

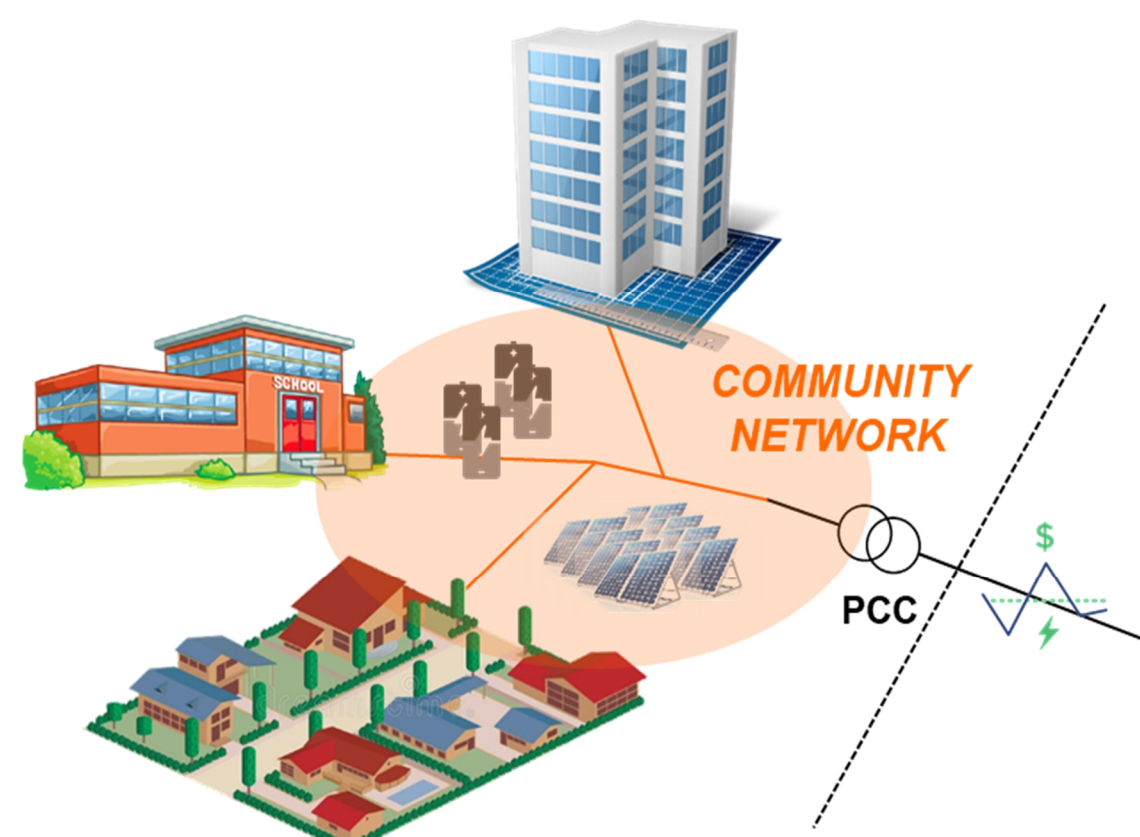
How Impactful is Regulatory Uncertainty in the Economics of Community Microgrids?

