

BYD Smart Home Energy Ecosystem: Integrating Clean Energy, Mobility, and Smart Living

1. Company Overview

- Operates in 70+ countries with global clean energy presence
- Delivered 3M+ EVs in 2023, among top global producers
- Leader in battery + EV technology integration
- Vertically integrated model reduces cost and boosts innovation
- Positioned at forefront of global energy transition growth

2. Brand Extension Idea (What is it?)

- Integrated system: solar + EV charging + home battery
- Enables 60–80% home energy self-sufficiency
- Connects EVs with home grid for bi-directional energy use
- AI optimisation can reduce energy costs by up to 20%

4. Sustainability Link (Why it's responsible)

- Reduces household carbon emissions through renewable energy use
- Supports global net-zero targets and energy transition goals
- Minimises reliance on fossil fuels and grid electricity
- Promotes circular energy usage through battery storage systems (Armiento et al., 2025)

5. Value Proposition (Why customers + investors care)

- Cuts energy costs by 15–25% (Schiffer, 2023)
- One system: home + EV energy integration
- Reduces carbon footprint significantly
- Targets high-growth \$1T+ clean energy market

Conclusion

The BYD Smart Energy Ecosystem supports sustainable living through clean energy integration. It offers cost savings and strong growth potential.

References

- Almughram, O., Ben Slama, S. and Zafar, B., 2022. Model for managing the integration of a vehicle-to-home unit into an intelligent home energy management system. *Sensors*, 22(21), p.8142.
- Armiento, M., Lelli, M., Andrews, C., Idini, B. and Ruff, R., 2025. Analysing the global workforce dynamics of the energy transition: main findings from the World Energy Employment report 2023. *Discover Sustainability*, 6(1), p.35.
- Melnyk, T., Demkiv, Y. and Salamatina, K., 2024. Specifics of Pricing Policy in the Global Energy Market in Context of Energy Transitions.
- Schiffer, H.W., 2023. Forecasts and scenarios for global energy supply up to 2050-synopsis of the approaches and results of studies published in 2023. *vgbe energy journal*, 11.

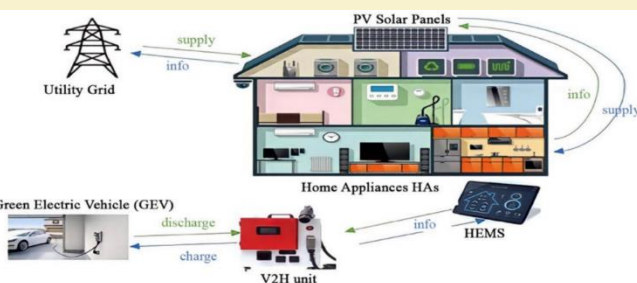


Figure 1: Conceptual model of integrated smart home energy ecosystem linking solar, battery storage, and EV charging (Almughram et al., 2022).

3. Market Opportunity (Trends / demand)

- Renewables to grow +60% by 2030
- 40%+ consumers considering solar (Melnik et al., 2024)
- Rising energy costs drive independence demand
- EV growth increases need for integrated energy