

Online Companion: A Preference Informed Energy Sharing Framework for a Centralized Energy Community

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This manuscript serves as an electronic companion to [1]. We present the complementary input data, including prosumers target demand, PV power generation, and electricity market prices.

1 Supplementary input data

Fig. 1 displays the target demand data of prosumers. Fig. 2 showcases the hourly PV power generation of prosumers. Furthermore, Fig. 3 provides an overview of the commodity and grid electricity prices utilized in this study. Specifically, Fig. 3a displays the commodity prices from the gray and green energy suppliers, encompassing both buying from gray and green energy suppliers and selling prices to the gray supplier. Fig. 3b, on the other hand, demonstrates the grid prices, which include distribution and transportation costs by the DSO in individual operation mode, as well as local and complementary energy prices implemented when the energy community is settled.

References

- [1] J. Faraji, Z. De Greve, and F. Vallee, “A preference-informed energy sharing framework for a renewable energy community,” 2023.

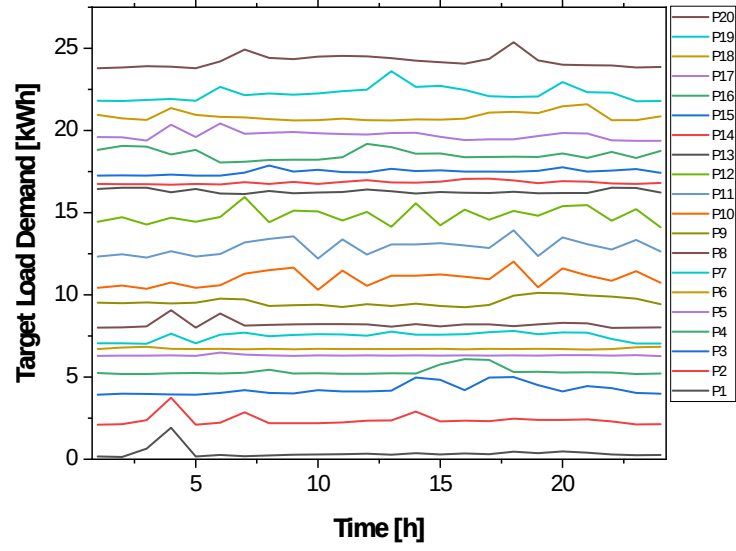


Fig. 1: Target load demand of prosumers.

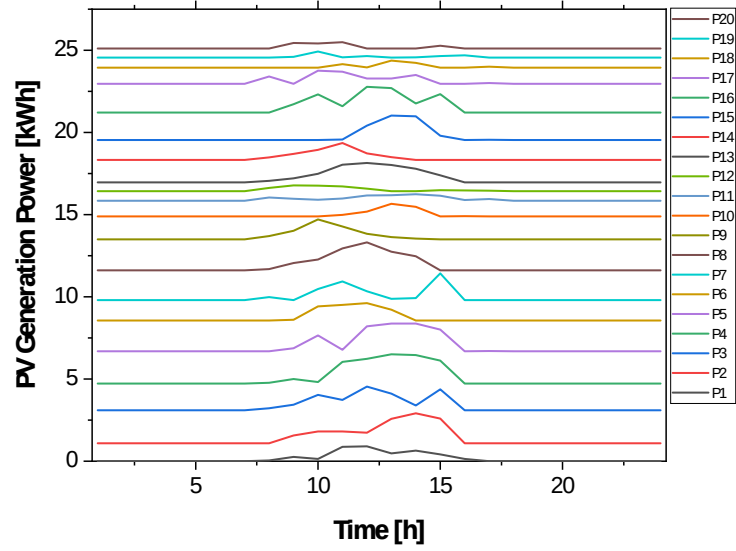
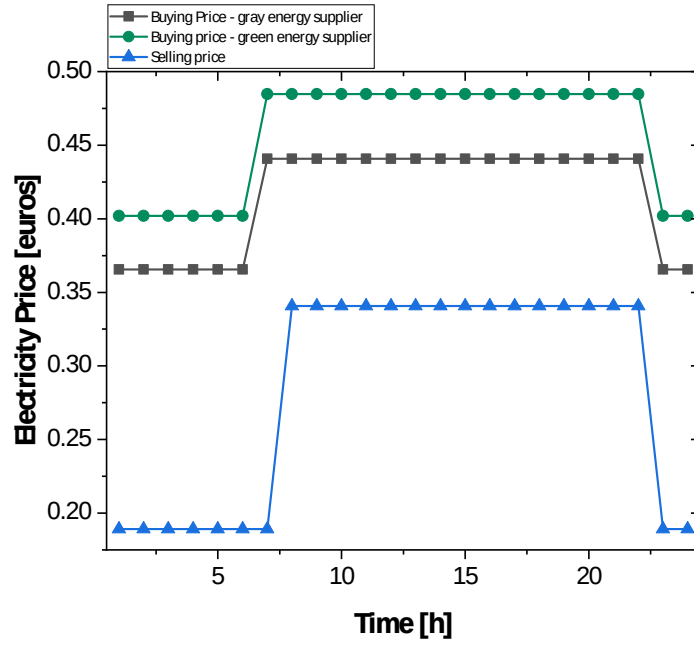
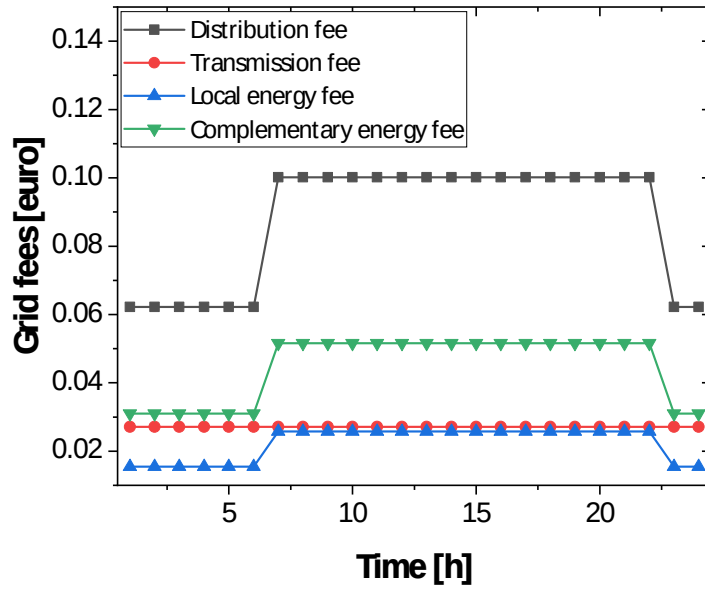


Fig. 2: PV power generation of prosumers.



(a)



(b)

Fig. 3: Electricity prices (a) commodity prices; (b) grid prices.