

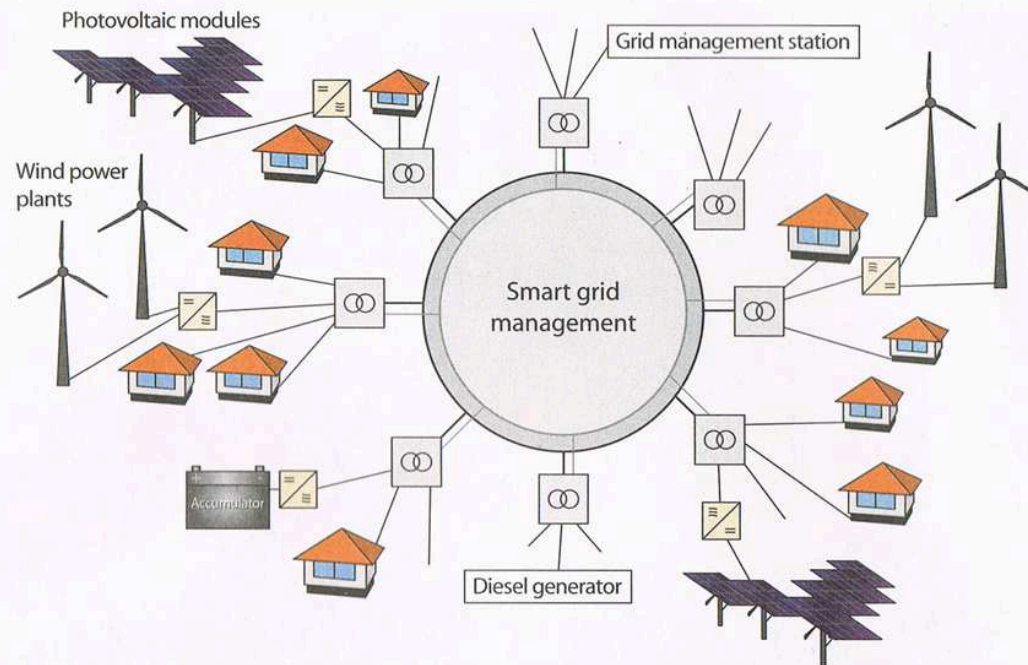
Power to the people

The Westhaus smart electricity network combines renewable energy sources with a distribution system that works off-grid

The Westhaus Group has unveiled an innovative and economical supply network for rural areas without access to a public electricity grid. At the heart of the system are battery-buffered modular inverters with high overload capacity combined with an intelligent low-voltage distribution management.

The grid management, which consists of smart-metering distribution nodes and IP-connected outlet units for every household or small-business user, guarantees, in combination with the inverter, outstanding power availability for the end customers and automated or prepay-billing. The entire system can be remote-controlled and managed with a standard personal computer with internet browser, which makes it attractive for local investors because immediate payback is secured for delivered energy.

According to the local conditions, an optimised renewable energy mix consisting of photovoltaic, wind, hydroelectric power or, if available in future, conventional electric energy



Schematic plan for the Westhaus smart grid

from power or transformer stations can be fed into the system which ensures economic and reliable operation in all regions.

Additional backup power is provided by a storage battery and a diesel generator or a block heating and generating station which covers periods with limited renewable power

or frequent peak load demand. The generator running time is automatically controlled by the grid management to minimise fuel costs.

The entire system is designed for lowest maintenance costs, automated visual failure diagnosis and straightforward operation to enable locally available personnel to manage

the system after a brief training phase. The modular design minimises spare part storage charges and enables the operating staff to replace faulty modules with short turnaround times.

Calculations of kWh-costs show keen competitiveness compared with conventional solutions.

Westhaus offers on-site installation and staff training to allow localised control. However, the complete system can also be monitored remotely from the company's service centre.

The Westhaus Group is a medium-sized independent group of hi-tech companies based in Germany and the United Arab Emirates. With its activities and partner companies in the Middle East, Westhaus provides economical turnkey solutions for energy transmission, distribution and generation. The main focus is to realise cost-efficient renewable power islands with smart grid management for rural areas. The new Westhaus utility management system allows economical power generation and distribution, tailored for investment in developing countries. ■