



Batteries in PNG: Backup, Stability & New Opportunities

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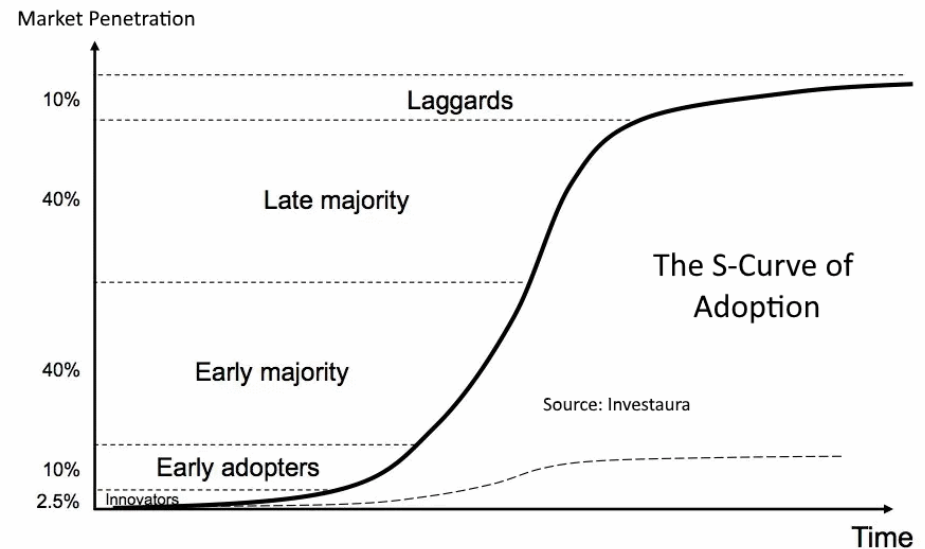


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Adoption Drivers

- Outages, weak grid, diesel reliance
- Large offgrid population
- Climate obligations - NDCs
- Solar + battery = key solution
- Policy change essential for scale-up