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Background

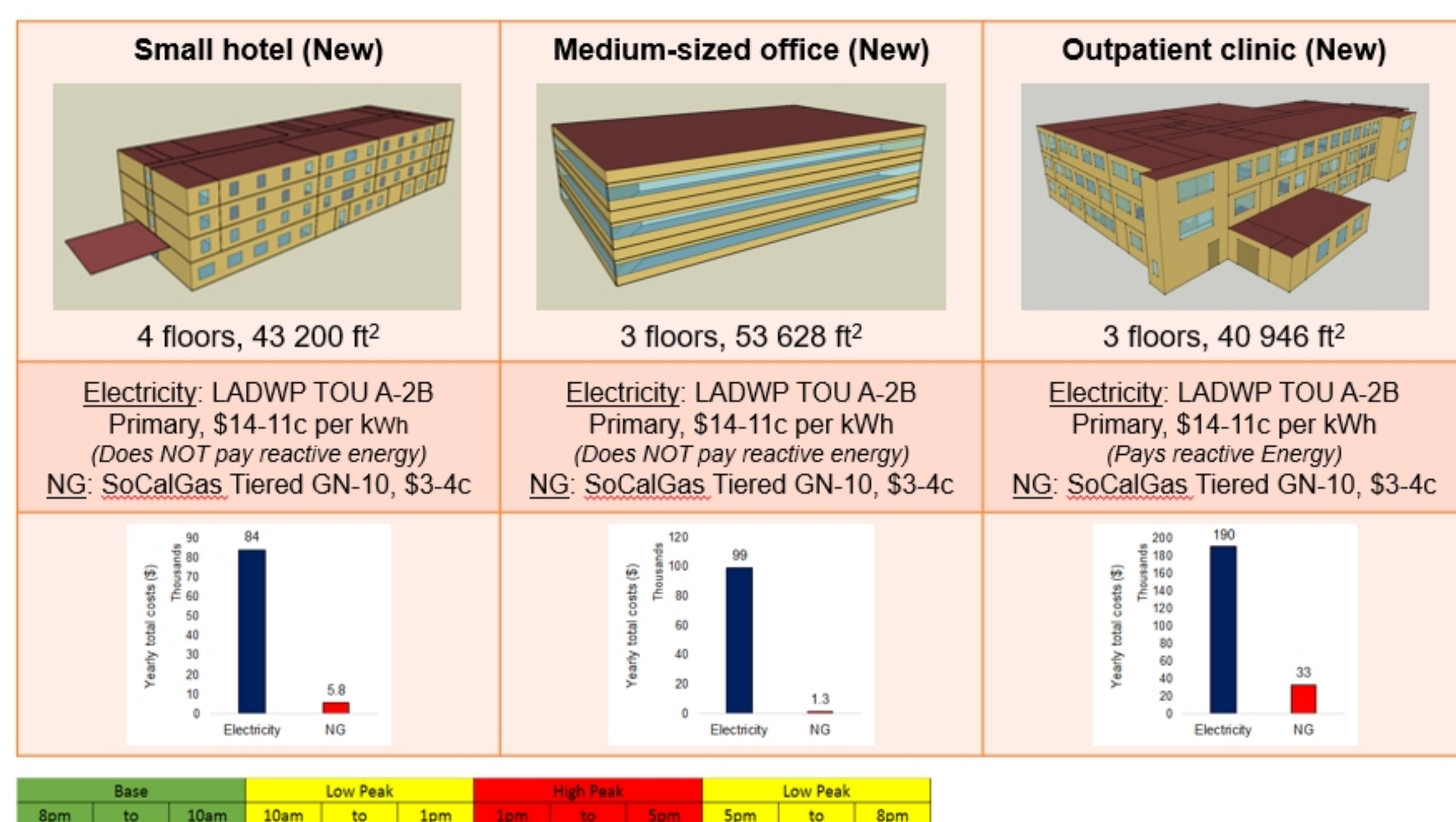
- Community microgrids have gained increasing attention as **locally coordinated grid solutions serving groups of customers** in urban areas with high DER penetration;
- These systems face **myriad regulatory challenges**, which makes their economic value proposition uncertain;
- This research looks at two such challenges:
 - 1) Adequate charging of **franchise fees**, and
 - 2) Recovery of **distribution costs**.



