

Cell Color Scheme

Yellow cells are inputs that can be changed by the user (only in the Dashboard and Custom Profiles tabs)
Orange cells contain drop down menus that allow the user to input custom values
Grey cells are intermediate calculations or results (should NOT be changed)
Green cells are final outputs

Tab Color Scheme

Light Orange tabs are where the user inputs values and views results
Blue tab contains LSE-specific data from the 2017 IEPR that the user should input into the "IEPR Managed Retail" tab
Gray tab documents data sources
Yellow tabs are read-only tabs that contain inputs and calculations

INPUTS

Notes:

Input values (yellow cells) shown here are placeholders. Users should replace all inputs with values specific to their system.
 Inputs and results are included for the 2018, 2022, 2026, and 2030 modeling years. Any intermediate years should be interpolated outside of this tool.

General Inputs

Metric	Unit	2018	2022	2026	2030	Notes
Owned or contracted non-dispatchable GHG-emitting resources	MW	-	-	-	-	
Emission Factor - Owned or contracted non-dispatchable GHG-emitting resources	tCO2/MWh	-	-	-	-	
Fraction of EV owners that can charge at work	%	0%	0%	0%	0%	

Demand Inputs

Assigned Load Forecast for IRP (i.e., Managed Retail Sales Forecast)	GWh					Consistent with RPS Plan, CEC forecast adjusted to retail
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Default Demand Inputs (based on sales-weighted share of total from IEPR)	Units	2018	2022	2026	2030	Notes
Baseline net energy for load (no BTM PV, EV, electrification, energy efficiency)	GWh					Grossed up for T&D losses; demand met by BTM CHP excluded
Electric Vehicle Load - Home Charging Only	GWh					Grossed up for T&D losses
Electric Vehicle Load - Home + Work Charging	GWh					Grossed up for T&D losses
Other Electrification	GWh					Grossed up for T&D losses
Building Electrification	GWh					Grossed up for T&D losses
Energy Efficiency	GWh					Grossed up for T&D losses
BTM PV	GWh					Grossed up for T&D losses

Custom Demand Inputs (OPTIONAL; overwrites Assigned Load Forecast for IRP)	Use Custom?	Units	2018	2022	2026	2030	Notes
Baseline net energy for load (no BTM PV, EV, electrification, energy efficiency)	No	GWh					To overwrite, set "Use Custom" to "Yes" and input forecast. Custom demand values should be grossed up for T&D losses. User-specified load profiles should be input in the "Custom Profiles" tab. Energy efficiency and BTM PV subtract from demand and therefore should be entered as negative values.
Electric Vehicle Load - Home Charging Only	No	GWh					
Electric Vehicle Load - Home + Work Charging	No	GWh					
Other Electrification	No	GWh					
Building Electrification	No	GWh					
Energy Efficiency	No	GWh					
BTM PV	No	GWh					

Active Demand Inputs	Source	Units	2018	2022	2026	2030	Notes
Baseline net energy for load (no BTM PV, EV, electrification, energy efficiency)	IEPR	GWh					
Electric Vehicle Load - Home Charging Only	IEPR	GWh					
Electric Vehicle Load - Home + Work Charging	IEPR	GWh					
Other Electrification	IEPR	GWh					
Building Electrification	IEPR	GWh					
Energy Efficiency	IEPR	GWh					
BTM PV	IEPR	GWh					

Capacity Inputs (MW)

Candidate Resource	Type	2018	2022	2026	2030	Notes
Battery Storage	Storage					
Pumped Storage	Storage					
Large Hydro	Large Hydro					Assumes average dispatch based on RESOLVE
Nuclear	Nuclear					
CAISO_Wind_for_CAISO	Wind					
SW_Wind_for_CAISO	Wind					
Contracted_NW_Wind	Wind					
Northern_California_Wind	Wind					
Solano_Wind	Wind					
Central_Valley_North_Los_Banos_Wind	Wind					
Greater_Carrizo_Wind	Wind					
Tehachapi_Wind	Wind					
Kramer_Inyokern_Wind	Wind					
Southern_California_Desert_Wind	Wind					
Riverside_East_Palm_Springs_Wind	Wind					
Greater_Imperial_Wind	Wind					
Distributed_Wind	Wind					
Baja_California_Wind	Wind					
Pacific_Northwest_Wind	Wind					
NW_Ext_Tx_Wind	Wind					
Idaho_Wind	Wind					
Utah_Wind	Wind					
Wyoming_Wind	Wind					
Southern_Nevada_Northwest_Arizona_Wind	Wind					
Arizona_Wind	Wind					
New_Mexico_Wind	Wind					
SW_Ext_Tx_Wind	Wind					
BTM_Distributed_PV	Solar					Derived from demand inputs, grossed up for T&D losses. DO NOT EDIT
CAISO_Solar_for_CAISO	Solar					Existing solar located in CAISO
SW_Solar_for_CAISO	Solar					
IID_Solar_for_CAISO	Solar					
Northern_California_Solar	Solar					
Solano_Solar	Solar					
Central_Valley_North_Los_Banos_Solar	Solar					
Westlands_Solar	Solar					
Greater_Carrizo_Solar	Solar					
Tehachapi_Solar	Solar					
Kramer_Inyokern_Solar	Solar					
Mountain_Pass_El_Dorado_Solar	Solar					
Southern_California_Desert_Solar	Solar					
Riverside_East_Palm_Springs_Solar	Solar					
Greater_Imperial_Solar	Solar					
Baja_California_Solar	Solar					
Utah_Solar	Solar					
Southern_Nevada_Solar	Solar					
Arizona_Solar	Solar					
New_Mexico_Solar	Solar					
Geothermal	Geothermal					
Biomass	Biomass					
Small Hydro	Small Hydro					

tail Sales Forecast" cells on the Dashboard

RESULTS

Energy Balance	Unit	2018	2022	2026	2030	Notes
Energy for Load (excluding BTM PV)	GWh					
Owned or contracted non-dispatchable GHG-emitting resources	GWh					
Large Hydro	GWh					
Nuclear	GWh					
Renewable Generation (including BTM PV)	GWh					Includes oversupply
User-specified GHG-free Power	GWh					
Storage Energy Imbalance	GWh					Due to storage losses and subhourly reserves.
Clean Net Short	GWh	47	49	51	52	

Emissions	Unit	2018	2022	2026	2030	Notes
Clean Net Short	MMtCO2/yr.	0.0	0.0	0.0	0.0	Includes oversupply emissions credits
Owned or contracted non-dispatchable GHG-emitting resources	MMtCO2/yr.	-	-	-	-	
Emissions offset for NW hydroelectric imports	MMtCO2/yr.	(0.0)	(0.0)	(0.0)	(0.0)	Scaled to LSE load ratio share within CAISO
Total	MMtCO2/yr.	0.0	0.0	0.0	0.03	
Average emission intensity	tCO2/MWh	0.05	0.08	0.08	0.10	

Oversupply	Unit	2018	2022	2026	2030	Notes
Oversupply	GWh	45	45	49	54	Occurs when hourly supply exceeds hourly load
Oversupply Emission Credits	MMtCO2/yr.	0.0	0.0	0.0	0.0	

Capacity/Peak	Unit	2018	2022	2026	2030	Notes
Profile Peak Load	MW					Peak of hourly load profile - not a 1:10 peak
Owned or contracted non-dispatchable GHG-emitting resources	MW					
Large Hydro	MW					
Nuclear	MW					
Total Baseload Renewables	MW					
Total Variable Renewables	MW					Includes BTM PV
User-specified GHG-free Power	MW					
Energy Storage	MW					
Maximum Clean Net Short	MW					