

# Asia-Pacific Solar Research Conference

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# Analyzing Techno-Economic Benefits of Installing Rooftop PV on Real Apartments Buildings

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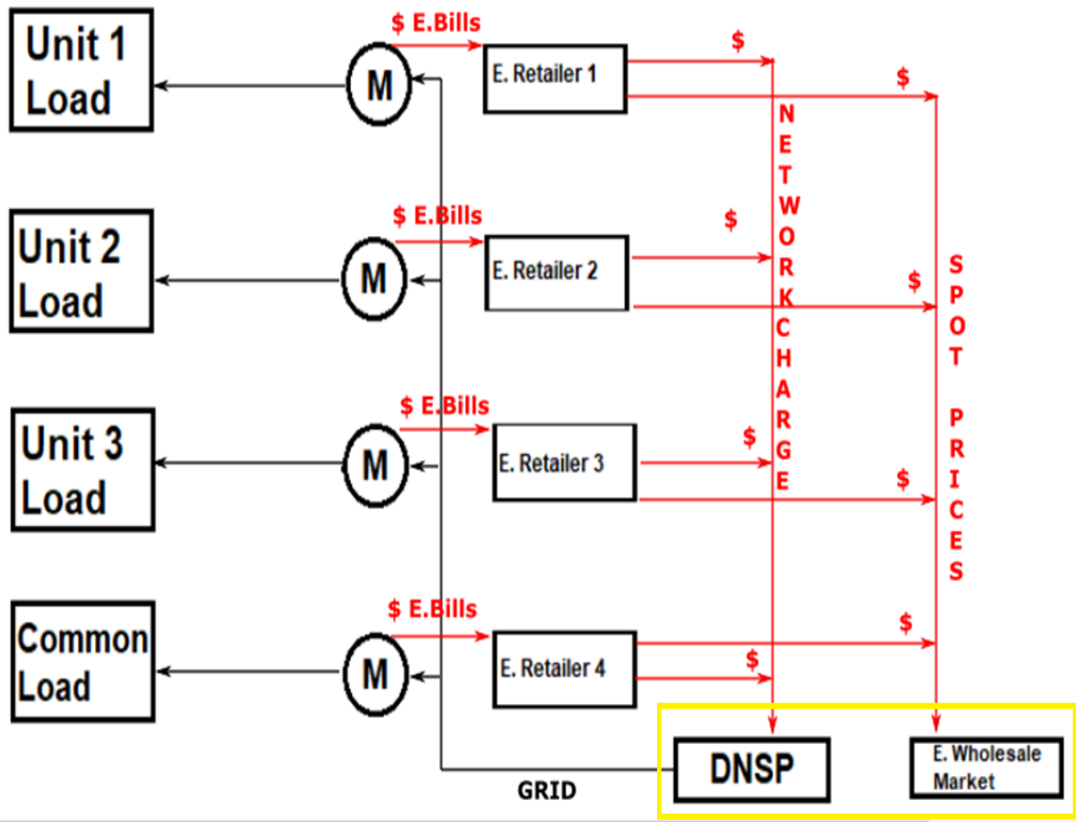
# Topics Covered