Case study

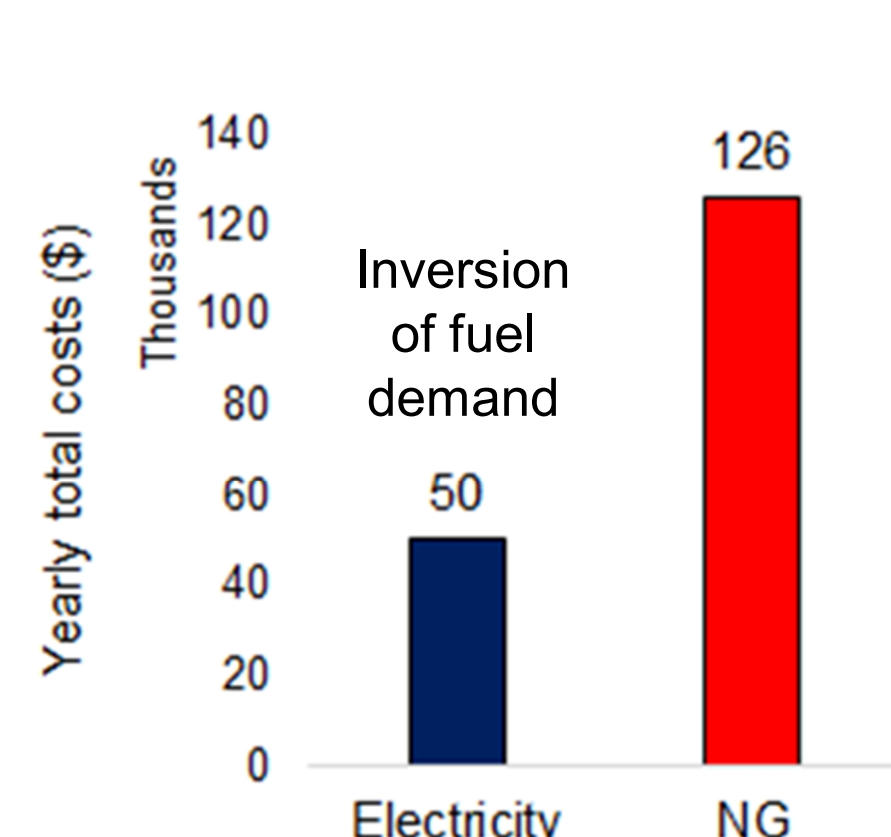
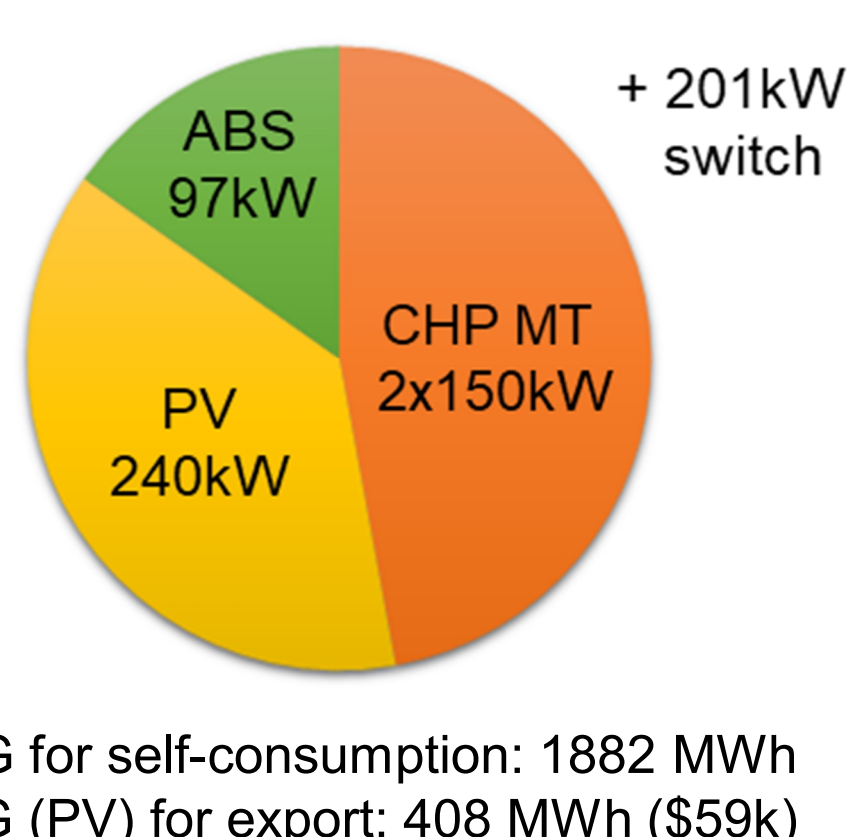
