

Residential Electrification Load Scenario Calculator

Compare a defined package of heat-pump, water-heater, induction, dryer, EV, or other electrification changes against entered planning capacity. No equipment database is assumed.

Generated October 10, 2026

<https://www.elecatrix.com/residential-load-service/residential-electrification-scenario-calculator/>

Inputs

Input	Value	Unit
Existing base peak	6	kW
Entered panel or service planning capacity	19.2	kW
Existing and proposed equipment rows	Rows: 3	
Row 1 - Equipment label	Heat pump	
Row 1 - Existing electric connected load	N/A	kW
Row 1 - Proposed electric connected load	4.8	kW
Row 1 - Proposed coincident peak contribution	3.6	kW
Row 2 - Equipment label	EV charger	
Row 2 - Existing electric connected load	N/A	kW
Row 2 - Proposed electric connected load	9.6	kW
Row 2 - Proposed coincident peak contribution	7.2	kW
Row 3 - Equipment label	Water heater	
Row 3 - Existing electric connected load	N/A	kW
Row 3 - Proposed electric connected load	4.5	kW
Row 3 - Proposed coincident peak contribution	2	kW

Results

Result	Value	Unit
Existing connected load total	N/A	kW
Proposed connected load total	18.9	kW
Incremental connected load	18.9	kW

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Scenario peak	18.8	kW
Capacity margin	0.4	kW
Required control or reduction	N/A	kW
Largest incremental row	9.6	kW
Calculation details		

Detail	Value	Unit
Scenario comparison	Entered capacity exceeds scenario peak	
Calculation basis	Connected-load comparison uses row totals. Scenario peak uses the existing base peak plus entered coincident peak contributions for the proposed package.	
Scenario boundary	Planning scenario only; verify exact equipment nameplates, MCA, operating profile, controls, demand method, service data, utility context, AHJ requirements, and final design separately.	

Formulas

$$\Delta P_{\text{row}} = P_{\text{proposed}} - P_{\text{existing}}$$

$$\Delta P_{\text{connected}} = \sum \Delta P_{\text{row}}$$

$$P_{\text{scenario}} = P_{\text{base peak}} + \sum P_{\text{coincident}}$$

$$P_{\text{margin}} = P_{\text{capacity}} - P_{\text{scenario}}$$

$$P_{\text{control}} = \max(0, -P_{\text{margin}})$$

Warnings and limitations

This is an early electrification scenario comparison. It does not determine final service rating, feeder, OCPD, conductor, equipment selection, utility approval, or code compliance.