Flexible options to suit your needs

Project information and setup	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Locate project on map	✓				
View system schematic	✓				
Time step size	1 to 60 minutes				
Fuel minimization option	✓				
Dispatch strategies	2				
AC and DC buses	✓				

Components	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Generators	**20**				
Capital and replacement cost	S				
Operations and maintenance cost	S				
Maintenance scheduling	✓				
Operational scheduling	✓				
Lifetime	S (hours)				
Solar PV Arrays	**10**				
Capital and replacement cost	S				
Type	Flat plate or concentrating				
Lifetime	S (years)				
Derating factor	V				
Dedicated converter	Inverter or maximum powerpoint tracker				
Temperature effects	S				
Tracking, slope, azimuth	S				
Wind Turbine	**2**				
Capital and replacement cost	S				
Lifetime	S (years)				
Hub height	S				
Losses	V (7 types)				
Scheduled turbine maintenance	✓				
Batteries	**10**				
Capital and replacement cost	S				
Types	Lead acid, lithium ion, flow				
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	✓				
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
Emissions					V
Thermal load controller (dump load)					✓
Capital and replacement cost					S
Lifetime					S (years)

Loads	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Electrical Load	1	2			
Scaled annual average	S				
Variability	V				
Deferrable Load		1			
Scaled annual average		S			
Storage capacity		S			
Peak		S			
Minimum load ratio		S			
Thermal Load					2
Scaled annual average					S
Variability					V
Load inputs					
Quick simulation based on usage type	✓				Thermal
Import data	✓				Thermal
Read from library	✓				Thermal

Build from measured data	✓				Thermal

Resources	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Liquid fuels	Diesel, ethanol, methanol, natural gas, biogas				
Fuel price	S				
Solar GHI	Download from Internet or import				
Scaled annual average	S				
Solar DNI	Import or enter				
Scaled annual average	S				
Wind	Import or enter				
Scaled annual average	S				
Surface roughness	S				
Temperature	Import or enter				
Scaled annual average	S				
Biomass			Import or enter		
Scaled annual average			S		
Average price			S		
Carbon content			S		
Gasification ratio			S		
Lower heating value			S		
Hydro				Import or enter	
Scaled annual average				S	

Results	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Sort results on any metric	✓				
Filter results on any metric	✓				
Detailed simulation results	✓				
Graphical displays	Details for every variable				

Economics sensitivity variables	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Annual nominal interest rate	✓				
Expected inflation rate	✓				
Project lifetime	✓				
System fixed capital costs	✓				
System fixed O&M costs	✓				
Capacity shortage penalty	✓				

Emissions penalties and limits sensitivity variables	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
Carbon dioxide	✓				
Carbon monoxide	✓				

Unburned hydrocarbons	✓				
Particulate matter	✓				
Sulfur dioxide	✓				
Nitrogen oxides	✓				

Constraints	HOMER Pro (main)	Add-on Modules			
		Advanced Load	Biomass	Hydro	Combined Heat and Power
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