FRANKLINWH

A Competitive Net Billing Tariff (NBT) Program

Technical Brief - for California NEM3.0 schedule

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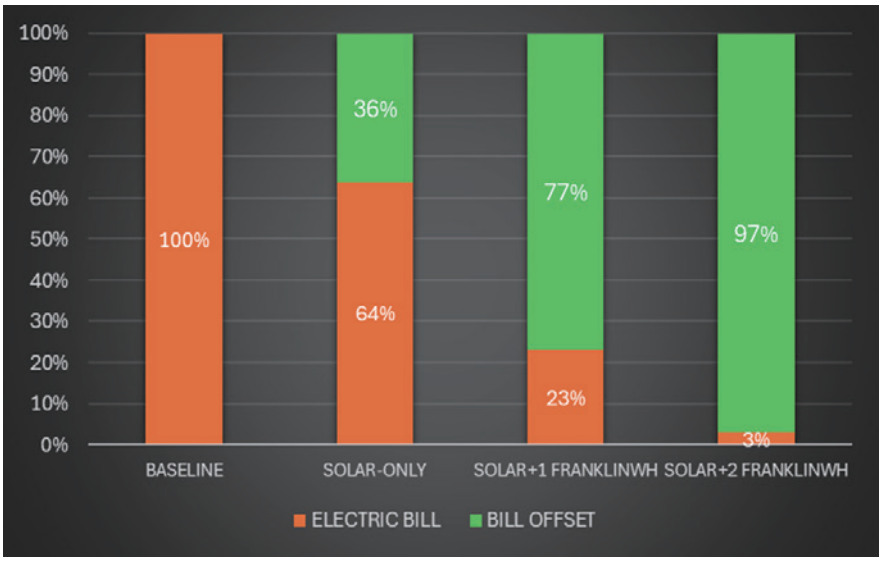
Optimal Size System under NBT Offset Most Electric Bill

California's new Net Billing Tariff (NBT), commonly known as NEM 3.0, a successor to NEM 2.0. NEM 3.0 encourages users to upgrade from just solar installations to Solar paired battery storage. This shift from NEM 2.0 to NEM 3.0 aims to balance the grid's energy supply and demand by introducing a tariff structure influenced by market dynamics.

FranklinWH has crafted a solution to enhance homeowner returns under the NEM 3.0 framework. To demonstrate the financial outlook, we examinate some representative samples among our enormous customers.

The below case is calculated based on the following assumptions:

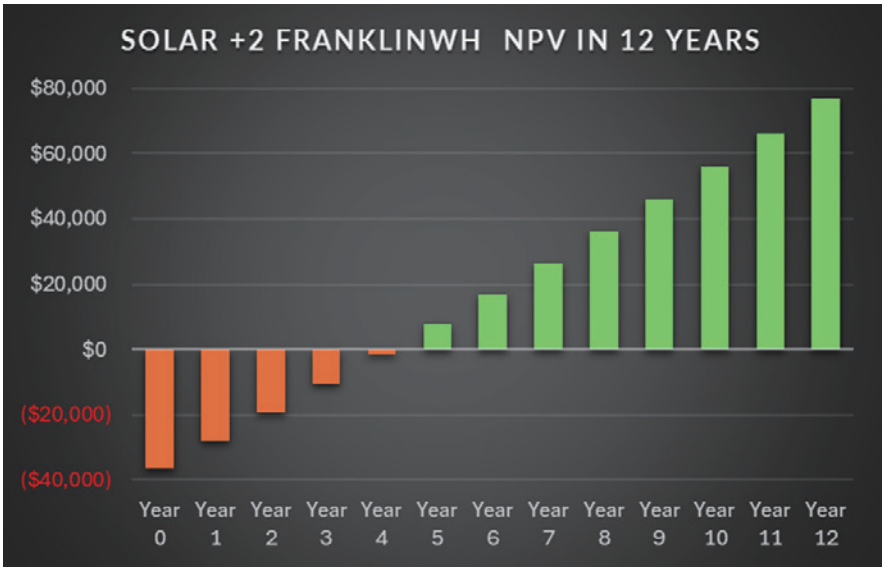
- Annual Power Consumption: 9MWh
- Solar System Capacity: 7.6kW



From above chart, we have the following findings:

Solutions	Financial Performance
Solar-only System	**36%** offset of the total electric bill
Solar+1 FranklinWH Battery	**77%** offset of the total electric bill
Solar+2 FranklinWH Battery	**97%** offset of the total electric bill

The optimal sized system can save most and provide a positive Net Present Value (NPV) after only five years, meaning the investment is quickly paid back and the system provides pure income for next 7 years of the 12-year FranklinWH warranty.



