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From passive source to active energy management: energy storage and the development of Poland's prosumer PV market

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Introduction and research aim

Poland's prosumer PV segment (≤50 kW) reached 13 GW by mid-2026, but its development has been highly volatile: a boom driven by subsidies and net-metering ended with the switch to net-billing in April 2022 (Fig. 1). Since 2024, household energy storage has spread rapidly.

The study identifies the determinants of the segment's development and examines whether storage has changed the role of the PV installation.

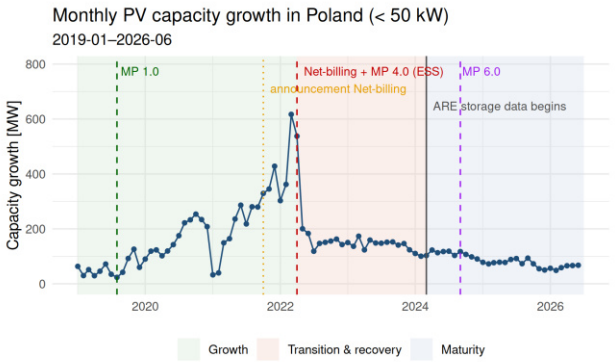


Fig. 1. Source: own elaboration based on ARE data.

Research methods

Porter's diamond → IDI n = 15 → CAWI n = 158 → ARE / GUS 2019–2026 → OLS Model A / B

Sequential mixed-methods design with triangulation. Porter's diamond guided the selection of determinants; 15 in-depth interviews with manufacturers, distributors and installers informed the variables; 158 industry experts rated 19 factors in a CAWI survey (1–5 scale). Monthly ARE, GUS and GPW Benchmark data (2019–VI.2026) fed two OLS models: Model A (full period) and Model B (from III.2024, when ARE began reporting prosumer storage).

Hypothesis (H)

Energy storage has emerged as a new driving force of the prosumer PV market in Poland, transforming the PV installation from a passive energy source into an active energy management system.

H is supported if: (1) more storage goes together with more new PV in every model variant, and the model predicts recent months better than a simple "no change" forecast; (2) experts who rate storage as important also rate energy management systems as important, more than unrelated factors such as recycling.

Results and discussion

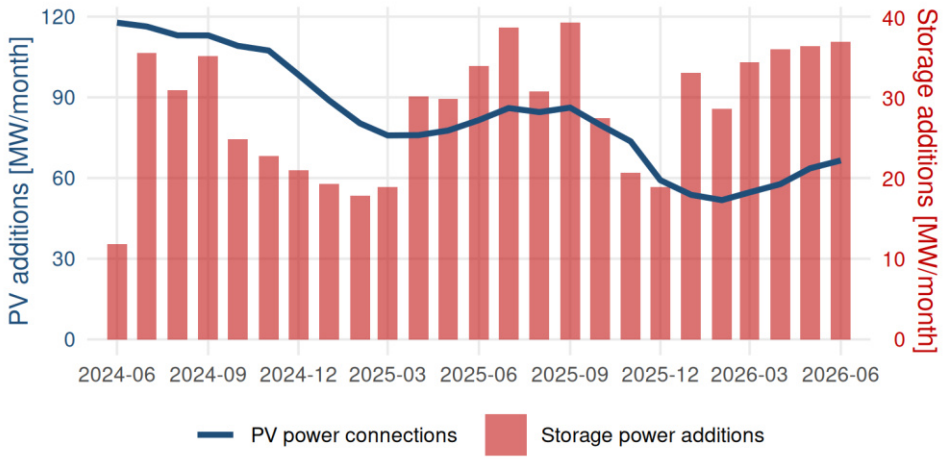


Fig. 2. Monthly prosumer PV connections (≤50 kW; 3-month moving average) and storage power additions in Poland, VI.2024–VI.2026. Monthly storage values interpolated between quarterly ARE data. Source: own elaboration based on ARE data.

−23%
new PV power
Jan- Jun 2026 vs Jan - Jun 2025

+37%
new storage power
Jan – Jun 2026 vs Jan – Jun 2025

×15
storage power since III.2024
(PV power: +21%)

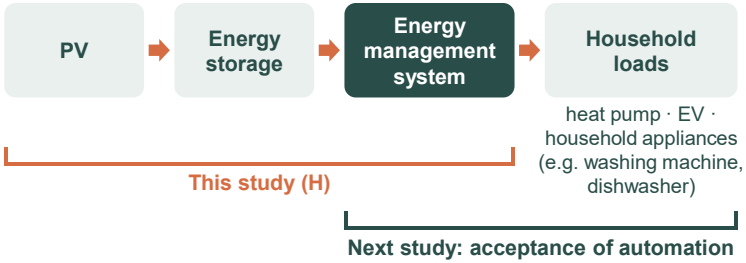
In Model B, storage has a positive effect in all robustness variants: each additional MW of storage is associated with 0.7–1.2 MW of new PV. The model forecasts IV–VI 2026 better than a naive benchmark (MAPE 4.4% vs 11.8%). In the CAWI survey, storage ratings are linked most strongly to energy management systems (ρ = 0.51), the only link that holds after controlling for response style. Interviewees described storage as the industry's "lifeline".

Conclusions

H is supported: storage has become a new driving force of the prosumer PV market, and its role is tied to energy management rather than to PV alone.

For management practice, value is shifting from selling installed capacity (kWp) to selling energy management; the next layer is coordinating household loads such as heat pumps, electric vehicles and household appliances.

Limitations: a short storage series (nine quarters); associations rather than causal effects.



References

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