

The evolution of energy services in support of small scale detached sustainable solutions



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Toward a sustainable solution...

- Smart Power (electricity) Grid vs. Smart Energy Grid
- Decentralization/Democratization
- Sustainability

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”
(Brundtland Report).

- Environmental
- Economical
- Social





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Challenges and Opportunities of Data Management in a Smart Grid

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Challenges

- Collecting the data: AMI, smart meters, two-way digital communications, pretty mature.
- Processing and storing the data
 - Quality of data is important.
 - Volume of data is huge: used to be one read per customer per month, now every 15 minutes.
 - Data mining, knowledge mining, fast responses to changes
- Protecting the data
 - Backup, security, etc

Opportunities

- Data utilization
 - Faster response to changes
 - Learning customer preferences and behavior
- Development and deployment of algorithms, software, and hardware utilizing the data to improve reliability and efficiency