1. PV Implementation Option-Techno-Financial Flows
2. Method
3. Results and Discussion
4. Conclusion

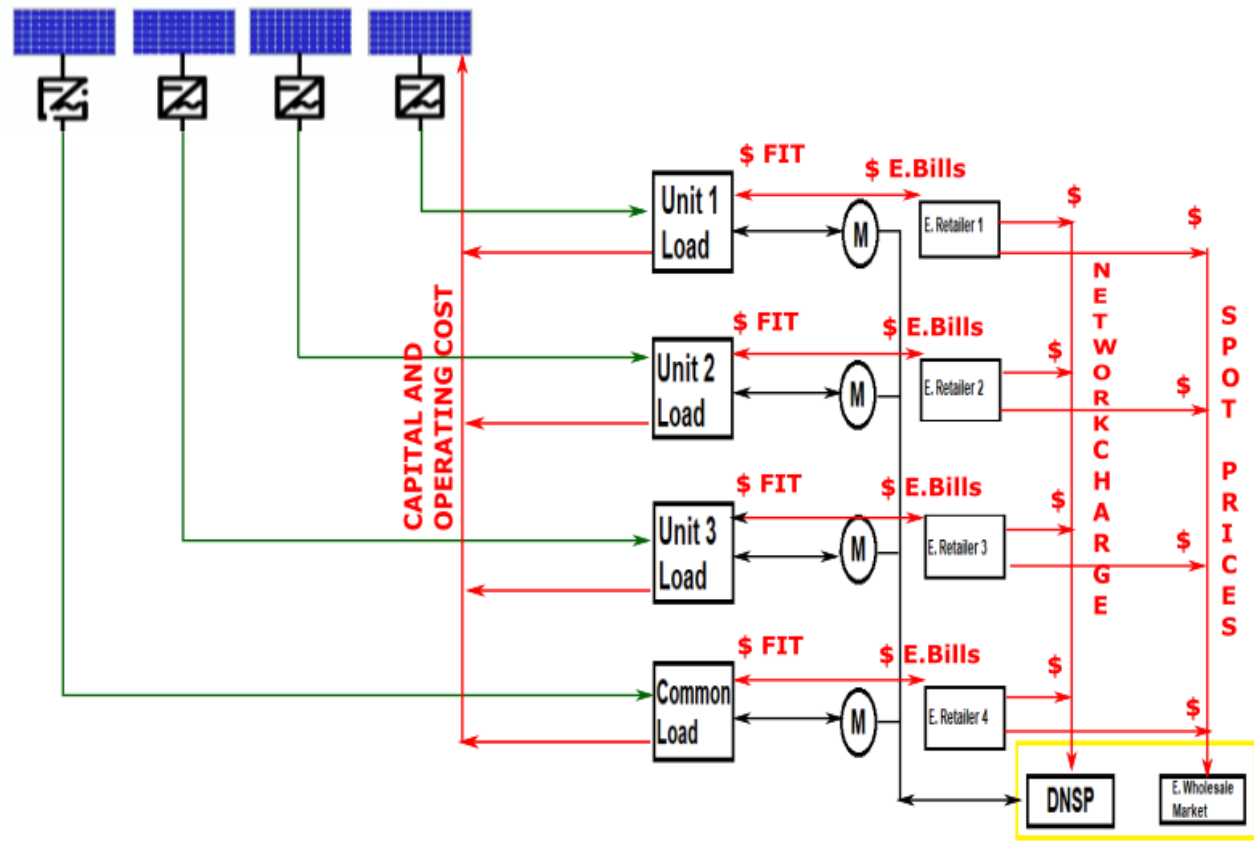


# PV-Battery Implementation Option-Techno-Financial