



BERLIN

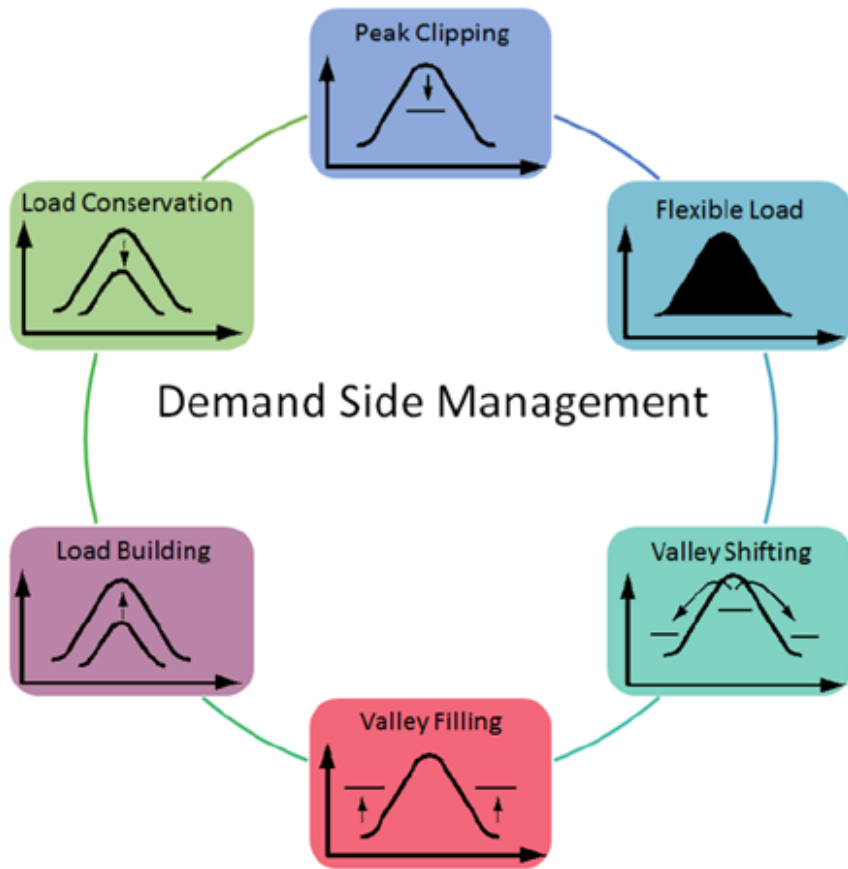
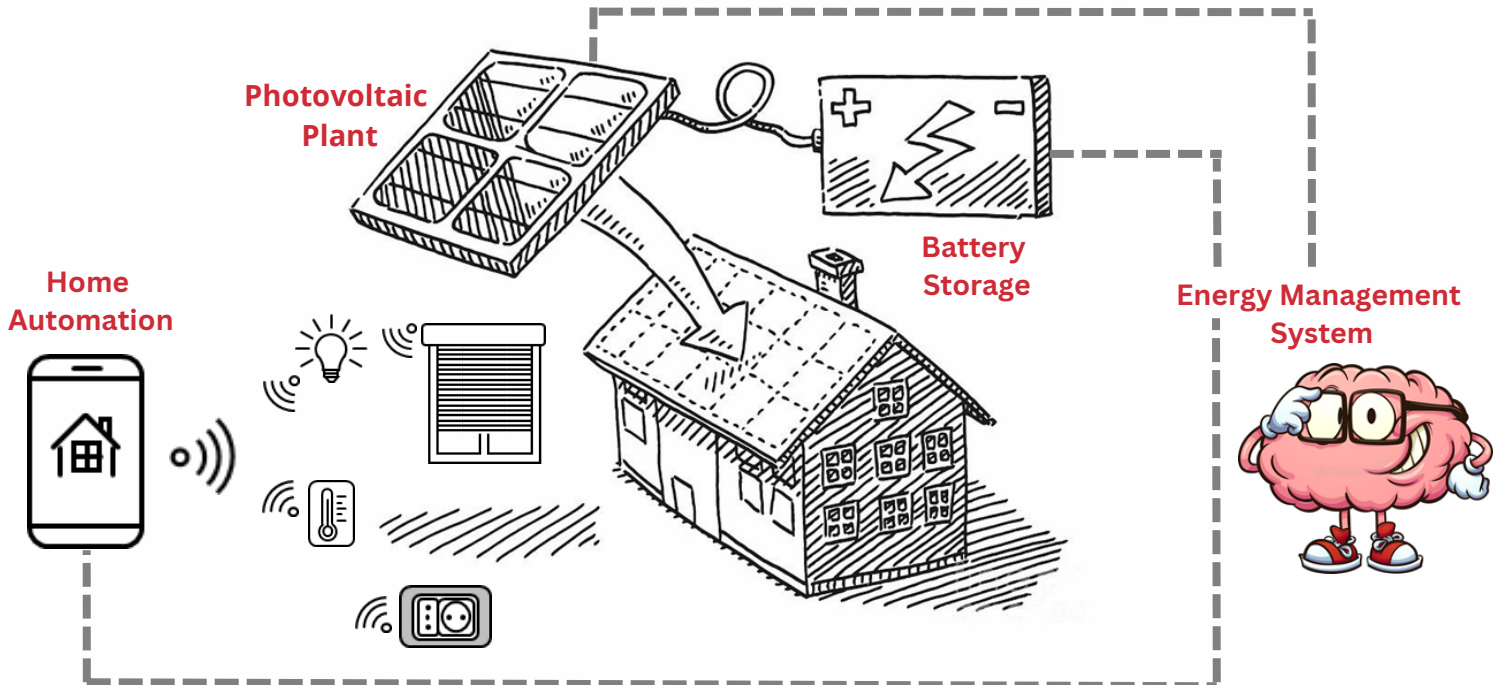
Cost-effective rehabilitation of public buildings into smart and resilient nano-grids using storage