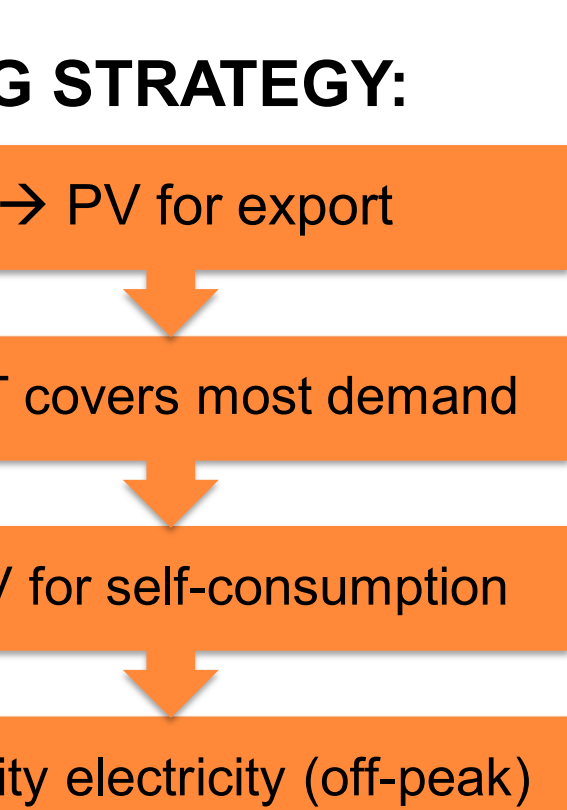
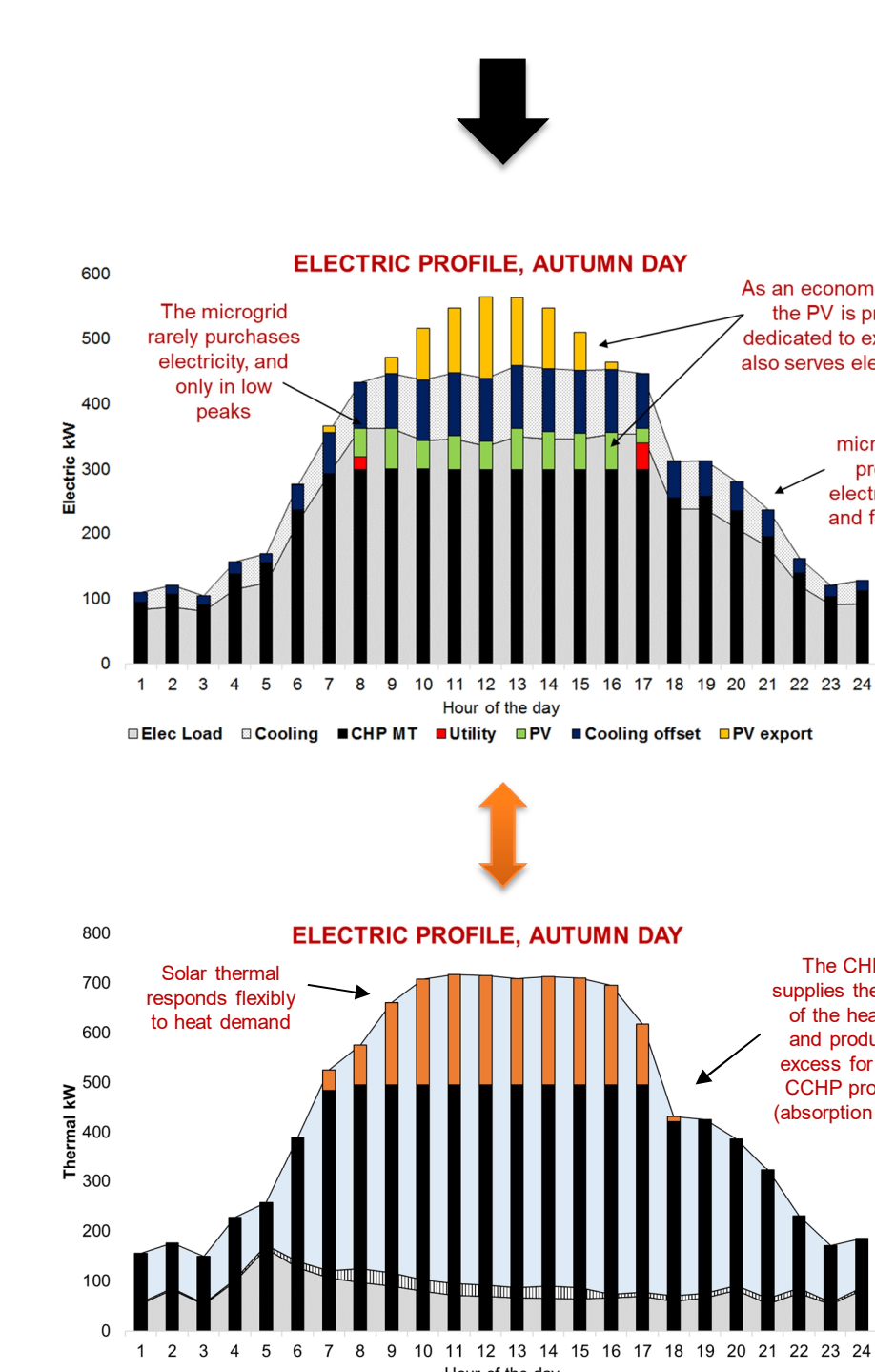
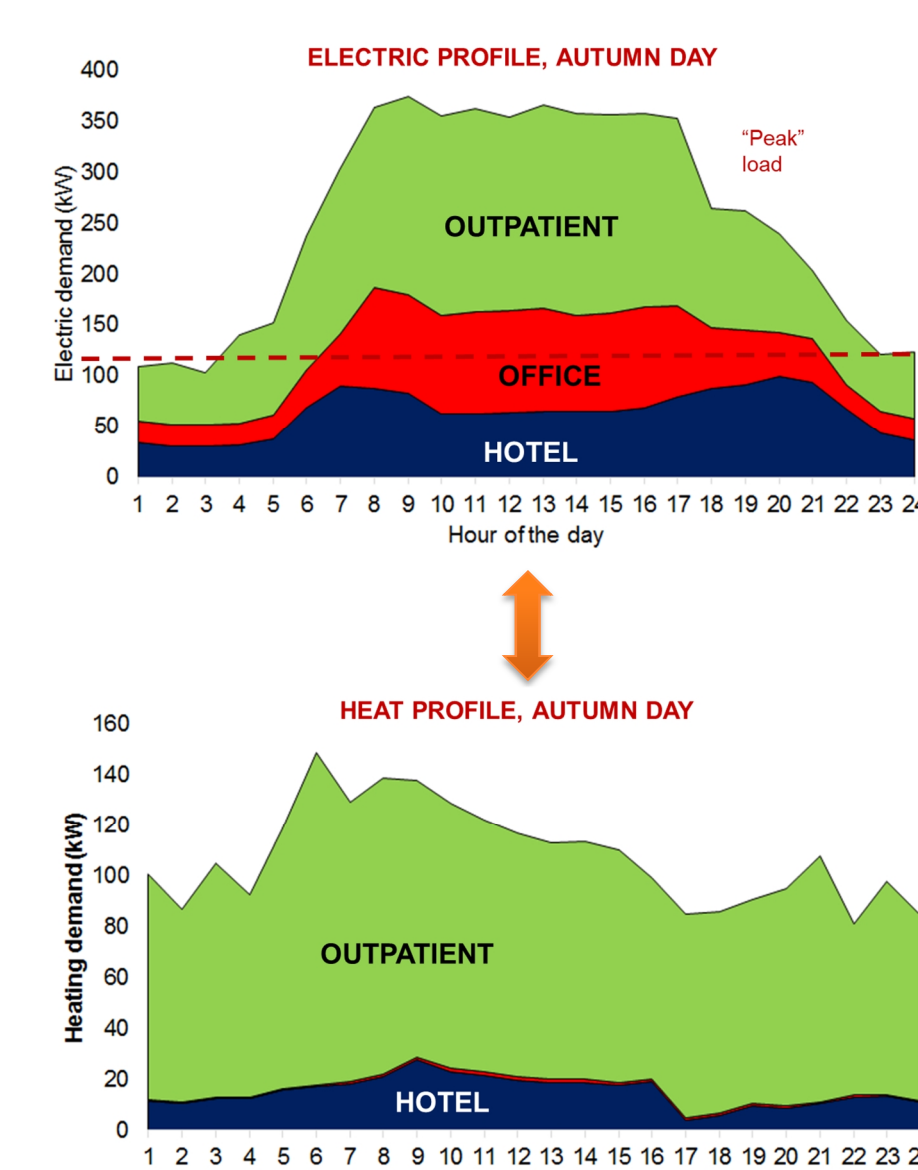
- A site composed of three commercial buildings in urban Los Angeles is chosen as test case.

