Solar Energy Systems Tax Expenditure Evaluation Summary

Objective

The objective of the Solar Energy Systems General Sales and Use Tax Exemption is to incentivize and promote the implementation and utilization of solar energy systems in Minnesota to achieve a greater percentage of renewable energy contributions to the state's electricity fuel generation mix.

Background

Solar energy systems are exempt from the sales and use tax. A solar energy system is a set of devices whose primary purpose is to collect solar energy and convert and store it for useful purposes including heating and cooling buildings or other energy-using processes, or to produce generated power by means of collecting, transferring, or converting solar-generated energy. In order to receive the exemption, a purchaser is required to fill out Form ST3, Certificate of Exemption, made available by the Department of Revenue (DOR), and provide it to the seller as part of the transaction.

Summary Information

Year Enacted	2005
Statute	Minnesota Statutes, Section 297A.67, Subdivision 29
Tax Type	Sales and Use Tax
Provision Type	Exemption – Particular Goods and Services
Latest Fiscal Impact Estimate	$10,000,000 – Fiscal Year 2026
Latest Claims Estimate	Direct measure of this estimate not available
Expiration Date	None

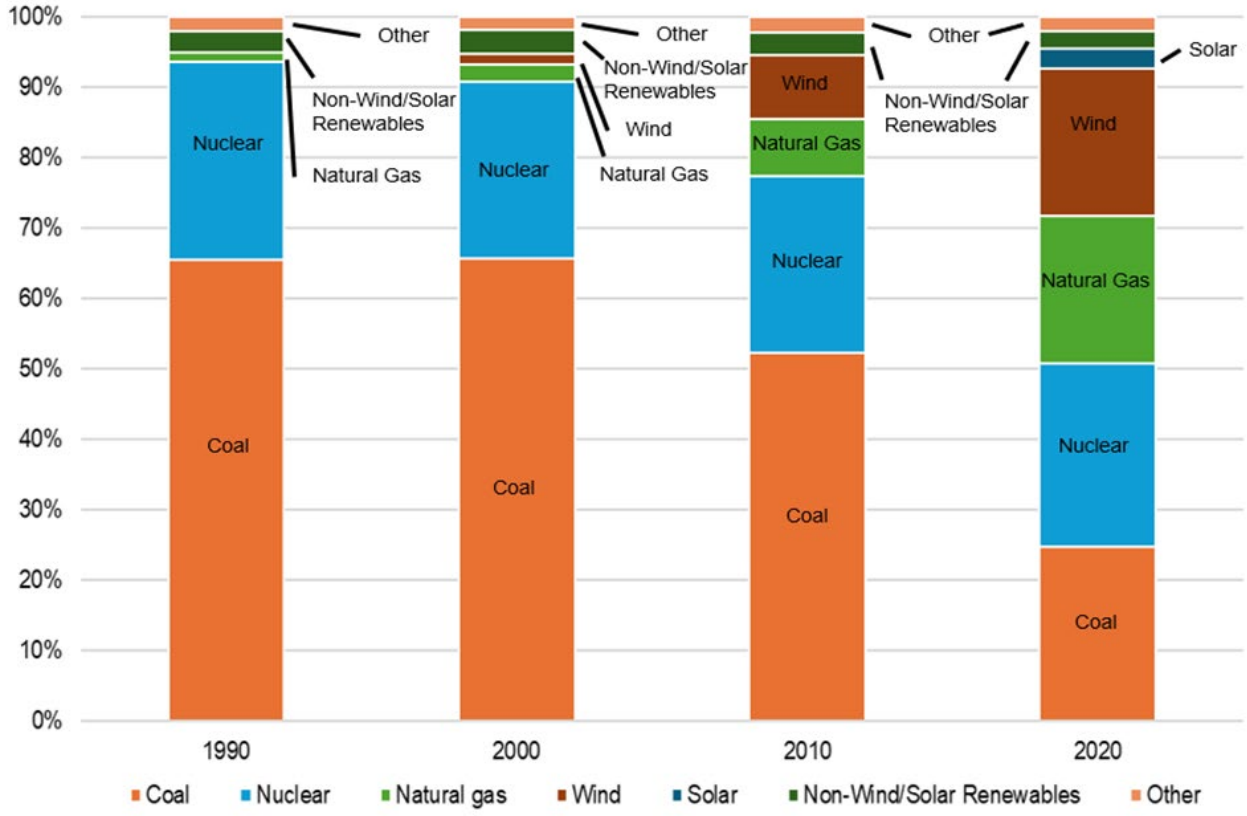
Key Findings

- The Solar Energy System Exemption is generally effective at addressing its stated objective of incentivizing and promoting the implementation and utilization of solar energy systems in Minnesota when considering it as part of a larger policy initiative; however, it is not feasible to measure the effectiveness of the exemption on its own.
- Foregone revenue for past years is likely underestimated. The LBO produced new estimates of foregone revenue for past years with data from two large utility providers, which was previously reported as non-public data to the Public Utilities Commission. The data includes significant investments in community solar garden projects, which may have been excluded from past estimates. Estimated impacts from new community solar garden projects are likely to decrease in future years due to recent state and federal legislation.

Potential Modifications

- No potential modifications to increase efficiency or effectiveness were identified.
- It is difficult to empirically assess the measurable impacts of one specific piece of renewable energy policy. Multiple state, federal, and private programs incentivize the utilization of solar energy systems. We assume that these policies overlap to encourage the uptake of renewable energy.

Figure 1. Minnesota Electricity Fuel Generation Mix, 1990 – 2020 (percent of total MWh)



Data Source: U.S. Energy Information Administration, Form EIA-923, Power Plan Operations Report and predecessor forms

The contributions of solar energy to the state's electricity fuel generation mix have increased over the last 15 years to represent about three percent of the overall share.

Additional Considerations

- The cost to produce renewable energy has changed dramatically within the past decade. The global weighted average levelized cost of energy for solar was 670 percent higher than the cheapest fossil fuel in 2010. By 2022, this metric dropped to be 28 percent lower than the cheapest fossil fuel.
- There are significant data limitations that inhibit the ability of the LBO to conduct a comparative analysis at the level required to estimate the measurable impacts of a single tax expenditure designed to encourage uptake in renewable energy.

Contact Information and Disclaimer

This tax expenditure evaluation was prepared by the Legislative Budget Office for the Tax Expenditure Review Commission.

For more information, please visit the TERC website. For the complete report visit the TERC Report page.

Contact the Legislative Budget Office at 651-297-7146 or lbo@lbo.mn.gov with questions.