Implementation of cross-border pilots transforming buildings to self-sufficient, smart nano-grids

PILOT CONCEPT

Optimal integration of 3 elements in cross-border pilot measures:

- **Photovoltaics**
- **Energy Storage System**
- **Demand Side Management**



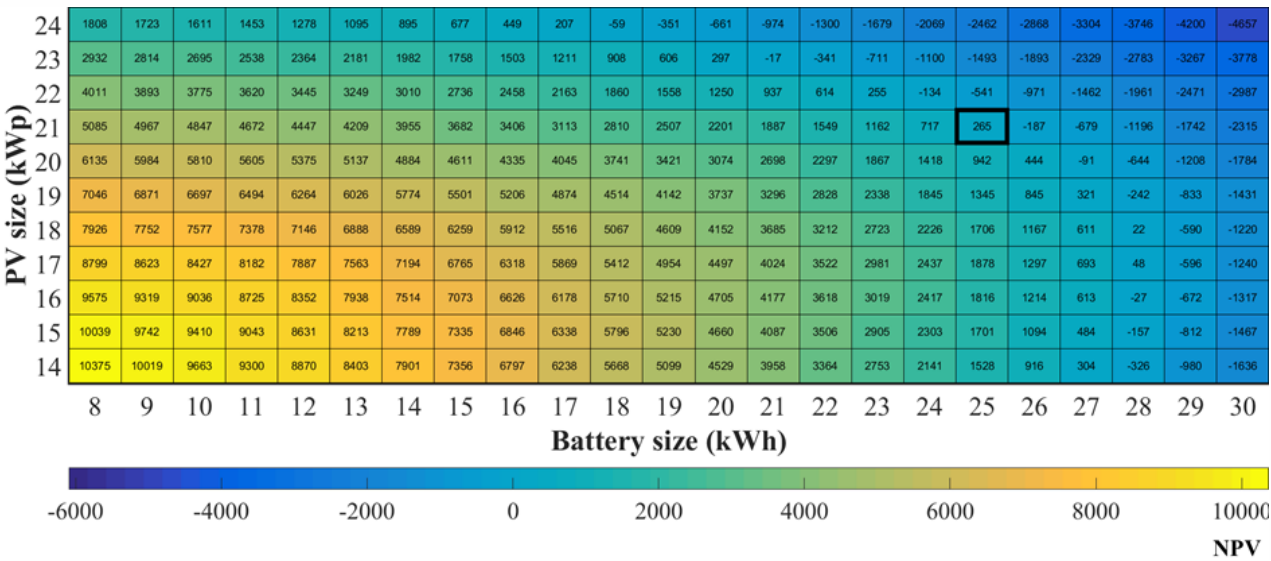
PILOT ACTIVITIES



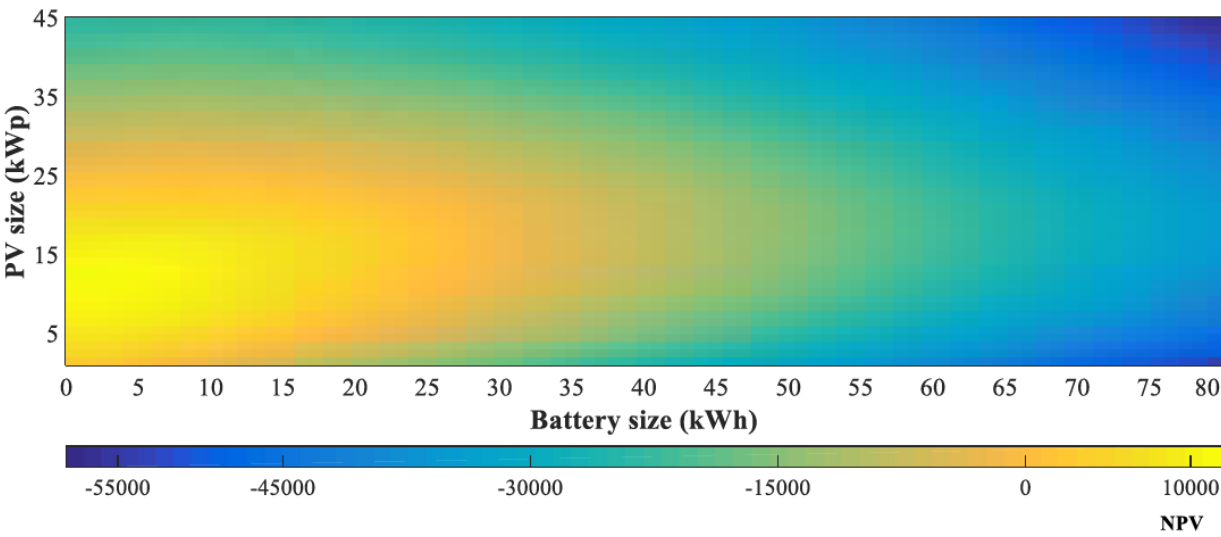
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COST-BENEFIT ANALYSIS RESULTS

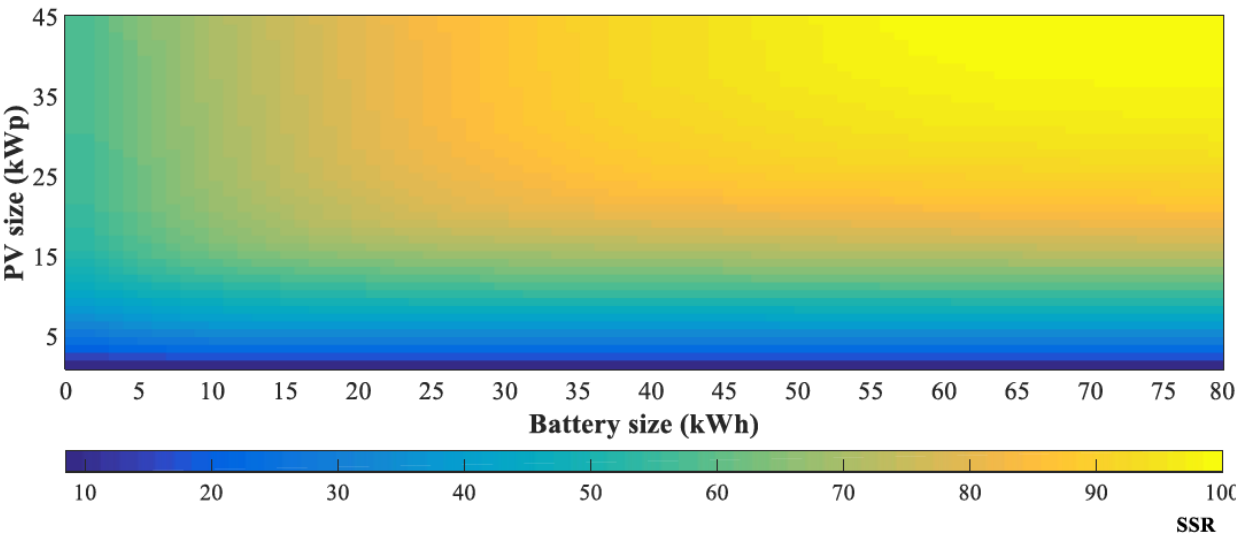
- When load shifting is available due to flexible loads, the profitability of the investment increases for solutions with larger PV and lower battery capacity
- For each flexibility level, there is a characteristic battery capacity that maximizes the investment profitability. This characteristic capacity remains almost constant for the various PV sizes examined and depends on the building's consumption and the battery system cost.
- The results demonstrate that the solutions providing the maximum possible self-sufficiency are not yet cost-effective in the absence of financial incentives



Sensitivity analysis to define the combination with the highest SSR and positive NPV: examination of NPV (in €)



Impact of hybrid PV and battery size on NPV (in €)



Impact of hybrid PV and battery size on SSR (in %).