Lugar Center Conference

Energy, Environment, Economics
“The ThrEEEes”

May 2017
Historic grid was one-way
Today’s grid is more complex
Customer trends are evolving

• **Energy efficiency increases** - utility sponsored programs, organic EE due to changes in standards

• **Smart meter deployments** - affecting Demand-Response and customer experiences

• **New rate structures** - Time-of-Use rates and Pre-Paid metering
Energy usage has changed

- Indiana GDP vs. Electricity Consumption

Between 1990 and 2010 there has been fairly consistent relationship between electricity demand and GDP. It all broke down after the recession.

Since 2010, GDP has been increasing while state electricity demand has been flat.

GDP: Gross Domestic Product
End-Use Efficiency Impact

• By far, the largest impact on sales over the last five years can be attributed to residential and commercial end-use efficiency improvements.
Commercial End-Use Intensities

- Energy intensities derived from the EIA 2015 Annual Energy Outlook for the East North Central Census Division

![Graph showing energy intensities and AAGR]
Smart meters enable timely information

- Communications networks needed
- Enable granular and timely usage data, new rate options, and demand response
- Provide automated outage notification and power quality information
Projected Smart Meter growth

Figure 1: Smart Meter Installations in the U.S. Approach 70 Million; Projected to Reach 90 Million by 2020

State by state view

Figure 2: Smart Meter Deployments by State 2015

Percent of households with smart meters

- 0–15%
- 15–50%
- 50–100%

Meter data shows daily usage information

Mar 20, 2017 – Apr 18, 2017
My usage & weather

Find tips to reduce your use:
- Free steps to take
- Smart purchases
- Great investments

See iplpower.com to sign up for MyPowerView
Customers participate more fully in Demand Response (DR) activities

- Utility sponsored programs
- Independently
- Third party interaction
- With an RTO
- With Distributed Generation (DG)
Total Registered MW in PJM's Economic DR

http://www.pjm.com/~media/committees-groups/committees/mc/20170123-webinar/20170123-item-10a-markets-report.ashx
New rate options

• Time of use rates
  – Peak and off-peak $
  – Customers choose when to consume
  – Limited adoption if opt-in
  – Much higher adoption for opt-out
  – E.g. IPL EV vs. OG&E
  – Energy efficiency 5-7%

• Prepaid metering
  – Usually flat rate
  – Customers pay as they go
  – Monitor usage and decide how to consume
  – Technology costs
  – Energy efficiency savings - e.g. 12% SRP

http://www.srpnet.com/payment/mpower/
Forecasted prepaid metering growth in US

Thank you

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