BASECASE (BAU-serviced buildings):



REFERENCE CASE (Microgrid):

- Specific LADWP tariff for **DG-owner** customers;
- More favorable energy rate (\$13-9c/kWh);
- Participation in **FiT Program** (2019 \$14.5c);
- Per kW “**facility charge**” applied to either the highest electric demand or highest export.



Results

- The following plots show preliminary sensitivity results:

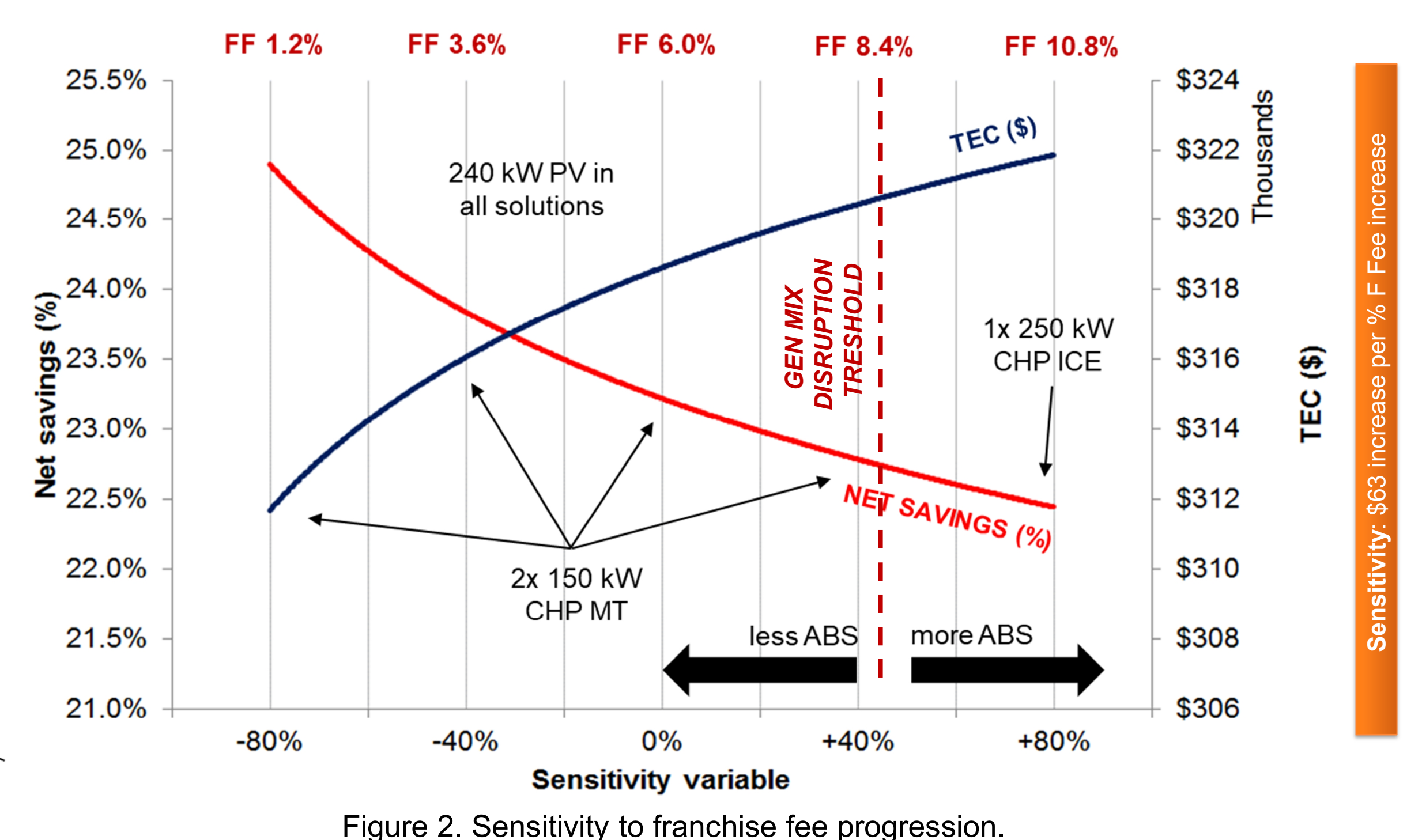


Figure 2. Sensitivity to franchise fee progression.

