



MOONRISE WINERY

**FAMILY OWNED WINERY
WATERVILET, MI | CASE STUDY**

Moonrise Winery has successfully implemented a 12.80kW roof-mounted solar array. This initiative has resulted in \$2,104 of annual cost savings and was awarded the USDA Reap Grant.

AT A GLANCE

CHALLENGES

- Energy Demand Variability
- Upfront Costs
- Regulations & Permits
- Solar Array Placement

BENEFITS

- Long-Term Investment
- Harvesting Renewable Energy
- Energy Independence
- Hedge operating costs against rising electric rates
- Tax Incentives

OBJECTIVES

Moonrise Winery, where the Zabadal family has perfected 13 exceptional wines, combines time-honored tradition with forward-thinking innovation. Winemaking is a seasonally driven craft, with certain times of the year—such as harvest season and fermentation—requiring significantly more energy to power operations. Recognizing this energy-intensive demand, the Zabadals took a bold step toward sustainability by adopting solar power. This transition not only reduces their environmental impact during critical periods but also ensures energy independence year-round, securing the future of their vineyard while adapting to the rhythm of nature.

SOLUTIONS

The Harvest Solar team carefully assessed the unique energy needs of Moonrise Winery, recognizing the seasonal nature of winemaking and the heightened energy demands. After reviewing their energy usage, the team recommended an ideal system size, leading to the installation of a 12.80kW roof-mounted solar array seamlessly integrated onto the south-facing roof with stunning views of the winery's landscape. This system not only meets the winery's energy needs during the most intensive times of the year but also allows the Zabadal family to continue crafting exceptional wines while showcasing their dedication to sustainable farming and their community.

FAST FORWARD

Estimated kWh Generation

This solar array has a nameplate capacity of 12.80kWdc and is estimated to generate approximately 16,746kWh per year.

Estimated Savings

The projected savings on utility bills over 30 years from this solar array amount to \$128,191.

Estimated CO2 Offset

The solar array's estimated CO2 offset is equal to the emissions from 360,193 pounds of coal saved.

Estimated Tax Incentives, Rebates, etc.

Moonrise Winery has factored in a 30% Federal Investment Tax Credit for this project to reduce the ROI to 4 years.