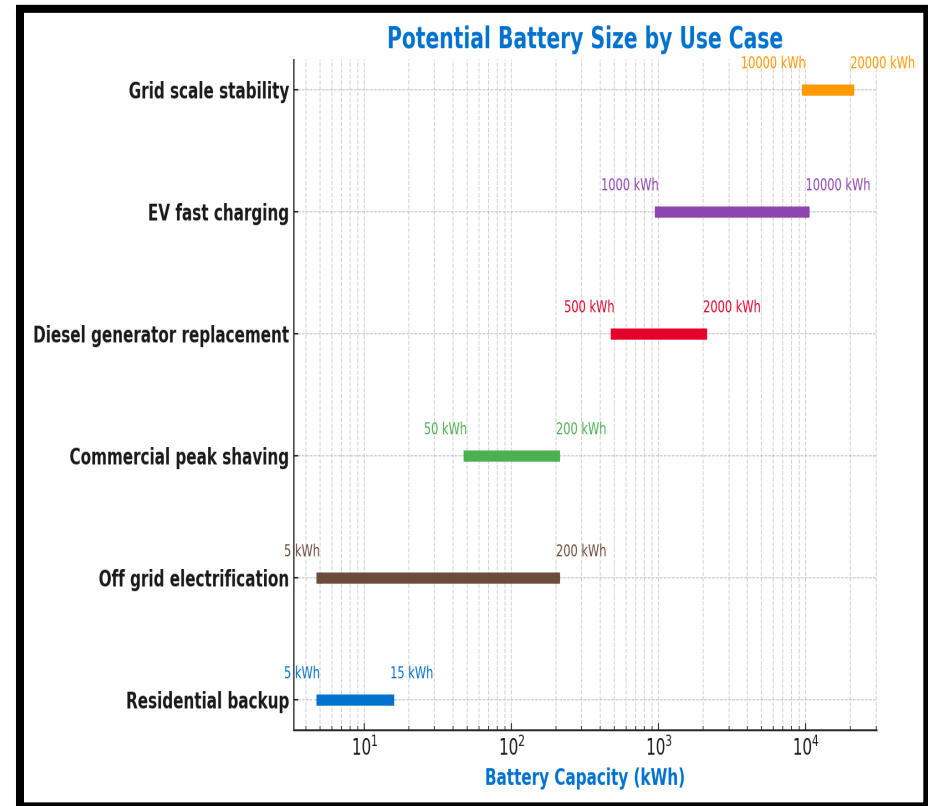
Batteries as Backup During Outages

- Instant switchover
- Silent, no fuel
- Recharges from grid or solar
- Affordable



Batteries vs / with Diesel Generators

- Replace genset for short outages
 - Many blackouts are 2 hours
 - Allows size to be estimated
- Partner to reduce runtime
 - Batteries can replace or shorten genset use
- Already used by UPS systems
 - Precedent for usage
- Cut OPEX & maintenance
 - Genset speed can be optimised for fuel efficiency and wear



Tackling Voltage & Frequency Instability

- Major problem for electrical appliances
- Site-level: cleans power for one site
- Grid-scale: stabilises voltage & frequency
- Works best with flexible generation

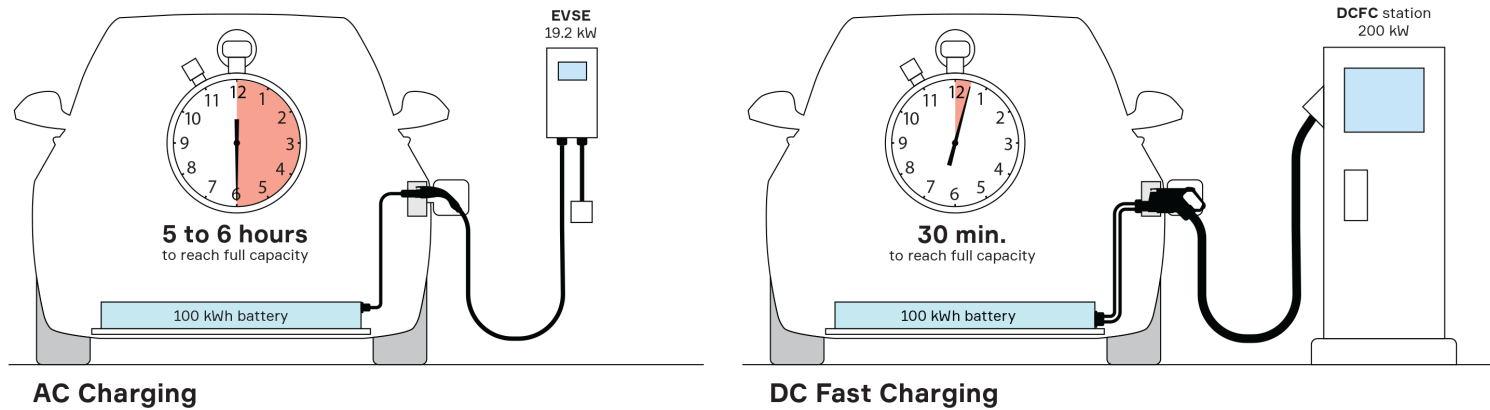


Batteries for EV Charging

- Weak AC grids limit fast charging
- DC Batteries provide power boost
- EVs as mobile storage
- Temporary power for offgrid sites

The DC Difference

DC Fast Charging can fully charge an EV battery in a fraction of the time it takes AC charging.
(Note this is a simplified example that ignores battery de-rating effects.)





Summary & Call to Action

- Allow PV + battery daily use
- Approve Offgrid Regulations
- Plan for EV demand
- Build capable workforce
- Open up finance sector

Q&A

Questions?

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Solar Energy Association WhatsApp group:

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