

Energy efficiency in Germany

Energy efficiency is the key to sustainable development and national energy security. Awareness of this and increasing energy demand in the Asia-Pacific region led the APO to organize several projects on energy management and energy efficiency. The most recent was an observational study mission to Germany on Energy Efficiency, 27 September–1 October, in collaboration with Adelphi Consult GmbH. Twenty-five energy professionals from 13 member countries attended along with APO expert Arvind K. Asthana. Twelve presentations and nine site visits were packed into the five-day mission. Each demonstrated energy efficiency initiatives in Germany and dealt with the introduction of governmental policy and support, best practices of energy efficiency in industries and buildings, and renewable energy applications by public and industrial facilities and institutions.

The importance of governmental intervention and support for improving energy efficiency was underscored by a presentation from Energy Efficiency Policy Division Deputy Head Michael Schütz, who explained Germany's short- and long-term energy policy with various laws, directives, regulations, and incentive programs. The visit to the Federal Environmental Agency showed the German government setting an example in energy efficiency. The agency's headquarters were designed to maximize energy conservation and air hygiene. The construction materials and design reduce electrical consumption with the use of natural light, energy-efficient work and cooling systems, and waste heat.

Other site visits provided concrete examples of best practices in energy systems and infrastructure. At the Berlinbiotechpark industrial complex, the utility system is centralized around a common cogeneration plant, wastewater treatment, and security system. The utility cost reductions benefit every company in the park. At UFA Fabrik, an 18,000-m² international cultural center, an innovative ecology system includes rainwater collection for water and toilet use, a solar system producing 53 kW, wind turbines producing 700 kW, a combined heat and power plant, and green rooftops. Evangelic Hubertus Hospital is a Friends of the Earth's Energy Efficiency Award winner for its outstanding contribution to energy savings and climate protection in the medical sector.



Examining a model of the energy system of Berlinbiotechpark

Reward requirements include a 25% CO₂ reduction in the past five years, continuing reduction in energy consumption, and energy management.

The mission also provided an introduction to new ideas and technologies. At Puls Energy House, participants toured an energy-efficient demonstration house equipped with vacuum insulation, fresh air circulation, and passive cooling from the rooftop. Martin Pool of Pool Architekten gave a presentation on design and technology, and the need for zero-energy buildings was appreciated by all participants. At Humboldt University's Physics Institute, Project Coordinator Marco Schmidt explained the technical details behind rainwater management and adiabatic cooling systems.

"What touched me most was the basic fundamental success factors in all these practices and activities. This embodies the German people's passion for living in a sustainable environment," commented Chairman Luk Chau Beng, Institution of Engineers, Malaysia. Participants were advised to establish future strategies and action plans for applying these best practices in the Asia-Pacific context. 