Flows

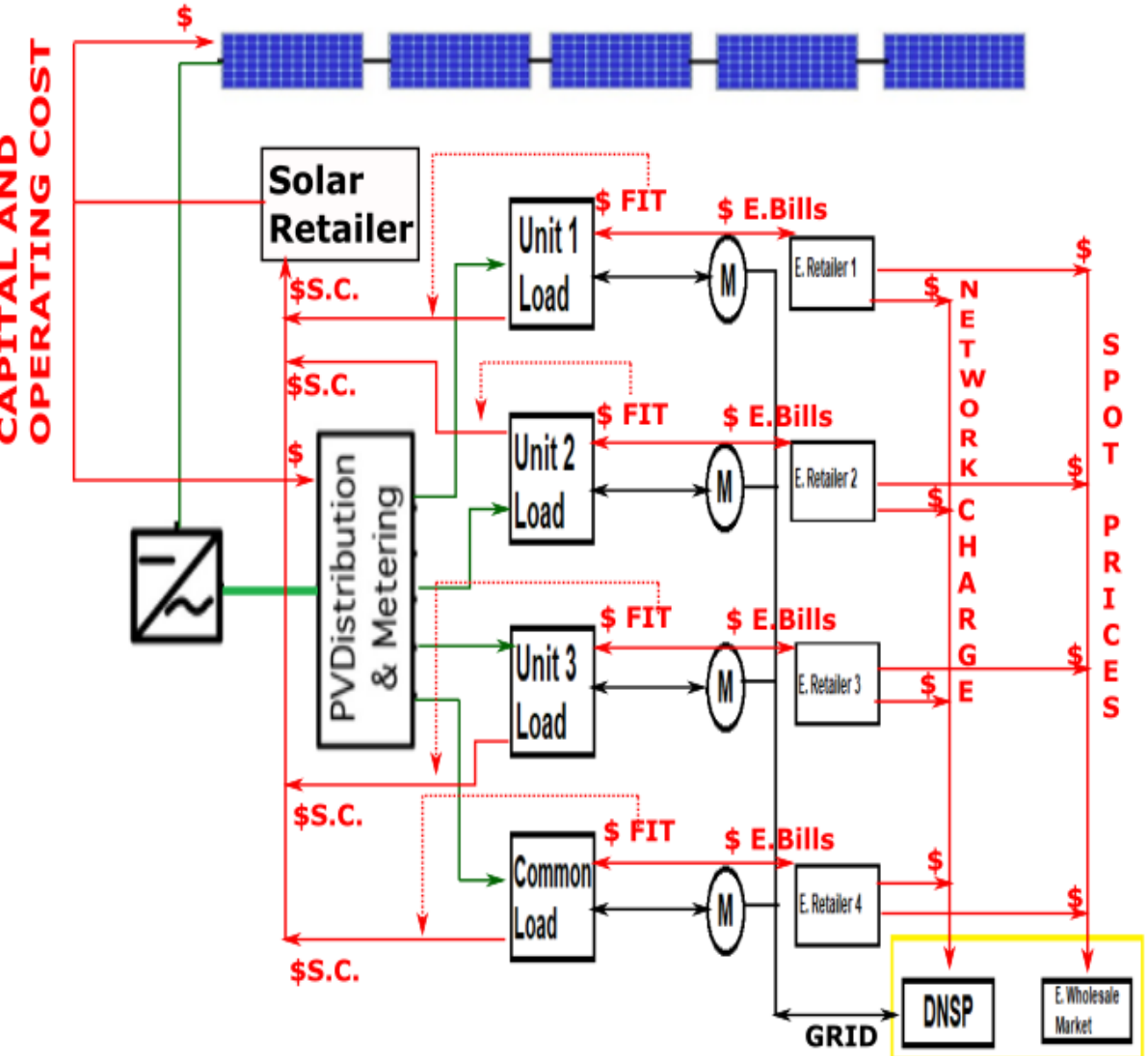
## Business As Usual



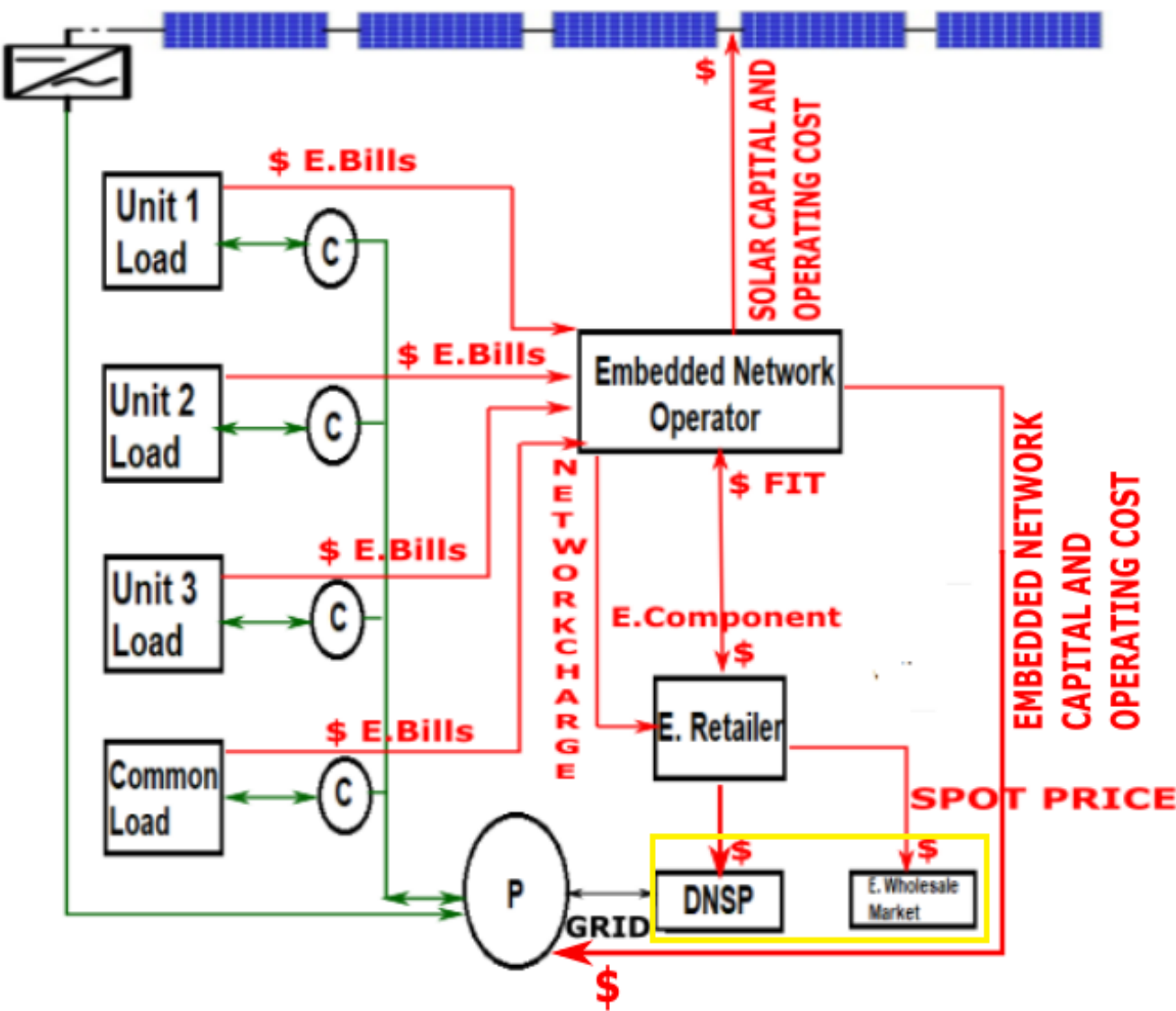
## Behind The Meter Individual



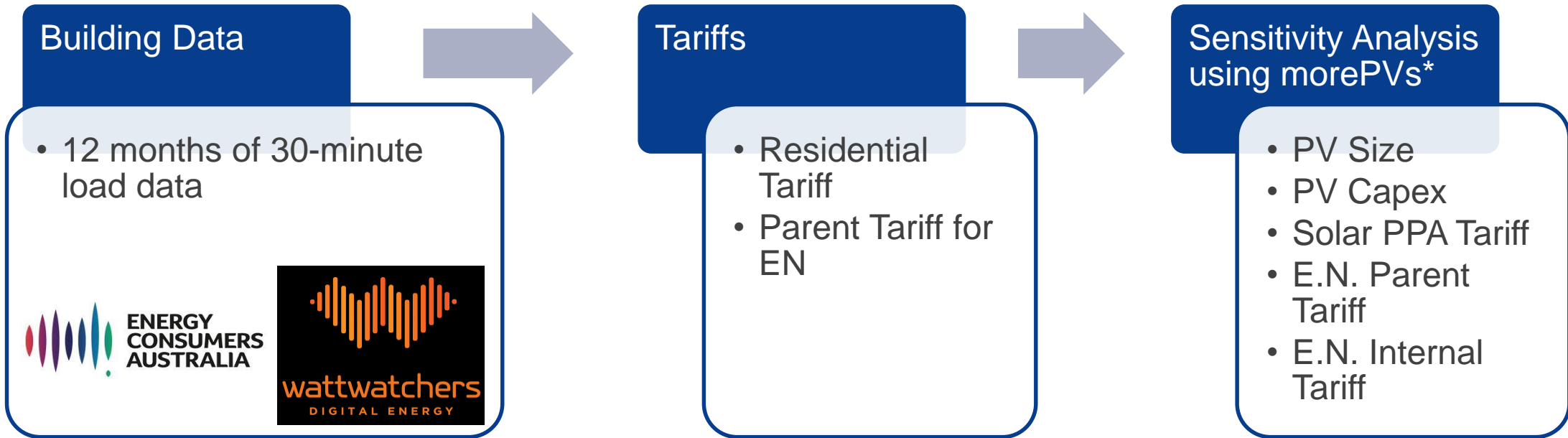
