LEVERAGING ADVANCED METERING INFRASTRUCTURE (AMI) DATA

Presentation to Illinois SAG
on behalf of Ameren Illinois

8/25/2020

Discussion Topics

- How AMI data has been used in AIC program administration and/or implementation to date; potential future use of data; and challenges

- How AMI data has been used in evaluation to date and potential future use of AMI data
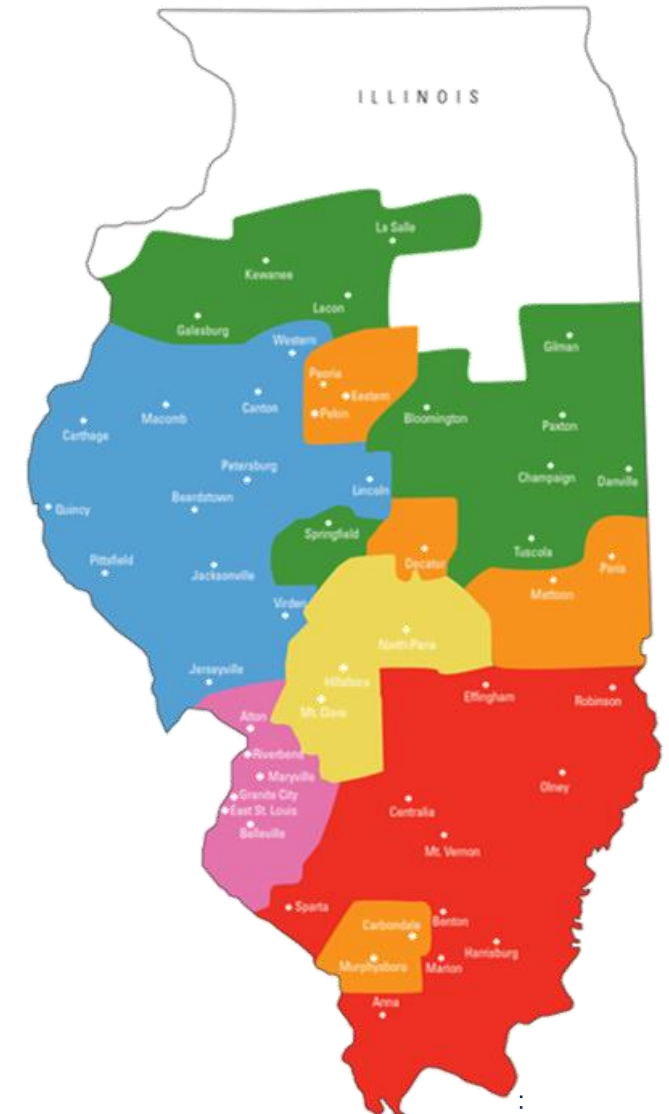
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Ameren Illinois AMI Data Usage

Status of AIC's AMI Rollout

- AIC has been deploying AMI geographically for both electric and gas meters over the past 6 years
  - AIC completed its electric AMI rollout as of the close of 2019
  - AIC has completed the gas AMI rollout for GDS1 & GDS2 customers and is currently testing AMI among the largest gas customers. Assuming testing goes well, deployment will be completed within 6-8 months

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Current and Future AMI Applications

- Energy Efficiency Programs and Pilots
  - Voltage Optimization
  - Business Behavioral Pilot
  - Virtual Commissioning Pilot
- Other Program Offerings
  - Power Smart Pricing: An opt-in program shifting customers to hourly pricing based on MISO day-ahead prices
  - Peak Time Rewards: An opt-in program providing bill credits to customers for reducing electricity usage during peak periods
- Program Targeting

> AIC is exploring a range of programmatic concepts that leverage AMI data as part of its 2022-2025 planning process

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Challenges

Data Transfer
- AIC has successfully completed AMI integration with implementation subcontractors for existing programs
- AIC and Opinion Dynamics are in ongoing conversations about how to ensure this goes smoothly for evaluation

Data Security
- Developing protocols with consideration to data access, anonymization, confidentiality, and disposal

