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A hybrid robust-stochastic approach to evaluate the profit of a multi-energy retailer in tri-layer energy markets

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#### **Highlights**

A new entity is introduced to meet energy demands of multi-energy consumers.

The role of P2X units is examined in exploiting opportunities in energy markets.

The impact of DRPs is investigated on the MER' profit.

Morteza Zare Oskouei: Conceptualization, investigation, writing-original draft.

Mohammad Amin Mirzaei: Methodology, software.

Behnam Mohammadi-Ivatloo: Supervision, validation, project administration.

Mahmood Shafiee: Writing-review and editing.

Mousa Marzband: Supervision.

Amjad Anvari-Moghaddam: Formal analysis, data curation.

**Declaration of interests** 

The authors declare that they have no known competing financial interests or personal relationships at could have appeared to influence the work reported in this paper.
The authors declare the following financial interests/personal relationships which may be considered potential competing interests: