

This factsheet was produced by the Jamaica Energy Resilience Alliance (JERA) with USAID support under the Strengthening Energy Sector Resilience in Jamaica project (SESR-Jamaica). Under SESR-Jamaica, JERA supports Jamaican businesses seeking to reduce power costs, increase the reliability of electricity supply, and green their operations. For more information visit [cadmusgroup.com/jamaicaenergy](http://cadmusgroup.com/jamaicaenergy).

# SOLAR PV+STORAGE

## For Jamaican Businesses

### Why add batteries to a PV system?

Adding battery storage to a solar photovoltaic (PV) system can help Jamaican businesses:



#### Increase PV utilization.

Excess electricity sold to the grid is compensated at a lower rate than energy consumed from the grid. Storing excess electricity in batteries for later use allows businesses to maximize the value of their PV systems.



#### Improve business resilience.

Batteries offer resilience benefits by providing backup power during outages, including during extreme weather events, allowing you to continue operating equipment.

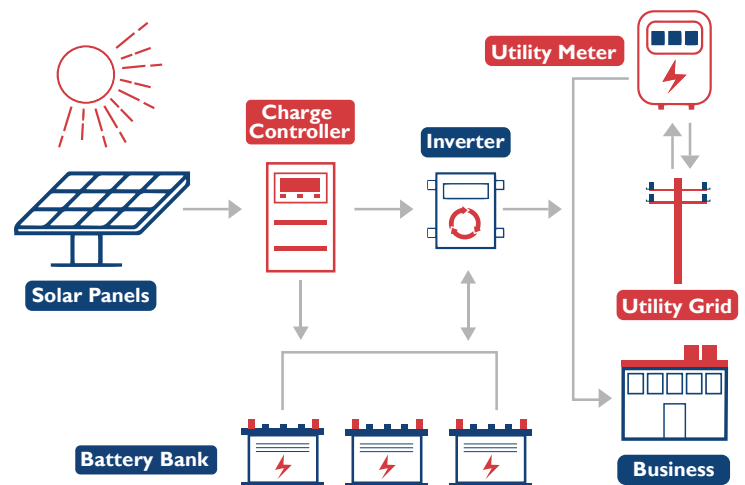


#### Manage peak electricity demand.

Batteries can be used during periods of peak electricity demand to reduce associated demand charges.

### How does battery storage work?

1. PV panels generate electricity from the sun.
2. A charge controller determines how much of the PV electricity is used to charge the battery system.
3. The electricity from the PV system is stored in the battery as direct current (DC) electricity.
4. When needed, DC electricity from the battery is sent to an inverter that converts it into alternating current (AC) electricity.
5. AC electricity is used on site when the PV system is no longer generating electricity (e.g., at night or during grid outages).





## Frequently Asked Questions

### Is battery storage right for my business's PV system?

This will depend on your electricity consumption profile, the availability of space for batteries, and whether you can install a large enough PV system to generate excess electricity. If your business consumes the bulk of its energy throughout the day while your PV system is most productive, battery storage may not provide any additional benefits. However, if most of your consumption is outside this solar window and you can install a PV system large enough to generate electricity that can be stored and consumed during evening peak hours, you may be able to achieve greater financial benefits by adding battery storage.



### Do I need batteries to continue operating a PV system during outages?

Yes. In the event of a power outage or blackout, a grid-tied PV system will automatically shut off to prevent injury to emergency responders and utility repair workers. However, PV systems that include battery storage (PV+) are designed to operate independent of the utility grid and will continue to supply power during outages. The amount and duration of that supply will depend on the size of the PV+ system and how much power is required during the outage.



### Can I go off-grid with a PV system with battery storage?

It is possible for PV+ systems to allow businesses or homes to go off-grid. An off-grid system would require enough solar panels to generate a full day's worth of power during the daylight hours and ample battery storage capacity to store and release that power during periods of no or limited sunshine.

### How do batteries affect the cost and financial returns of a PV system?

There are additional costs associated with a battery storage system; however, like a normal PV system, these costs can be paid back over time through electricity bill savings and other avoided losses associated with loss of power. Batteries can provide added financial benefits by allowing you to continue business operations during grid outages, consume more of the cheaper electricity generated by the PV system, and reduce the demand charge on your electricity bill.



### What are my ownership and financing options for a PV+ system?

The JERA team will work with you to identify available sources of financing that meet your business needs and help you maximize returns on your PV+ investment. Ownership options include:

- Direct ownership: you purchase the system directly from an installer who is responsible for installing, operating, maintaining, and decommissioning.
- Lease financing: lease financing allows customers to lease PV or PV+ systems over time through predictable monthly payments. Leases can be from 5 to 12 years or more, depending on the wishes of the client.

Learn more and sign up for a free PV+ consultation at  
[www.cadmusgroup.com/jamaicaenergy](http://www.cadmusgroup.com/jamaicaenergy)

Questions? Contact: [jamaicaenergy@cadmusgroup.com](mailto:jamaicaenergy@cadmusgroup.com)

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