BCA for AMI Use
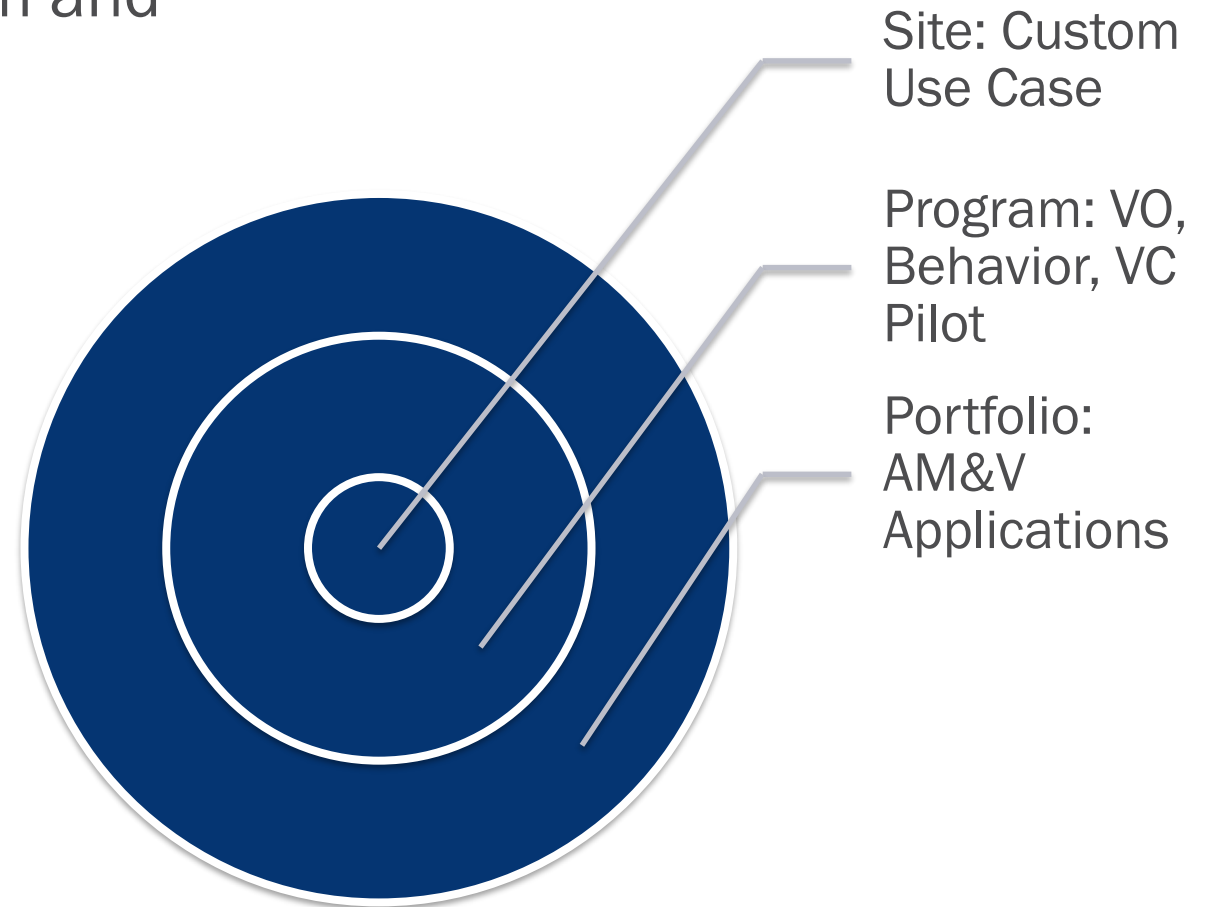- Selecting highest value use cases to support scale

