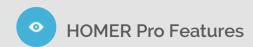


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Project		Add-on Modules							
information and setup	HOMER Pro (main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid		
Locate project on map	~								
View system schematic	~								
AC and DC buses	✓								
Copy component from model to library	~								
Linked sensitivities	✓								
International currency and number formats	~								
Paid license users can disable ads	~								
Compare scenarios	~								
	HOMER Pro			Add-o	n Modules				
Components	(main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid		
Generators	Up to 20								
Auto-sizing generator	~								

Capital and replacement cost	S			
Operations and maintenance cost	S			
Maintenance scheduling	~			
Operational scheduling	~			
Lifetime	S (hours)			
Fuel curve	~			
Emissions factors	~			
Solar PV Arrays	Up to 10			
Capital and replacement cost	S			
Туре	Flat plate or concentrating			
Lifetime	S (years)			
Derating factor	V			
Dedicated converter	Inverter or maximum power point tracker			
Temperature effects	S			
Tracking, slope, azimuth	S			
Wind Turbine	2			
Improved wind turbine model builder	~			
Capital and replacement cost	S			
Lifetime	S (years)			
Hub height	S			
Losses	V (7 types)			
Scheduled turbine maintenance	~			
Batteries	Up to 10			
Improved battery model builder	~			
Conventional	✓			
Zinc	✓			
Vanadium	✓			
Capital and				

replacement cost	S				
Initial state of charge	S				
Minimum state of charge	S				
Lifetime throughput	S				
Enforce or model minimum life	~				
Flywheel	1				
Capital and replacement cost	S				
Lifetime	S				
DC/AC converter	1				
Capital and replacement cost	S				
Lifetime	S (years)				
Efficiency	S				
Grid	✓				
Grid power price	V				
Grid sellback price	V				
Sale capacity	V				
Net metering	✓				
Real-time rates					✓
Scheduled rates (time of use)					~
Grid extension					~
Scheduled and unscheduled grid outages					~
Hydrokinetic	~				
Capital and replacement cost	S				
Lifetime	S (years)				
Power curve	✓				
Hydro			~		
Capital and replacement cost			S		
Operations and maintenance cost			S		

Lifetime		S (years)			
Available turbine head		S			
Design flow rate		S			
Minimum flow rate		S			
Maximum flow rate		S			
Efficiency		S			
Pipe head loss		S			
Boiler			✓		
Fuel types			8		
Fuel price			S		
Efficiency			S		
Emissions			V		
Thermal load controller (dump load)			~		
Capital and replacement cost			S		
Lifetime			S (years)		
Reformer				✓	
Capital and replacement cost				S	
Operations and maintenance cost				S	
Lifetime				S (years)	
Efficiency				S	
Hydrogen delivery cost				S (\$/kg/km)	
Electrolyzer				~	
Capital and replacement cost				S	
Operations and maintenance cost				S	
Lifetime				S (years)	
Efficiency				S	
Minimum load ratio				S	
Hydrogen tank				✓	
Capital and				S	

replacement cost							
Operations and maintenance cost						S	
Set initial tank level						S	
Option to require year-end tank level to equal or exceed initial level						~	
Hydrogen fuel cell						~	
Capital and replacement cost						S	
Operations and maintenance cost						S	
Maintenance scheduling						S	
Operational scheduling						S	
Lifetime						S (years)	
Fuel curve						✓	
	HOMED Dro			Add-oı	n Modules		
Loads	HOMER Pro (main)	Advanced Load	Biomass	Add-o	n Modules Combined Heat and Power	Hydrogen	Advanced Grid
Loads Electrical Load			Biomass		Combined Heat and	Hydrogen	
	(main)	Load	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual	(main) 1	Load	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average	(main) 1 S	Load	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability	(main) 1 S	Load 2	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual	(main) 1 S	Load 2	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage	(main) 1 S	Load 2 1 S	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity	(main) 1 S	Load 2 1 S S	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity Peak Minimum load	(main) 1 S	Load 2 1 S S S	Biomass		Combined Heat and	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity Peak Minimum load ratio	(main) 1 S	Load 2 1 S S S	Biomass		Combined Heat and Power	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity Peak Minimum load ratio Thermal Load Scaled annual	(main) 1 S	Load 2 1 S S S	Biomass		Combined Heat and Power	Hydrogen	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity Peak Minimum load ratio Thermal Load Scaled annual average	(main) 1 S	Load 2 1 S S S	Biomass		Combined Heat and Power	Hydrogen 1	
Electrical Load Scaled annual average Variability Deferrable Load Scaled annual average Storage capacity Peak Minimum load ratio Thermal Load Scaled annual average Variability	(main) 1 S	Load 2 1 S S S	Biomass		Combined Heat and Power		

