





# NREL Tools Help Identify and Evaluate Renewable Energy Projects

The National Renewable Energy Laboratory (NREL) offers no-cost, publicly available tools that can be used throughout the development of behind-the-meter renewable energy projects. These tools can help gauge initial project potential, optimize system sizing, and refine project economics.

Early in the project development process, when little information might be known about a site, high-level results from tools that require few site-specific inputs may be sufficient to help stakeholders determine if the project should be pursued further. As the potential project progresses, more advanced tools that require additional inputs can provide detailed project feasibility results.

Featured here are four tools that can be used at various stages of project development: Economic Site Analysis (ESA) Tool, PVWatts Calculator, REopt™ Lite, and System Advisor Model (SAM). User experience, input data availability, and analysis needs will influence when each tool is used.

## Renewable Energy Project Evaluation Tools

Tool Description	Required Inputs*	Key Outputs	Level of Effort/Expertise
<a href="#">Economic Site Analysis (ESA) Tool</a> Explores the market potential for various solar technologies using geospatial site data, which is displayed on an interactive map.	<input type="checkbox"/> Location	<ul style="list-style-type: none"> <li>- Map interface with geospatial layers</li> <li>- High-level economics</li> </ul>	Low/novice 
<a href="#">PVWatts Calculator</a> Estimates the energy production and cost of energy of grid-connected solar photovoltaic (PV) energy systems.	<input type="checkbox"/> Location <input type="checkbox"/> System configuration	<ul style="list-style-type: none"> <li>- PV energy generation (no economics)</li> </ul>	Low/novice 
<a href="#">REopt Lite Web Tool</a> Evaluates the economic viability of grid-connected PV and battery storage, identifies system sizes and battery dispatch strategies, and estimates system resiliency during a grid outage.	<input type="checkbox"/> Location <input type="checkbox"/> Energy consumption <input type="checkbox"/> Rate tariff	<ul style="list-style-type: none"> <li>- Optimized system size and dispatch</li> <li>- High-level economics</li> </ul>	Medium/intermediate 
<a href="#">System Advisor Model (SAM)</a> Makes performance predictions and cost of energy estimates for grid-connected energy projects.	<input type="checkbox"/> Energy consumption <input type="checkbox"/> Rate tariff <input type="checkbox"/> Detailed system configuration <input type="checkbox"/> Financing data	<ul style="list-style-type: none"> <li>- Detailed technology performance</li> <li>- Detailed economic modeling</li> </ul>	High/expert 

\* Additional default input values may be available.

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