the Taiwan market by partnering with local suppliers, contractors, and operators."

~ Gregory Wong, Senior Commercial Officer, Taipei

THAILAND: Bioenergy Production to Rise 20% Over Next 12 years

Thailand's Renewable Energy Projections through 2022 - With energy importation projected to rise to 70 percent from the current 60.8 percent, Thailand's Ministry of Energy is keen to strengthen Thailand's national energy security by increasing its production of renewable energy. As an agricultural country, Thailand will focus on the development of agricultural industry by-products into biofuels. Together with solar and wind energy, Thailand will boost its renewable energy supply to reach 20 percent of the overall energy demand by 2022. In tandem with the focus on bioenergy production (biomass, biogas, biofuels), Thailand plans to develop solar and wind energy production over the next 12 years. By 2022, solar energy will be increased from the existing 32 MW to 500 MW, wind energy from 1 MW to 800 MW, biomass from 1,610MW to 3,700MW and biogas from 46MW to 120MW. Total investment in these four sectors is expected to reach USD 9 billion.

~ Cynthia Griffin, Senior Commercial Officer, Bangkok

VIETNAM: US Firms Contribute to Energy Efficiency, Waste Treatment, and Civil Nuclear Power

Despite the global economic recession, Vietnam continued its momentum as a true emerging economy, posting a 5.2% GDP growth rate in 2009. Likewise, cooperation between the U.S. and Vietnam on environmental and sustainability issues continues to grow. In both the public and the private sector, we are seeing real opportunities for U.S. and Vietnamese entities to partner to reduce pollution, preserve biodiversity and respond to climate change. Whether through technical assistance, exports of energy efficient technology, investment in waste treatment facilities, and even civil nuclear power development, the U.S. has become a strong player in Vietnam's emerging market.

~ Donald Nay, Senior Commercial Officer, Hanoi