# Behind the Meter Shared



# Embedded Network



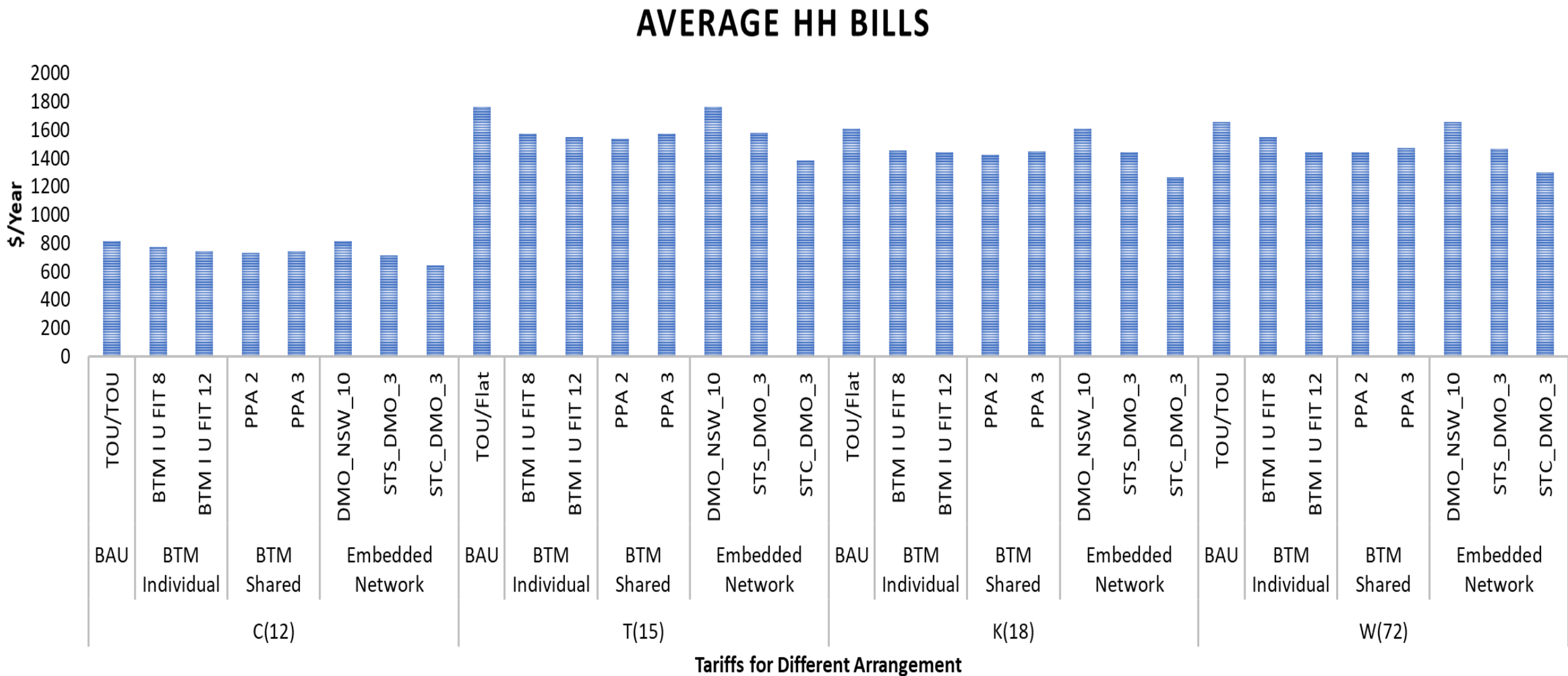
# Method



Building	Number of Units	% CP Ratio	Total Energy Consumption (MWh/year)	Number of Floors	Average Number of Occupants per unit	Roof Type	Potential PV Size Estimate (kW)
C	12	21	46	G+2	1	Tilted	10-30
T	15	6	125	G+2	3	Tilted	15-35
K	18	8	77.4	G+3	2	Tilted	10-30
W	72	40	218	G+3	3	Tilted	75-145

