

Distributed Generation: Giving Customers a Choice in Energy Sources

On a traditional power grid, energy generation and distribution were relatively simple. The generator produced electricity at a plant, and the transmission system carried electricity from the plant to substations. At the substation, the voltage was reduced and electricity continued to travel through the distribution system, where transformers converted it into the voltage used by customers. At the customer's site, electricity passed through the meter, which recorded usage as electricity was consumed.

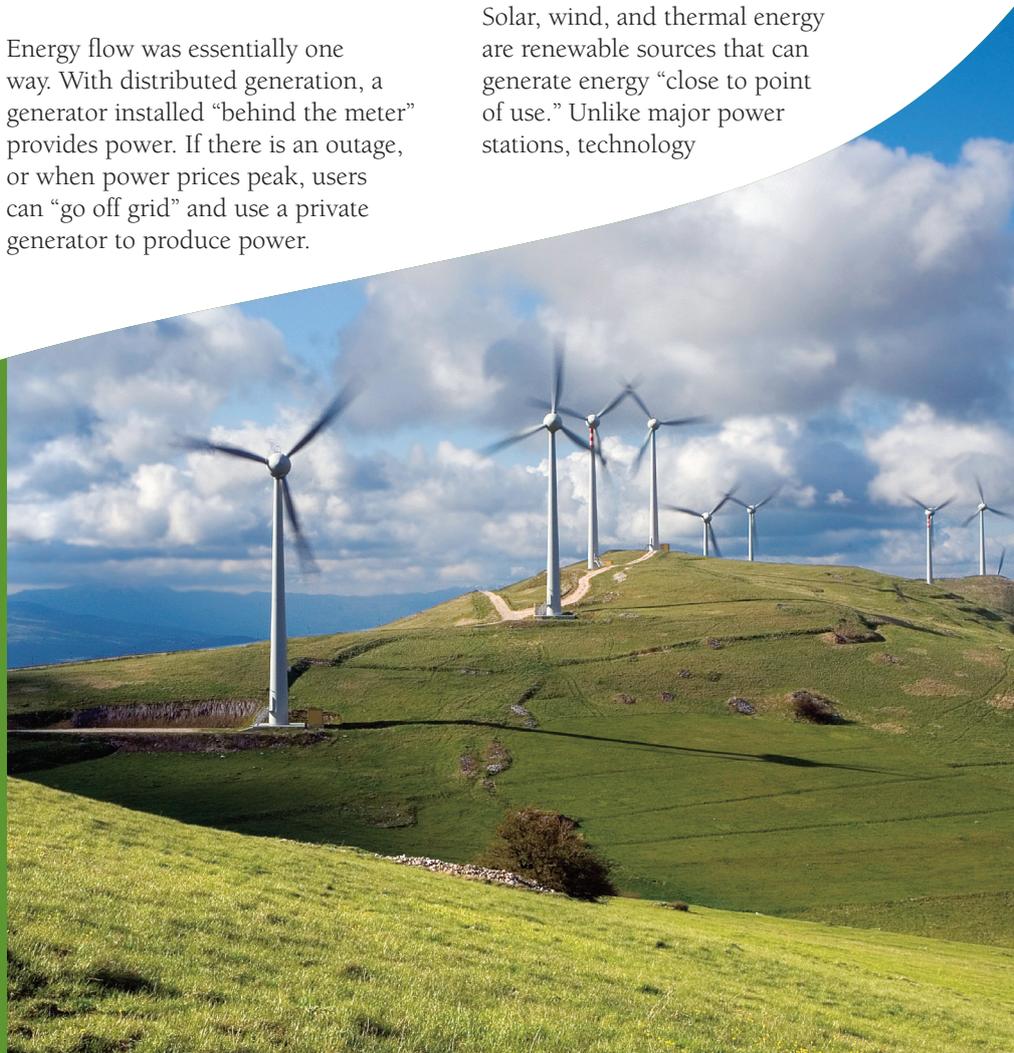
Energy flow was essentially one way. With distributed generation, a generator installed "behind the meter" provides power. If there is an outage, or when power prices peak, users can "go off grid" and use a private generator to produce power.

On a smart grid with distributed generation, energy can be generated close to the point of use. Those who produce this power have the option to "resell" it to the utility, and this exchange represents a new way to generate and distribute energy and a new kind of relationship between utilities and customers.

Hybrid Systems Combine Renewable and Traditional Energy Sources

Solar, wind, and thermal energy are renewable sources that can generate energy "close to point of use." Unlike major power stations, technology

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for generating energy from renewable resources can be installed in small increments.

Though renewable energy resources are less predictable than the power generated by traditional means, hybrid systems can utilize both renewable and traditional power.

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For customers, distributed generation supports increased electricity reliability and the increased use of renewable resources.

Within the smart grid, integrated into the smart home and monitored by smart metering, distributed generation is a new model for energy distribution and use. For the first time, energy flows to users as well as away from users, enabling utilities and their customers to work together to ensure that power is high quality, reliable and green.

Why are Capgemini's Smart Energy Services Unique?

Capgemini's Smart Energy Services are real, in the market now, and already making a difference for utilities around the world. We support utilities and their customers by delivering sustainable energy efficiency and environmental solutions—transforming utility operations and customer fulfillment. Our commitment is strong with more than 7,000 professionals dedicated to the utility sector.

Capgemini's Smart Energy Services:

- Have extensive utilities industry experience with an unequalled track record for successful innovation and delivery. We offer our clients lessons learned and a growing knowledge base
- Lead the industry in the delivery of smart energy solutions in mass deployment and production

- Offer a unique, turn-key solution called Managed Business Services, which has a usage-based pricing model
- Offer strategic relationships and delivery experience from an ecosystem of long-standing global technology partners

For more information about Smart Energy Services, please visit www.capgemini.com/smartenergy

Smart Energy Services—Experience Reduces Risk

Capgemini's Smart Energy Services (SES) provides the full spectrum of smart metering, smart grid, smart home and smart analytics solutions through leveraging best practices developed over the last 10 years working alongside the world's leading utilities. Our team has extensive utilities industry experience with an unequalled track record for successful innovation and delivery. We are helping over 43 million utility customers by delivering sustainable energy efficiency and environmental solutions—transforming utility operations and the customer experience. Our commitment is strong with more than 8,400 professionals dedicated to the utility sector. More information is available at www.capgemini.com/smartenergy



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