

P2E2 and Emissions Trading

What is P2E2?

P2E2 (Pollution Prevention Energy Efficiency) in Hong Kong is an environmental finance business model based on a U.S.-China program of environmental cooperation. There are two key features of this program: (1) End users in mainland China that have either a Hong Kong parent or subsidiary company may obtain P2E2 technology upgrades to their factories, power plants or real estate developments from a Hong Kong-based technical service company (called EESCO's for Environment Energy Service Companies) at no upfront, extra capital cost under the terms of a Hong Kong performance contract; and (2) Hong Kong-based EESCO's are paid in hard currency in Hong Kong for all P2E2 technical upgrade work done in Asian developing countries, including mainland China. Financing for P2E2 projects is provided by Hong Kong commercial banks as working capital and trade finance loans that benefit from loan guarantees, loan syndications, direct investment and other support from the Asian Development Bank and the International Finance Corporation of the World Bank Group.

How Does P2E2 Reduce Emissions?

P2E2-enabled facilities have reduced air, water and ground pollution as well as lower levels of electric power use. P2E2 transaction structures provide substantial financial incentives to technical service companies to introduce ever greener and cheaper industrial equipment and systems of production. When applied to power plants or chemical or other industrial plants that discharge greenhouse gases to the atmosphere, P2E2 techniques and technologies can lower emissions of greenhouse gases (CO₂, CH₄, N₂O, SF₆, PFCs and HFCs) as well as the leading air pollutants: sulfur dioxide (SO_x), nitrogen oxide (NO_x), respirable suspended particulates (RSP) and volatile organic compounds (VOC).

On December 5, 2006, the Hong Kong-based EESCO, Focus Energy Ltd., presented a Chinese power generation sector P2E2 case study at a workshop organized by the Federation of Hong Kong Industries and the U.S. Consulate General in Hong Kong. As a result of doing P2E2 upgrades to pumps and fans in a coal-fired power plant at Tongzhou, Jiangsu Province, and a gas-fired power plant at Weigang, Jiangsu Province, this EESCO was able to achieve total annual electricity savings of 6,142,000 KWh, which represented annual cost savings of RMB 3.1 million (\$US 375,303). By reducing the electricity consumed in order to operate these power plants, this EESCO reduced emissions of carbon dioxide by 5,528 tons of carbon dioxide per year or 0.9 ton of carbon dioxide per 1,000 KWh of electricity generated. As a result of the incentives the P2E2 initiative offers this firm to grow, this EESCO is now researching new P2E2 technologies that could enable it achieve much higher levels of cost savings and carbon emissions reductions.

What Effects Will P2E2 Have on Emissions Trading?

P2E2 will contribute positively to the integrity, efficiency, liquidity, volume and transparency of an emissions trading system, whether trading is done for carbon or sulfur emission reductions and whether the emissions reductions are certified or voluntary.

P2E2 will contribute to the liquidity and volume of an emissions trading system by significantly increasing the pool of projects in Asian developing countries with verified reductions in emissions—and by extension, the number of certified or voluntary emissions reductions contracts. Under P2E2, the private sector identifies, selects, upgrades and monitors the environmental improvements in polluting, energy-wasting facilities. The more polluting and energy-wasting the facility, the higher the potential revenue for the technical service company able to mobilize the most effective P2E2 technology solutions from around the world. In effect, P2E2 turns Hong Kong performance contracts into proxy green bonds (with cost savings shares as the coupon-equivalents) for environmental improvement projects in China (or other Asian developing countries); and Hong Kong EESCO's into proxy green bond issuers for end users in mainland China (or other Asian developing countries). P2E2 tends to remove past impediments to environmental improvement created by declining public sector budgets, competition between environmental protection and rapidly increasing economic growth; uneven enforcement of environmental rules and lack of public support for eco-taxes.

Where the projects have been identified by the host government as a Clean Development Mechanism (CDM) project, then P2E2 lowers the cost to the end user of generating a Certified Emission Reduction (CER) contract. P2E2 has the same effect of reducing costs for the end user where projects generate voluntary emissions reductions (VER).

Since P2E2 in all cases combines cost savings with environmental improvements, many companies whose primary motivation may not be environmental protection will find the P2E2 approach attractive. For example, U.S. or other foreign investors in mainland China will find P2E2 a useful tool in: (1) making their own facilities more cost-competitive, more environmentally compliant and more acceptable to foreign buyers in societies with strict environmental requirements; (2) increasing the value of an otherwise polluted—and discounted—industrial or real estate asset; and (3) making their global businesses more acceptable as examples of Corporate Social Responsibility to shareholders, regulators and consumers in their home countries, including not only by greening their own operations, but also by greening their supply chains in developing countries. In all of these scenarios, the volume of VER contracts will increase as the business linkages increase between the developing countries employing P2E2 and the developed countries purchasing the resulting VERs (or CERs). P2E2 works well under either a conventional “cap and trade” system or a cap-less “save and trade” system where end users seek P2E2-generated cost savings as well as VER trading revenues.

P2E2 will contribute to the integrity, efficiency and transparency of an emissions trading system by providing third party Measurement and Verification firms that can as independently and accurately monitor emissions reductions as they can cost savings.