Variability						V	
Penalties for unmet load						~	
Load inputs	~						
Easy data entry with typical load profiles	~				Thermal		
Import data	✓				Thermal		
Read from library	~				Thermal		
Build from measured data	~				Thermal		
	HOMER Pro			Add-oı	n Modules		
Resources	(main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Fuels	Diesel, ethanol, methanol, natural gas, biogas, gasoline, propane, biodiesel, hydrogen, and custom user-defined						
Fuel price	S						
Solar GHI	Download from Internet or import						
Scaled annual average	S						
Solar DNI	Import						
Scaled annual average	S						
Wind	Download from Internet or import						
Scaled annual average	S						
Surface roughness	S						
Temperature	Download from Internet or import						
Scaled annual average	S						
Biomass			Import or enter				
Scaled annual average			S				
Average price			S				
			S				

Carbon content							
Gasification ratio			S				
Lower heating value			S				
Hydro				Import or enter			
Scaled annual average				S			
Hydrokinetic	Import or enter						
Scaled annual average	S						
				Add-oı	n Modules		
System Control	HOMER Pro (main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Time step size	1 to 60 minutes						
Fuel minimization option	~						
Weight minimization option	~						
Dispatch strategies	2						
				Add-o	n Modules		
Results	HOMER Pro (main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Results tables	✓						
Sensitivity table	~						
Graphic display of sensitivity results	~						
Optimization table	~						
Sort results on any metric	~						
Filter results on any metric	~						
Choose results to display	~						
Cost summary	✓						
Comparative economics for IRR and ROI	~						
Cash flow - General electrical outputs	~						

Outputs for each component	~						
Summary report and export	~						
Time series plot, scatter plot, delta plot, table, time series data export	~						
Emissions	✓						
Results recycling	✓						
Economics	HOMER Pro			Add-o	n Modules		
sensitivity variables	(main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Annual nominal interest rate	~						
Expected inflation rate	~						
Project lifetime	✓						
System fixed capital costs	~						
System fixed O&M costs	~						
Capacity shortage penalty	~						
				Add-o	n Modules		
Emissions	HOMER Pro (main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Carbon dioxide	✓						
Carbon monoxide	✓						
Unburned hydrocarbons	~						
Particulate matter	✓						
Sulfur dioxide	✓						
Nitrogen oxides	~						
				Add-o	n Modules		
Constraints	HOMER Pro (main)	Advanced Load	Biomass	Hydro	Combined Heat and Power	Hydrogen	Advanced Grid
Maximum annual capacity shortage (%)	~						
Minimum renewable fraction (%)	~						

Operating reserve (as % of: current load, peak, solar, wind)



S - Sensitivity variable

V – Single value user-defined variable

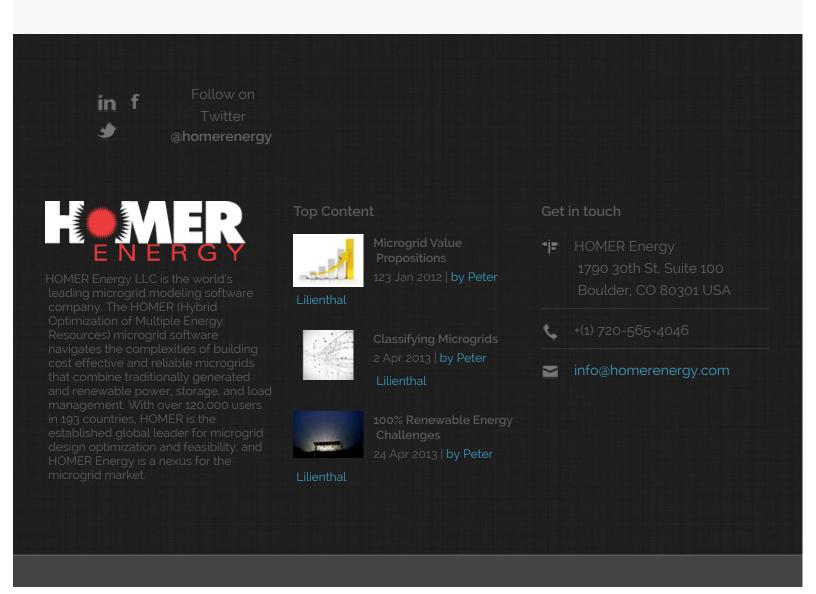
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