There are two main benefits for homeowners under the Net Billing Tariff (NBT):

- Bill offset savings. The savings come from offsetting the energy that would otherwise be drawn from the grid, thereby reducing the amount paid to the utility company.

- Energy Export Credit. The battery storage energy is exported to the grid during the peak credit hours in August & September.

To gain these benefits, there are 2 key factors which will maximize bill savings:

- Ensure the PV generation (kWh) offsets home load consumption.

- Ensure the battery storage capacity (kW/kWh) supports home load consumption during the peak hours from 4:00 p.m. to 9:00 p.m.

As for different utility companies, the financial payback can be broken into the details and listed in the following table.

Item / Utility	Daytime Offset Saving by Solar Powe	Battery Offset Saving (All years around except Aug & Sept)	Energy Export Credit (Aug&Sept)	1 Year Total	YOY Inflation Rate	System Degradation Rate	12 Years Saving Total
SDG&E	$2,250	$1,700	$1,450	$5,400	3%	2%	$68,000
PG&E	$2,400	$1,380	$1,250	$5,030	3%	2%	$63,800
SCE	$1,800	$1,750	$1,160	$4,710	3%	2%	$59,700

Financial Payback (Calculation base: 1*FHP battery)

FranklinWH's Tailored Solution for NBT

FranklinWH Net Billing has been online since May 2023, integrated in the Franklin Home Power system. This includes the following.

Specific TOU rates under NBT

Residential customers' NBT TOU rate listed below.

