HOMER ENERGY

Integrating renewable & conventional power

Increase renewables with reliability

HOMER modeling software simplifies complex choices for energy planners. As utilities, industries, cities, and other customers strive to incorporate more renewable power, they are recognizing the challenge of providing cost-effective and reliable energy with intermittent and variable resources. HOMER allows planners to determine the optimal mix of system resources according to criteria they choose.

Maximize renewables with microgrids

Microgrids can be as simple as a diesel generator hard-wired to a load. Complex microgrids use distributed renewables, storage, and load management to deliver power that is potentially cleaner and more efficient than conventional power sources. If connected to the central grid, microgrids can add reliability through redundancy and load leveling. HOMER is the world's leading tool for designing complex microgrids.

How does HOMER work?

HOMER simulates thousands of different user-defined systems for every hour of the year. It then ranks them by financial performance and technical feasibility. HOMER's built-in sensitivity analyses also allows planners to measure the impact of inputs such as changing fuel prices, carbon costs, wind speeds, or other variables.

Who's using HOMER?

- Military
- Telecoms
- Island governments
- Municipalities
- Universities
- Oil & Gas
- Mining
- Hospitals
- Ecotourism

What resources can HOMER model?

- Solar photovoltaics
- Wind Turbines
- Biomass
- Diesel Engines
- Microturbines
- Electrolyzers
- Batteries
- Fuel Cells
- Combined Heat & Power
- Flywheels
- Load management

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"HOMER is the optimal tool for microgrid design. Its community of 97,000 users are the innovators creating a new energy paradigm."

Peter Lilienthal, CEO, HOMER Energy

HOMER Energy Products & Services

Software

Over 97,000 people are using the HOMER energy modeling software with 1,500 new users each month. HOMER software is continuously updated with new features. The company also customizes HOMER to client specifications.

Training

HOMER Energy provides training in hybrid renewable system design using the HOMER software via webinars, phone, or onsite programs according to the specifications of our clients in industry, government, and the military. We provide assistance with economic analysis, system design, and technology choices.

Market Access, Visibility, and Insight

HOMER Energy connects diverse microgrid stakeholders and provides unique market insights through our component library, conferences, webinars, newsletters, and other outlets.

Why our clients choose HOMER for hybrid system design:

- Economic optimization
- Increased RE penetration
- Complex storage challenges
- Mission-critical power supply
- Robust off-grid capabilities

Selected Projects

City of San Diego: Microgrid design for emergency services
World Bank: Indonesian electrification
US Agency for International Development: Rural health clinics
Alaska Energy Authority: Village wind-diesel
ABB/Powercorp: Remote research stations; off-grid towns
NREL: Energy Development for Island Nations
Carbon War Room: Sir Richard Branson's NGO

Case Study

ABB Powercorp uses HOMER and cutting edge storage technologies such as flywheels, to achive unusually high penetrations of renewable energy. Serving off-grid communities and remote locations such as Antarctica (right), ABB/Powercorp relies on HOMER to project capital and operating expenses, to assess the economic feasibility of a system, and to optimize system design.

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