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AMI Data Use in Evaluation

Evaluation approaches reflect AIC implementation efforts

- AMI use is nested across site, program and portfolio levels
- Supports economies of scale across implementation and evaluation
- Identified use cases include:
  - Virtual Commissioning Pilot
  - Business Behavioral Pilot
  - Voltage Optimization
  - Site-specific use
  - Advanced thermostat research
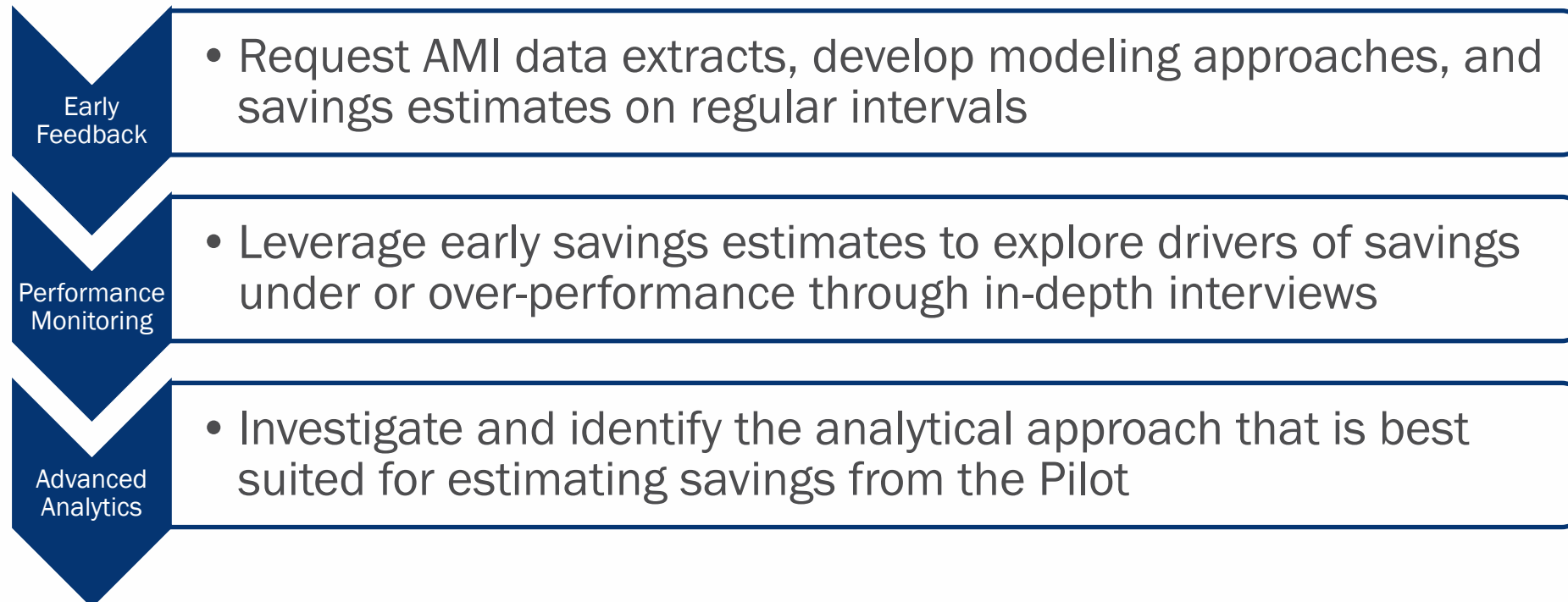 - Power Smart Pricing
  - Advanced M&V feasibility assessments

Site: Custom Use Case

Program: VO, Behavior, VC Pilot

Portfolio: AM&V Applications

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SAG AMI Presentation

Snapshot: Virtual Commissioning Pilot

- Power Takeoff analyzes customers' AMI data on regular intervals to:
  - Identify new participants and savings opportunities
  - Verify the persistence of participants' energy-saving actions
- For our evaluation efforts, Opinion Dynamics plans to:

Early Feedback
- Request AMI data extracts, develop modeling approaches, and savings estimates on regular intervals

Performance Monitoring
- Leverage early savings estimates to explore drivers of savings under or over-performance through in-depth interviews

Advanced Analytics
- Investigate and identify the analytical approach that is best suited for estimating savings from the Pilot

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SAG Discussion Topics and Questions

Question for Discussion

- Do SAG participants have suggestions or feedback on how AMI data is used during the next 4-year EE Plan (2022-2025)?

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