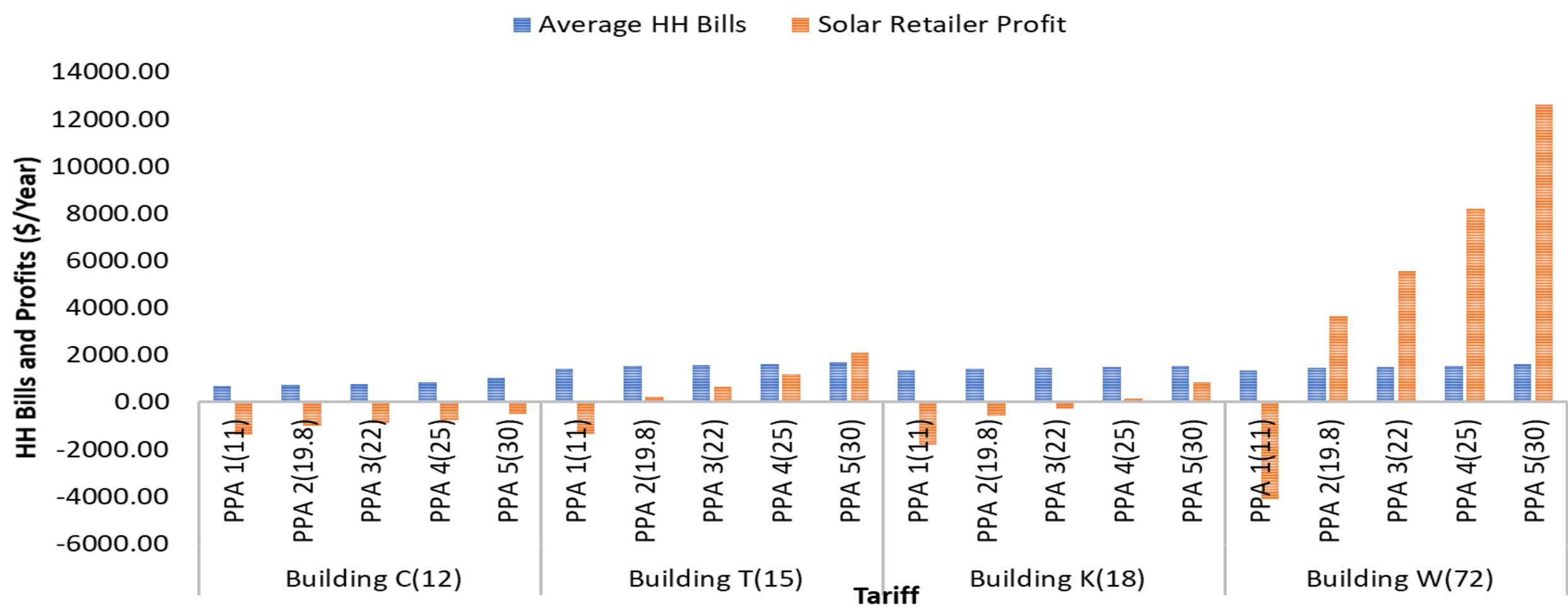
\*Open Source Model Available at <https://github.com/mike-b-roberts/morePVs>

# Comparing Average Household Bills



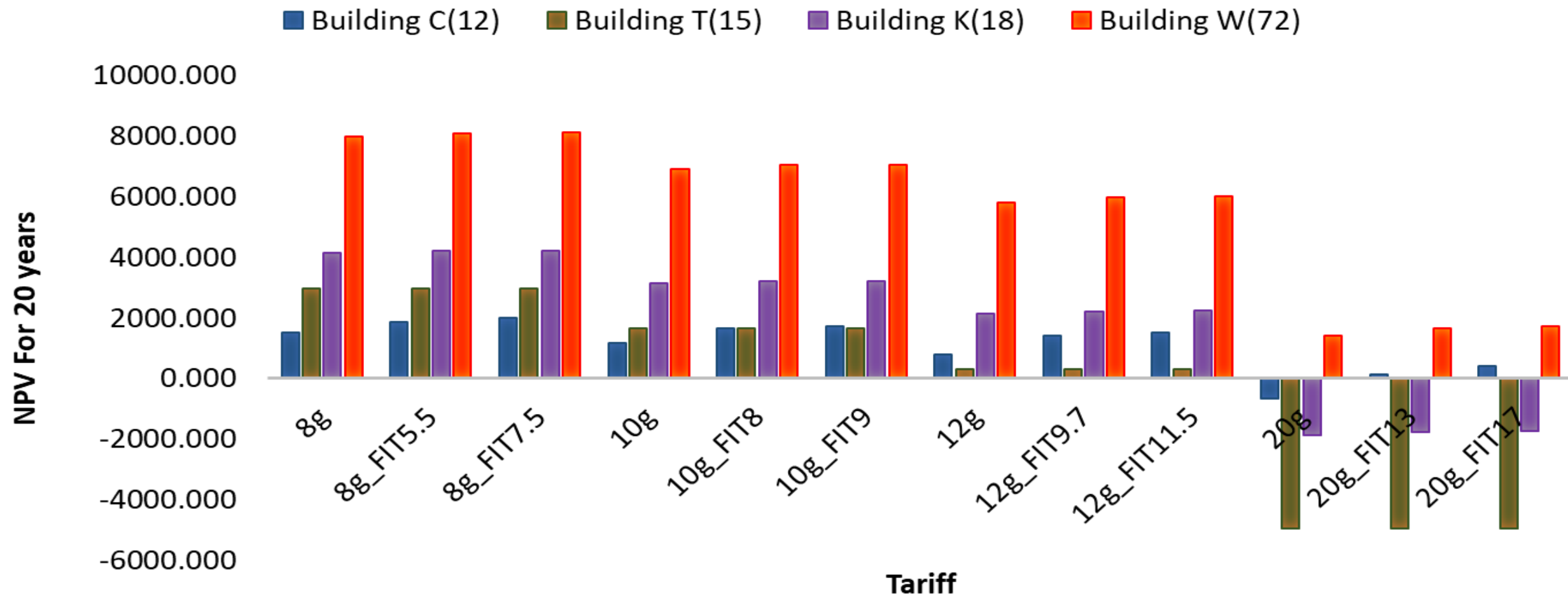
# Solar Retailer Profit for Shared Behind the Meter