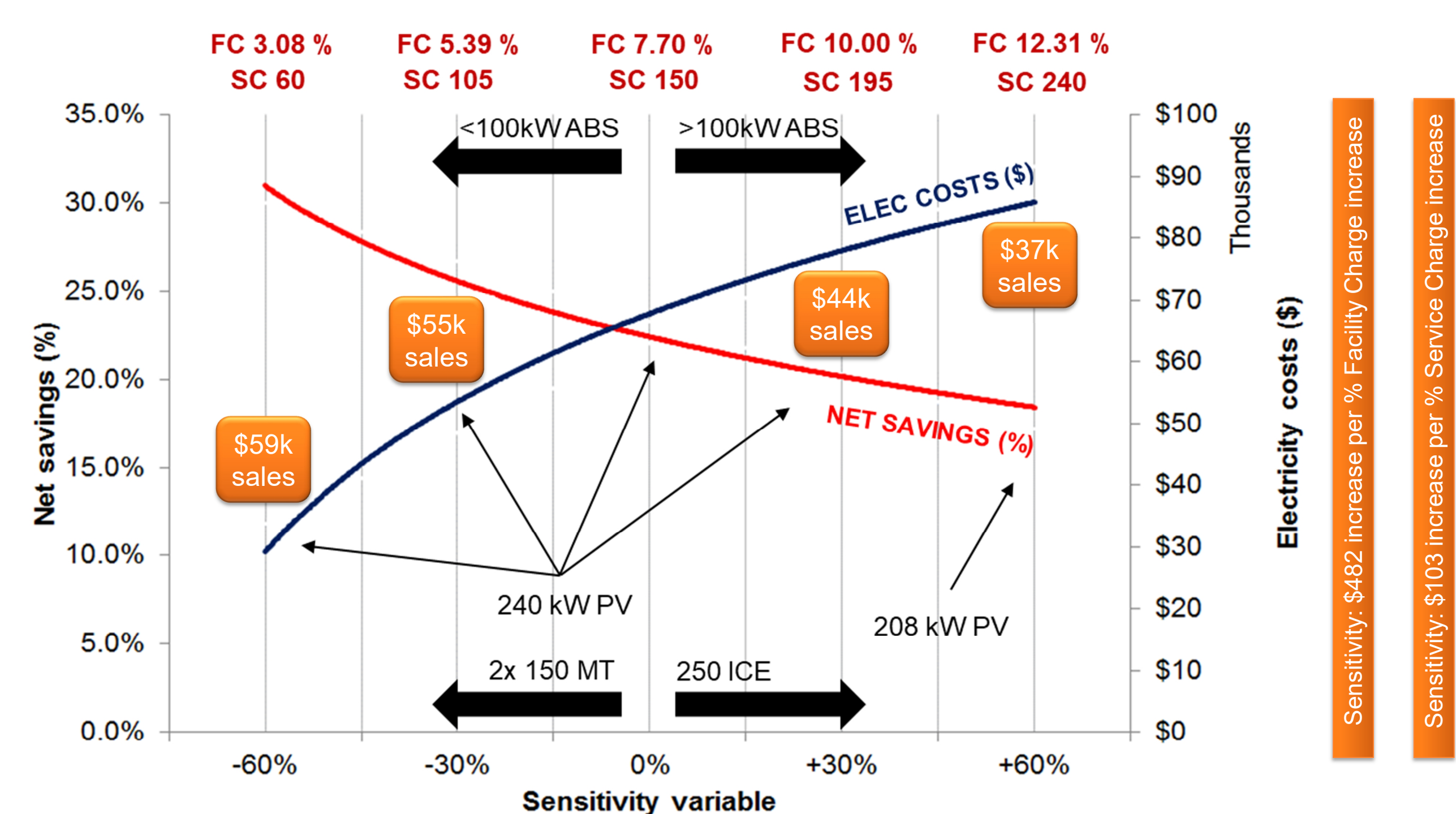


Figure 2. Sensitivity to distribution charge progression.