A. Rate E-ELEC from PGE. Daily savings can be up to $7.8/battery.

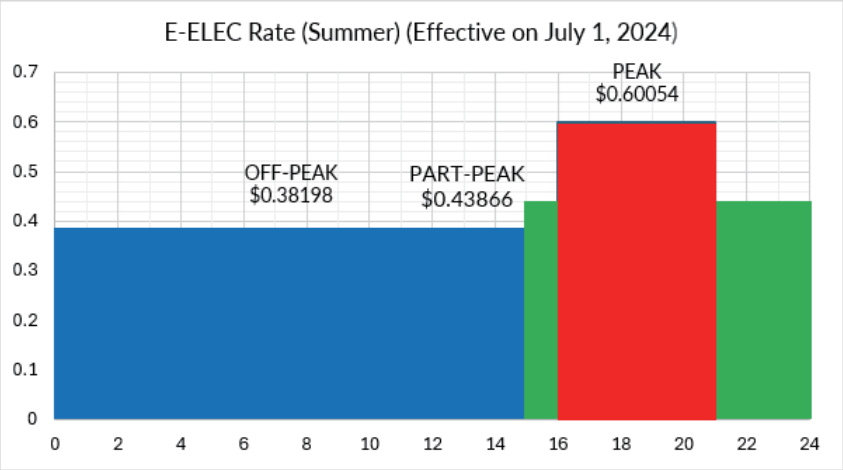


Figure 1. Rate E-ELEC typical price in Summer

B. Rate TOU-D-Prime from SCE. Daily savings can be up to $8.2/battery.

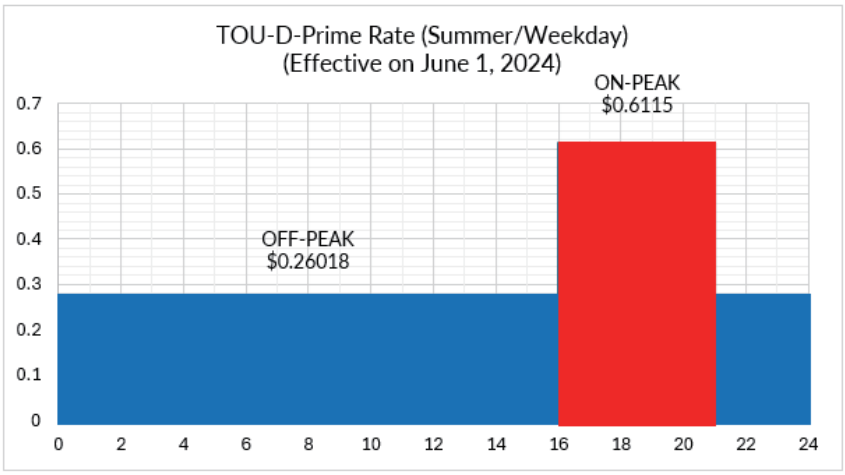


Figure 2. Rate TOU-D-Prime typical price in summer weekdays

C. Rate EV-TOU-5 from SDG&E. Daily savings can be up to $9/battery.

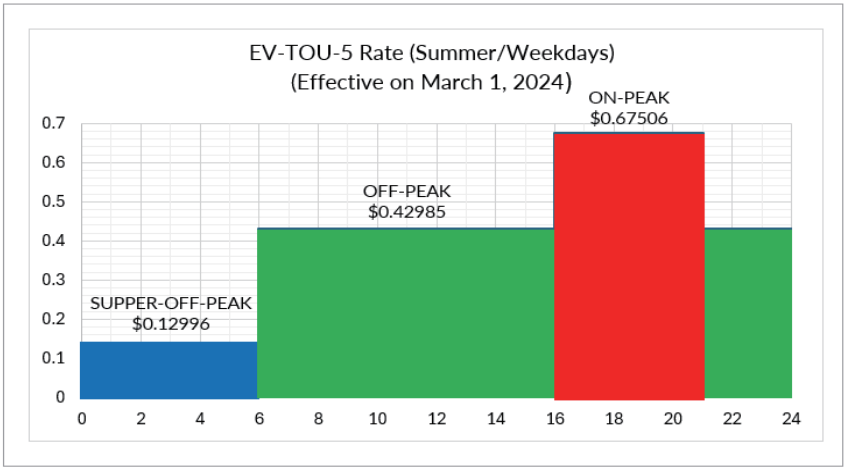


Figure 3. Rate EV-TOU-5 typical price in summer weekdays

The FranklinWH system enables the prioritization of battery discharge during the peak hours, those with the highest rate. The remaining battery energy is discharged until the sunrise at next day.

Attractive Energy Export Compensation in August & September

The Export Compensation Rate may be referred to as the Energy Export Rate (per EEC).The Utilities PGE, SCE, SDG&E released NBT24 energy export credit.

- High peak export pricing in August and September peak hours.
- The credit price is very low in other months.

FranklinWH enables battery export during the peak credit hours. At other times, the battery stored energy shall not be exported to grid.

The Energy Export Credit Earning per FranklinWH battery (FHP) is listed below:

Utility Company	Earnings (1* FHP, 13.6 kWh, 5 kW)
PGE	$1200/Year
SCE	$1100/Year
SDG&E	$1400/Year

Notes: Home load should be shifted away from high peak credit hours otherwise small credit would be occurred.

