

With funding from the MN Department of Commerce, a team consisting of GDS Associates, The Cadmus Group, Center for Energy and Environment, and Demand Side Analytics conducted a potential study to quantify conservation opportunity in Electric Utility Infrastructure (EUI) assets owned and operated by utilities serving Minnesota consumers. Study findings indicate the potential for conservation is large enough that utilities should consider pursuing EUI projects as an important component of their Conservation Improvement Program (CIP) plans and policymakers should continue examining policies to lower barriers to implementation and drive utilization of EUI resources to meet CIP goals.

Overall Draft Results

Total Statewide Conservation Potential in MWh (equivalent MWh for generation) 2020-2039

	Generation	T&D	Total
Technical Conservation Potential	1,399,850	3,248,923	4,648,773
Economic Conservation Potential	786,782	2,178,860	2,965,642
Achievable Conservation Potential	786,782	1,154,317	1,941,099

Total Statewide Conservation Potential as a Percentage of Predicted Electric Sales 2020-2039

	Generation	T&D	Total
Technical Conservation Potential	0.08%	0.18%	0.26%
Economic Conservation Potential	0.04%	0.12%	0.16%
Achievable Conservation Potential	0.04%	0.06%	0.11%

Total Statewide Conservation Potential as a Percentage of CIP Electric Goals 2020-2039

	Generation	T&D	Total
Technical Conservation Potential	5.9%	13.7%	19.6%
Economic Conservation Potential	3.3%	9.2%	12.5%
Achievable Conservation Potential	3.3%	4.9%	8.2%

Percent of Total Conservation Potential by Sector and IOU/COU 2020-2039

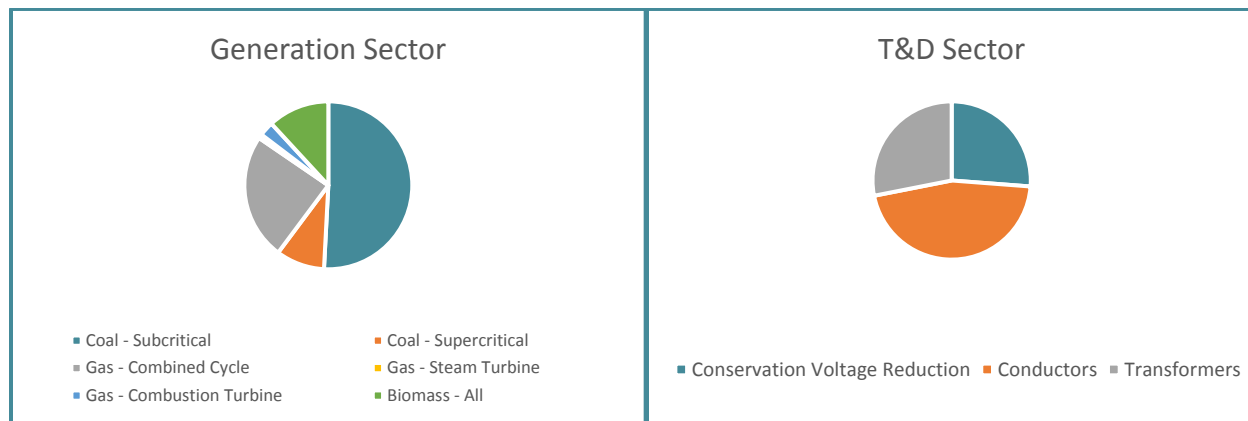
	IOU		COU	
	Generation	T&D	Generation	T&D
Technical Conservation Potential	20.8%	33.7%	9.3%	36.2%
Economic Conservation Potential	17.2%	39.0%	9.4%	34.5%
Achievable Conservation Potential	26.2%	31.7%	14.3%	27.7%

High-Level Conclusions

- EUI conservation opportunity is large enough that utilities should consider projects and programs to capture it
- Potential is not so large that EUI activities are likely to displace significant DSM initiatives on average, over time – though some individual projects may contribute to a large share of a utility’s savings goal in a given year
- Coal plants not scheduled for retirement offer the most opportunity for heat rate improvements and should be targeted for evaluation, if possible

- Low-loss conductors provide more opportunity than originally anticipated
- Almost all T&D opportunity is in replace-on-fail or end of life situations, with the remainder in new expansion (direct replacement of functioning equipment did not typically result in cost-effective opportunities)
- Below are several specific recommendations for utilities to capture EUI potential

Achievable Potential for Conservation by Technology



Additional Resources

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