

## Smart Grid, Distributed Power Technology & Alternative Energy Sources Emerge

### Power Systems Herald A New Age

The Energy venue is saddled with an aging infrastructure, approximately 60% of which will need to be replaced in the next 10-15 years at a huge cost to companies and communities. Because of this, the utility market is motivated by a desire to better optimize the existing infrastructure through the management and monitoring of power generation, distribution and quality. In addition, competition for customers is rapidly increasing, making improvements in customer service an important issue.

In order to meet these needs, utility players are starting to take a more proactive role in the monitoring of their transmission and distribution grid, as well as meters and power devices at customer sites. Some hesitancy in the power venue is due to companies' concerns about security. So far, it seems that networked power equipment, including distributed resources, has been addressing this concern with dedicated networks and intense security controls to monitor and control utility resources.

Electric utilities have equipment spread out over a wide area. Monitoring of power equipment reduces the time and expense of servicing these systems by providing more timely and accurate information about their health. Moreover, this equipment can be run at higher outputs when more is known about operating conditions. Embedding more and more intelligence into power devices and systems will allow the world's existing grid assets to become smart from "the inside out" while also allowing for network management of new power producing assets such as wind power, PVC and related distributed resources. The emergence of smarter power systems will also allow for the management of micro-grids.

### Key Forces & Trends

The Energy venue appears to have the right mix of technology, legislation, and suppliers to enable significant growth in pervasive networking and M2M communications over the next decade. Constant improvements in technology have made remote monitoring viable, as costs have been driven down to the point of allowing for extremely high ROI. Legislation has created significant space in the sector for technologies to drive efficiency, as lawmakers are looking for ways to improve the dependability of national infrastructure.

Unprecedented growth is slated for alternative energy sources such as PVC and wind power. The build-out in the wind power sector alone is driving major investments in all corners of the world.

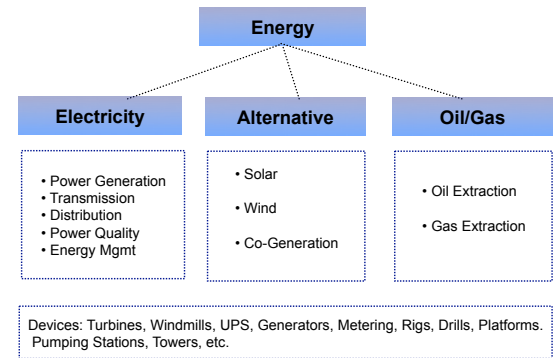
### Harbor Venue Coverage

Venues and markets we address in our Pervasive & M2M research and analysis include:

- Energy & Power
- Industrial Systems
- Retail
- Smart Homes & Buildings
- Healthcare
- Physical Security
- Transportation
- IT & Comms Systems

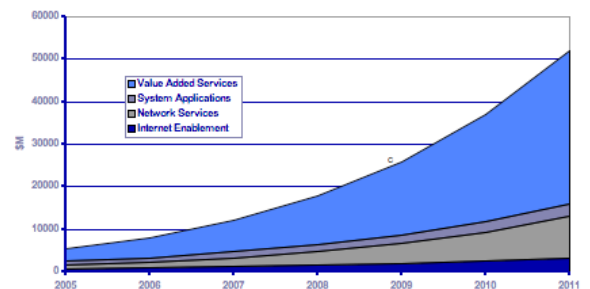
### Energy Venue Segmentation

The Energy Venue includes oil & gas infrastructure, alternative energy, and power generation & transmission systems.

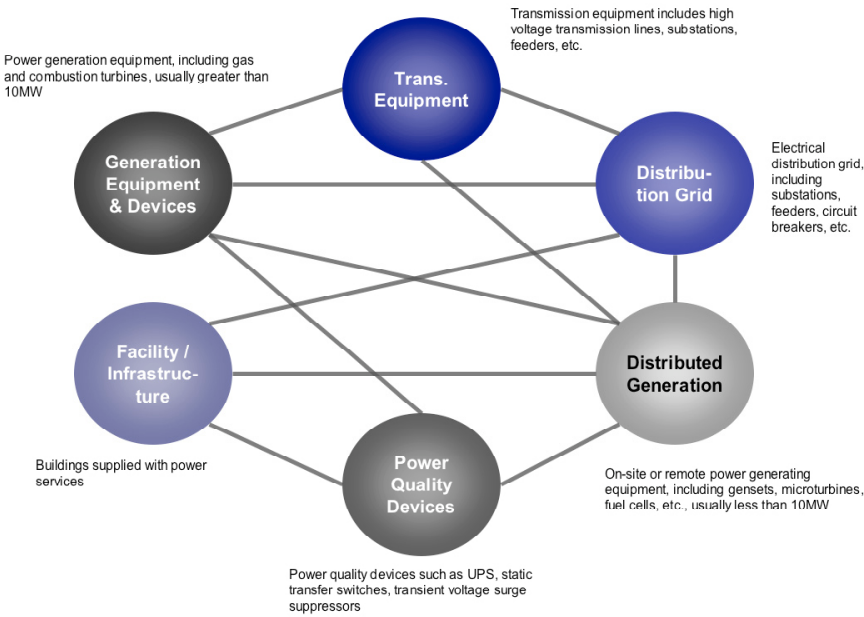


### Venue Scale & Growth Potential

Value added capabilities and managed services within the Energy Venue could grow to as much as \$50+ billion by 2012.



Natural gas and petroleum prices are clearly the major force in the industry, and also the main driver for the record-setting prices of the past several quarters. Such margins, in fact, have allowed large oil companies to reinvest in core businesses, pursue M&A activity for heightened inorganic growth, and explore new technologies to improve efficiency, such as M2M and remote management solutions. Potential legislation may affect this sector, especially as the U.S. government examines these companies to see if profits came at the expense of fair competition.



Monitoring has several particular bright spots within the energy sector, particularly through remote monitoring of field devices and supervisory control and data acquisition (SCADA) systems. The further development and implementation of remote monitoring services will significantly decrease the reliance of energy companies on technician monitoring, which has typically been very labor-intensive and costly. Costs of sensors have dropped as competition and technological innovation has spurred many suppliers, while at the same time, these sensors are able to utilize local wireless networking to keep installation expenses manageable. This will allow for improved profit margins and more efficient, real-time understanding and management of these devices.

## We Clarify the Business Value

We understand that most potential adopters see the M2M / Pervasive Internet world as a daunting terra incognita. The technologies are difficult, the standards are constantly evolving, and the vendor landscape can seem fragmented and bewildering.

We make industry knowledge a key element of our toolkit. In order to keep ourselves fully up-to-date we perform continual analysis and research into specific markets and the maneuvers and strategies of the best performers. Our ongoing research gives us a rich context in which to view each client's opportunities and challenges.

We have direct consulting experience with virtually all the supply side and adopter segments within the over buildings arena

## About Harbor Research

Harbor Research, Inc. has been providing strategic consulting and research services to leaders in communications, computing, control, equipment and content since 1983. Harbor's keen eye toward market results is manifest in all of our processes and tools, providing clients with the perspective they need to make best-informed decisions.

We emphasize interactive analyses, the incorporation of outside perspectives, time-efficient workshops, and action-oriented decisions. Our multifaceted approach, ranging from the research we publish to the fully customized consulting engagement, provides optimal value to our clients and has also allowed us to develop important advantages as a firm.

## Contact Us For More Perspective

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