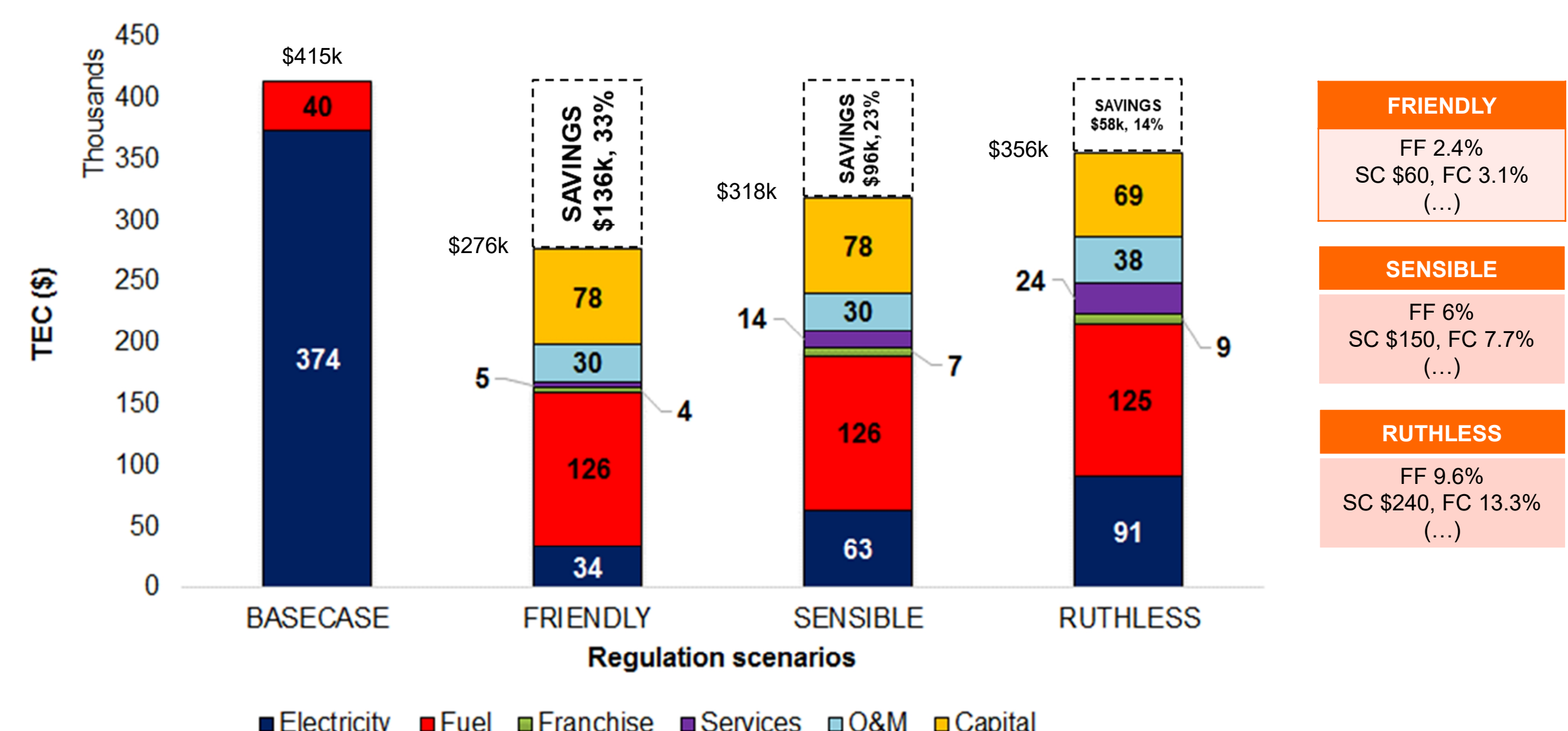
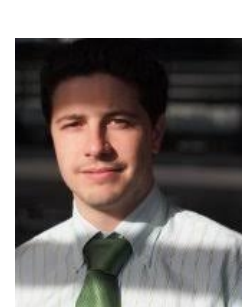


Figure 2. Regulatory scenario results.

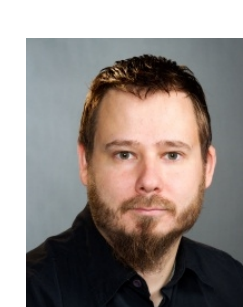
Concluding insights

- FFs and new distribution cost recovery mechanisms can **disrupt optimal DER portfolio decisions** and strongly impact key revenue streams of a microgrid;
- Strict regulation may deem certain microgrids infeasible.

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