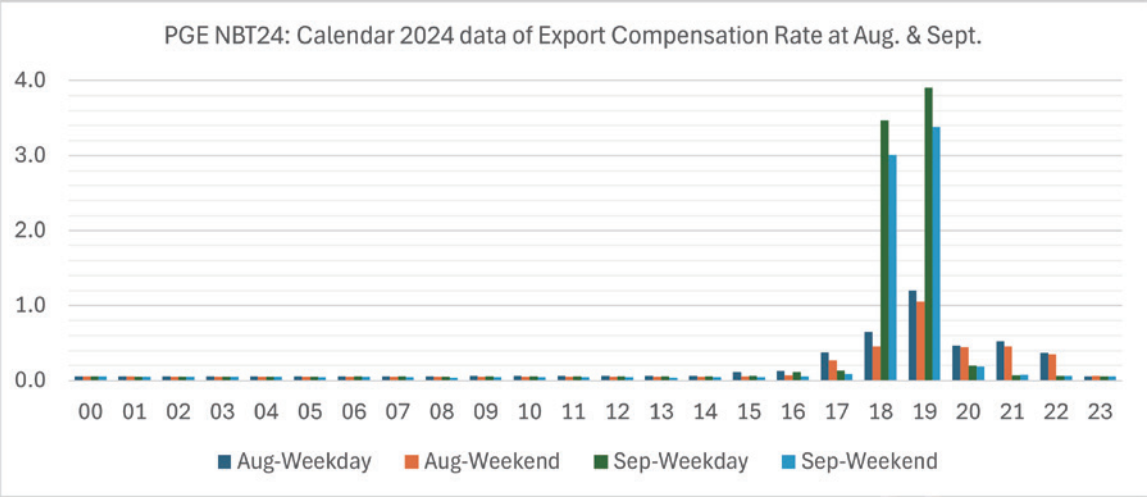


Figure 4. PGE NBT24 peak credit in August & September

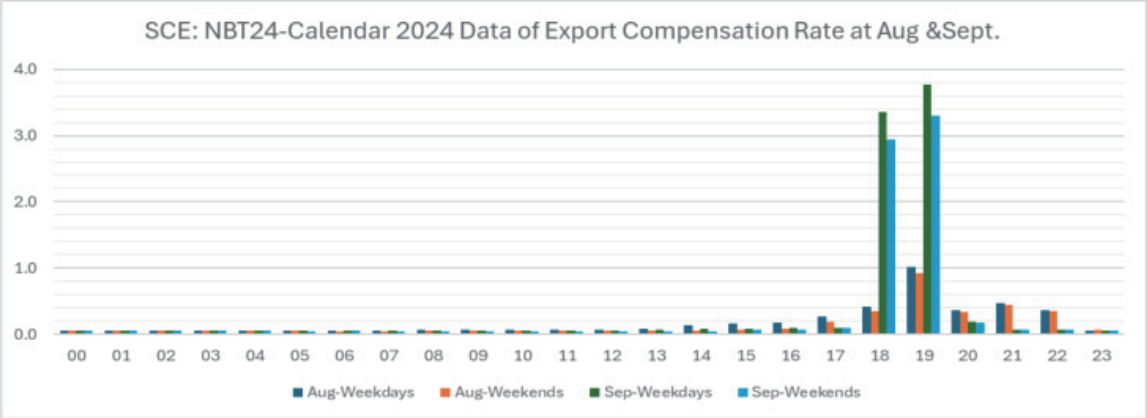


Figure 5. SCE NBT24 peak credit in August & September

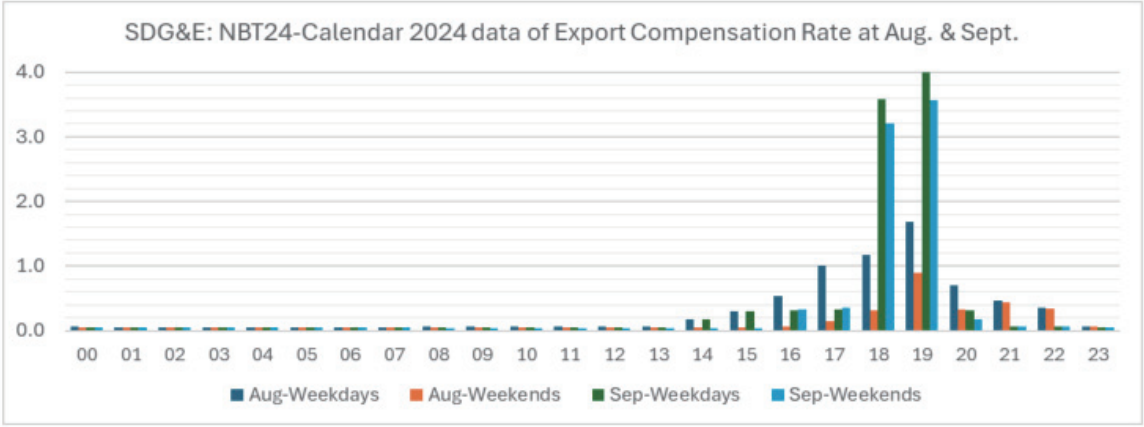


Figure 6. SDG&E NBT24 peak credit in August & September

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