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## Opportunities and Barriers to Utility Infrastructure Efficiency

### What Is EUI Efficiency?

Electric Utility Infrastructure (EUI) efficiency is defined in Minnesota state statute (216B.136) as projects owned by an electric utility that:

- replace or modify existing electric utility infrastructure, including utility-owned buildings, if the replacement or modification is shown to conserve energy or use energy more efficiently, consistent with section 216B.241, subdivision 1c; or
- conserve energy or use energy more efficiently by using waste heat recovery converted into electricity as defined in section 216B.241, subdivision 1, paragraph (o).

#### Example EUI Projects:

- High efficiency transformers
- Low-loss conductors
- Generation heat rate improvements
- Conservation Voltage Reduction
- Varied measures at utility-owned facilities
- Substation waste heat recovery
- Upgrade to HVDC transmission lines
- Accelerated maintenance activities

### The Importance of EUI Efficiency

An estimated 12-15% of the nation's electricity production is consumed by generation auxiliary loads, transmission and distribution losses, and substation consumption (source: EIA). As such, there is significant potential to increase utility infrastructure efficiency by decreasing conversion losses, improving plant operations, and mitigating transmission and distribution losses throughout Minnesota's electric grid.

## Project Goals

Utilities can claim CIP energy savings from EUI efficiency projects the same way that they claim demand-side projects (after achieving 1% savings with DSM projects). However, there have not been a significant number of EUI projects claimed in this way, historically. Finding ways to improve the efficiency of utility infrastructure could be a major tool in meeting our state's conservation goals in the future.

The objectives of this project center on addressing the uncertainty that exists among stakeholders regarding how EUI improvements can be leveraged within Minnesota's policy and regulatory framework. To accomplish these objectives, there will be an in-depth exploration of both existing incentives and disincentives for utilities to achieve greater system-wide efficiency, regulatory and policy issues, as well as existing cost recovery mechanisms to fund EUI projects.

As part of this project, there will be four public stakeholder meetings to provide information and facilitate discussion on EUI barriers and opportunities in the state, including:

1. EUI technologies (July 28, 2017)
2. Regulatory and policy issues (October 20, 2017)
3. Financial incentives and disincentives (Early 2018)
4. Comprehensive discussion and roadmap (Early 2018)

The ultimate goal of these stakeholder meetings is to inform the development of a roadmap to better capture EUI efficiency opportunities – and improve the overall generation, transmission, and distribution efficiency of Minnesota's electric system.

## Additional Resources

To learn more about this study, and to sign up for periodic study updates, please visit the project website at: <https://www.mncee.org/mnsupplystudy/home/>

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