CNS Calculator Dashboard - PG&E Preferred Scenario (PUBLIC VERSION)

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
Non-dispatchable CHP	MW					Perfect capacity - 100% CF; e.g. cogeneration
Emission Factor - Non-dispatchable CHP	tCO2/MWh	0.35	0.35	0.35	0.35	For multiple resources, input weighted average
Fraction of EV owners that can charge at work	%	6%	14%	22%	30%	Values shown are "Mid" from CPUC IRP RESOLVE User Interface
Annual REC Sales	GWh	0	2,069	2,069	2,069	

Demand Inputs

Assigned Load Forecast for IRP (i.e., Managed Retail Sales Forecast)		GWh	47,986	34,169	32,694	33,784	Includes effect of BTM PV, AAEE, etc.

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	54,926	41,392	41,869	45,404	Grossed up for T&D losses; demand met by BTM CHP excluded
Electrice Vehicle Load - Home Charging Only		GWh	376	692	1,068	1,418	Grossed up for T&D losses
Electrice Vehicle Load - Home + Work Charging		GWh	24	113	301	608	Grossed up for T&D losses
Other Electrification		GWh	26	50	83	114	Grossed up for T&D losses
Building Electrification		GWh	-	-	-	-	Grossed up for T&D losses
Energy Efficiency		GWh	(534)	(1,853)	(3,395)	(5,072)	Grossed up for T&D losses
BTM PV		GWh	(3,031)	(3,531)	(4,667)	(6,052)	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	Yes	GWh	55,989				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.
Electrice Vehicle Load - Home Charging Only	Yes	GWh	350				
Electrice Vehicle Load - Home + Work Charging	Yes	GWh	93				
Other Electrification	Yes	GWh					
Building Electrification	Yes	GWh	3				
Energy Efficiency	Yes	GWh	-1,394				
BTM PV	Yes	GWh	-3,261				
Active Demand Inputs	**Source**	**Units**	**2018**	**2022**	**2026**	**2030**	**Notes**
Baseline net energy for load (no BTM PV, EV, electrification, energy efficiency	Custom	GWh	55,989				
Other Electrification	Custom	GWh	-				
Building Electrification	Custom	GWh	3				
Energy Efficiency	Custom	GWh	(1,394)				
BTM PV	Custom	GWh	(3,261)				

Capacity Inputs (MW)

Candidate Resource	Type	2018	2022	2026	2030	Notes
Battery Storage	Storage					Assumes 4-hr battery storage duration
Pumped Storage	Storage					Assumes at least 12-hr pumped storage duration
Large Hydro	Large Hydro					Assumes average dispatch based on RESOLVE
Nuclear	Nuclear	2,076	1,990	-	-	Perfect capacity - 100% CF
CAISO Wind for CAISO	Wind	1,180	1,090	973	809	Existing wind located in CAISO
SW Wind for CAISO	Wind	-	-	-	-	Existing wind located in SW and delivered to CAISO
Contracted NW Wind	Wind	-	-	-	-	Existing wind located in NW and delivered to CAISO
Northern California Wind	Wind	-	-	-	-	
Solano Wind	Wind	-	-	-	-	
Central Valley North Los Banos Wind	Wind	-	-	-	-	
Greater Carrizo Wind	Wind	-	-	-	-	
Tehachapi Wind	Wind	-	-	-	-	
Kramer Invokern Wind	Wind	-	-	-	-	
Southern California Desert Wind	Wind	-	-	-	-	
Riverside East Palm Sorinas 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	1,620				Derived from demand inputs, grossed up for T&D losses, DO NOT EDIT
CAISO Solar for CAISO	Solar	3,491	3,980	3,921	3,832	Existing solar located in CAISO
SW Solar for CAISO	Solar	-	-	-	-	Existing solar located in SW and delivered to CAISO
IID Solar for CAISO	Solar	-	-	-	-	Existing solar located in IID and delivered to CAISO
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 Invokern Solar	Solar	-	-	-	-	
Mountain Pass El Dorado Solar	Solar	-	-	-	-	
Southern California Desert Solar	Solar	-	-	-	-	
Riverside East Palm Sorinas 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	265	17	17	17	perfect capacity - 100% CF
Biomass	Biomass	231	250	238	215	perfect capacity - 100% CF
Small Hydro	Small Hydro	224	184	180	174	perfect capacity - 100% CF

RESULTS

Energy Balance	Unit	2018	2022	2026	2030	Notes
Energy for Load (excluding BTM PV)	GWh	55,042	40,685	40,147	42,020	
Owned or contracted non-dispatchable GHG-emitting re	GWh					
Laree Hydro	GWh					
Nuclear	GWh			-	-	
Renewable Generation (including BTM PV)	GWh	21,703	18,886	19,353	19,143	Includes oversupply
User-specified GHG-free Power	GWh	-	-	-	-	
Storage Energy Imbalance	GWh			-	-	Due to storage losses and subhourly reserves.
Clean Net Short	**GWh**	**544**	**(6,121)**	**11,465**	**14,289**	

Emissions	Unit	2018	2022	2026	2030	Notes
Clean Net Short	MMtCO2/yr.					Includes oversupply emissions credits
Owned or contracted non-dispatchable GHG-emitting re	MMtCO2/yr.					
Emissions offset for NW hydroelectric imports	MMtCO2/yr.	(0.6)	(0.5)	(0.4)	(0.5)	Scaled to LSE load ratio share within CAISO
Total	***MMtCO2/yr.***	**1.3**	**(1.2)**	**4.4**	**4.6**	
Average emission intensity	tCO2/MWh	0.02	(0.03)	0.11	0.11	

Oversupply	Unit	2018	2022	2026	2030	Notes
Oversupply	GWh	4,554	7,809	1,013	597	Occurs when hourly supply exceeds hourly load
Oversupply Emission Credits	MMtCO2/yr.	1.7	2.1	0.2	0.0	

Capacity/Peak	Unit	2018	2022	2026	2030	Notes
Profile Peak Load	MW	11,156	8,361	8,319	8,737	Peak of hourly load profile - not a 1:10 peak
Owned or contracted non-dispatchable GHG-emitting re	MW					
Large Hydro	MW					
Total Variable Renewables	MW	6,291	6,963	7,310	7,403	Includes BTM PV
User-specified GHG-free Power	MW	-	-	-	-	
Energy Storage	MW			-	-	
Maximum Clean Net Short	MW	5,143	3,659	5,857	6,103	