## AVERAGE HH BILLS VS SOLAR RETAILER PROFIT



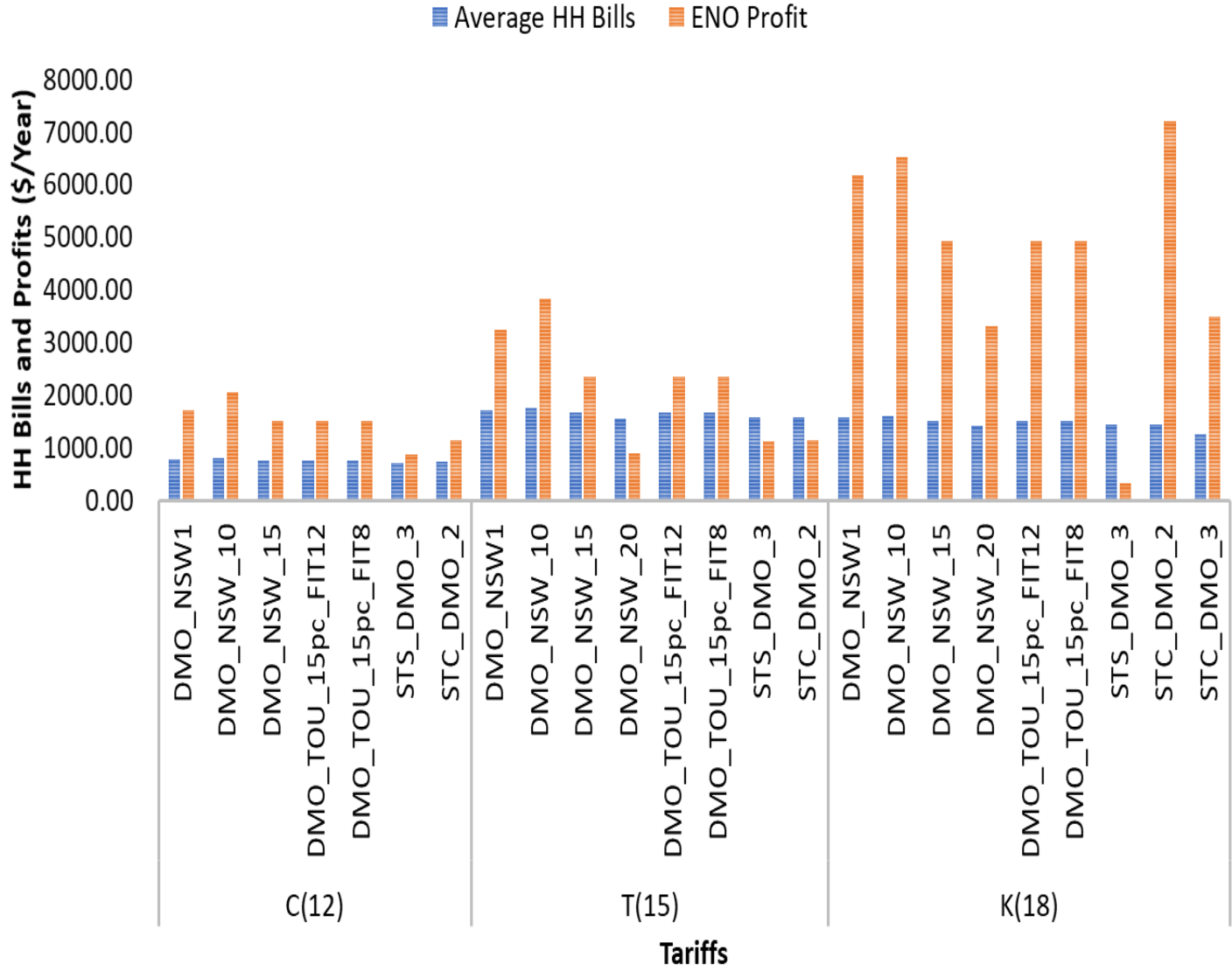
# Embedded Network Advantages

## NPV PER APARTMENT FOR THE MAX YIELD PV

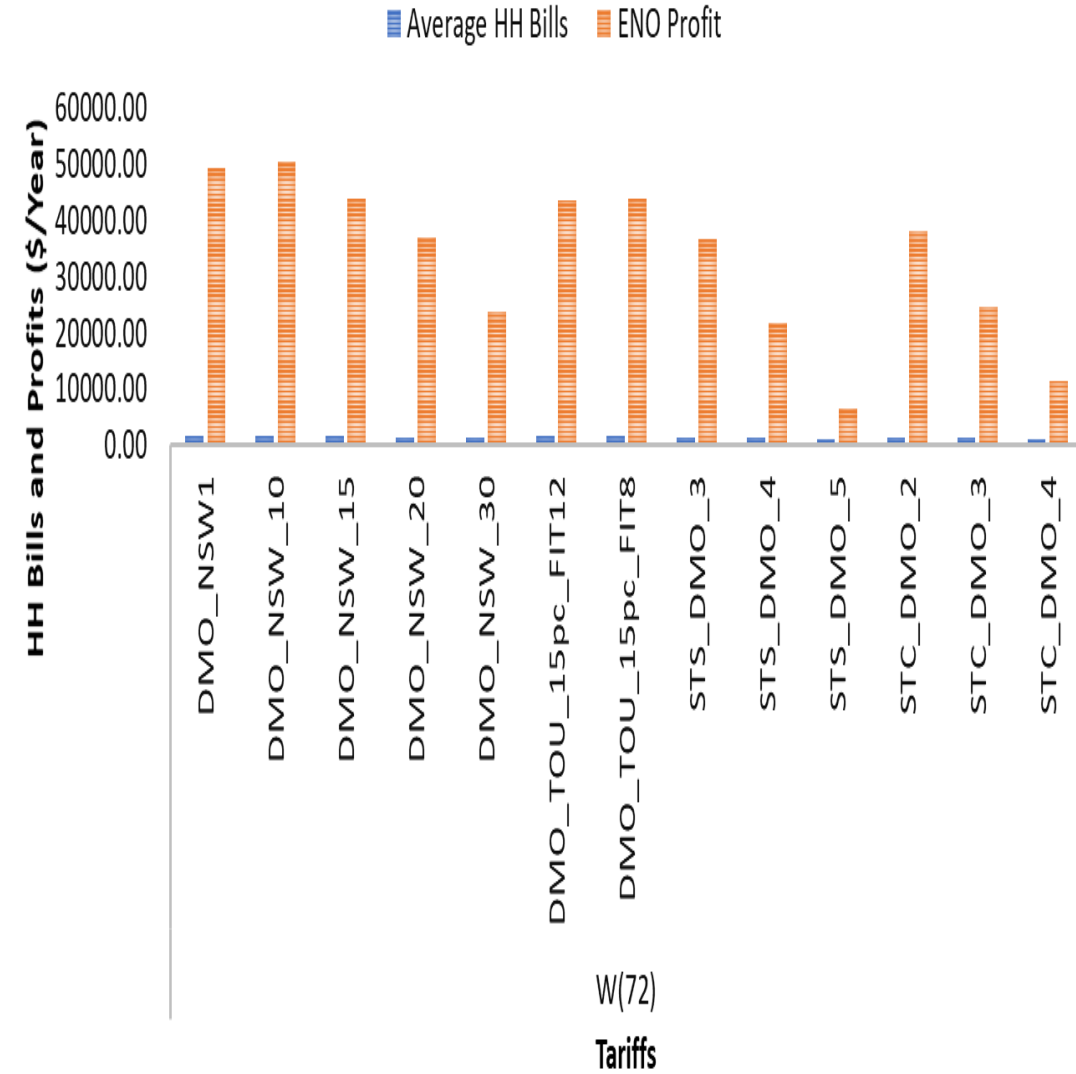




# AVERAGE HH BILLS VS ENO PROFITS



# AVERAGE HH BILLS VS ENO PROFITS



# Conclusion

- Smaller apartment buildings with good solar PV potential might be best served by installing PV as Individual Behind The Meter, keeping in mind that their annual household bills should not exceed the business as usual.
- For medium-sized buildings, shared behind the meter can be a good option if the savings can be shared appropriately across the apartment owners and solar retail. They may also go for an embedded network under certain circumstances.
- For larger buildings, the installation of an embedded network may well be the best.

