The Next Generation Energy Company: Transforming to Enhance the Customer Experience

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40,000+
Miles of Transmission

5.4M
Customers in 11 States

32GW
Owned Generation

$31B
Current Market Capitalization

$62B
Total Assets
Vision of Path to the Future is Impaired by Formidable Obstacles

We think we can see clearly the Utility of the Future...

...but when we look more closely, it’s not completely clear how we get there
Strategically, that future includes a renewed emphasis on the customer experience

• Driven by customer & stakeholder desire for cleaner, more efficient energy resources

• Improving reliability/resiliency

• Transforming our generation fleet: greener, more modular, less capital at risk

• Delivering the smart energy technologies and services our customers want
But speed bumps impede the journey

- Not all stakeholders want or can afford the same solution
- Regulatory paradigms are all over the map
- Resilient grids cost $$$$: Willingness to pay???
- Transforming the generation fleet: Balancing diversity and shareholder risk
- Smart energy technologies: gimmicks or “killer apps”??
Our 2016 Integrated Resources Plan

**AEP SYSTEM PLANNED GENERATION RESOURCE ADDITIONS**
regulated and AEP Ohio Purchase Power Agreement


<table>
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<th>10 MW</th>
<th>21 MW</th>
<th>104 MW</th>
<th>64 MW</th>
<th>154 MW</th>
<th>305 MW</th>
<th>172 MW</th>
<th>168 MW</th>
<th>166 MW</th>
<th>168 MW</th>
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<th>216 MW</th>
<th>176 MW</th>
<th>166 MW</th>
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<tbody>
<tr>
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<td>700 MW</td>
<td>300 MW</td>
<td>250 MW</td>
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<td>250 MW</td>
<td>150 MW</td>
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3,108 MW  6,300 MW  3,400 MW  Total


Wind and solar represents nameplate MW capacity.
AEP Technology Development

- **Generation**
  - NGCC
  - Utility-scale Wind & Solar PV
  - Innovative Power Cycles
  - Clean Coal (CCUS)
  - Advanced Nuclear

- **Transmission**
  - Community solar PV
  - Energy Storage
  - Microgrids

- **Distribution**
  - Recip Engines & Aero Turbines
  - Combined Heat & Power
  - Hybrid Technologies
  - Fuel Cells

- **Customer**
  - Rooftop PV
  - Energy Storage
  - “Smart” Home

- **Data/Feedback/Preferences**
  - Options/Solutions/Satisfaction

- **Improved Technology**
  - Monitoring & Diagnostics
  - Lean Principles

- **Develop and deploy new generation technology, systems and equipment to support the integrated grid of the future.**

- **Explore opportunities “Behind the Meter” to improve overall grid efficiency and maximize customer benefits.**

- **Improve the efficiency, reliability, flexibility & maintainability of the existing generating fleet.**
Developing Unique Products and Services

Today

Universal Tariff Based Electric Service

Competitor Offerings

Unique Customer Offerings

Energy Supply

Custom Products & Services

• Energy Analytics
• Energy Marketing
• RTO Services
• Energy Delivery / Quality
• Energy Conservation
• Energy Efficiency
• Distributed Generation
• Energy Control
• Energy Procurement

Initiatives

• Solar and Storage
• Behind-the-Meter Technologies
• Volt Var Optimization
• Demand Management Platform (Pilots)
• Virtual Power Plant
• EV Charging Stations
• Fuel Cells
• Combined Heat & Power
• Biogas / Alternative Fuels

Grid Modernization

• BOLD™
• gridSMART®
• Asset Heath
• Two-way Telecommunications
# Data Analytics

## Customer
- Changes how we think about, serve and market to customers
- Supports meaningful dialog with regulators and stakeholders regarding tariff flexibility/changes, customer response requirements (i.e. “getting the rules right”)
- Establishes a 360° view of the customer that ties together initiatives to improve the customer experience
- Informs decisions regarding the design and viability of new consumer programs

**Potential value:** Significant customer satisfaction, program development and supported tariff changes

## Operational Excellence
- Sustain continuous improvements by utilizing data and models to determine optimal cost and performance profile
- Optimize workforce staffing models (i.e., use of contractors)

**Potential value:** Cost savings and cost avoidance

## Grid
- Improve reliability and reduce risk
- Further analyze smart grid data

**Potential value:** Incremental revenues, cost savings & avoidance, improved customer satisfaction

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- Build a foundation for the ‘Next Generation Energy Company’
- Extend the reach of insight to the enterprise
- Utilize current partnership with IBM to grow internal expertise
Rebranding / Customer Outreach

- Advertisements
- Focus Groups
- Rebranding Review
- Economic Development
Continuous Improvement / Lean Management

• Combination of the $ impact of transformative capital

• And....low load growth

• Balancing investments with customers ability to pay and investors demand for annual earnings growth