HUIJUE GROUP



Backup Internet for Remote Energy Sites: What Equipment Should You Buy?

A second network connection and a backed-up power circuit solve different problems. Decide which your site needs, compare itemized offers and agree on a field test before handover.

PRODUCT KNOWLEDGE

Backup Internet for Remote Energy Sites: What Equipment Should You Buy?

Buy a second route for a network outage. Add backed-up power if the equipment on that route cannot ride through a power outage. Here is how to tell which items belong on your purchase order.

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Equipment buying guide
Approx. 6 minute read

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Before ordering a second internet connection for a remote solar or battery site, ask the technician to trace one cable: where does the outdoor modem get its power? The answer may change the order. A site with a spare, battery-backed output might need only a modem and an activated service. A site with the same modem plugged into an ordinary wall outlet can lose both its main connection and its backup the moment utility power fails.

Does the site need a backup link, a power cabinet, or both?

Buy **backup internet** hardware for the failure the existing connection cannot survive. Reuse the present power system if it can carry the gateway, router and outdoor terminal for the required outage. If it cannot, price a protected branch or a cabinet as well as the new link.

Working backup power, but only one route out

At a fiber-fed site, start by surveying cellular coverage at the intended antenna position. A cellular modem, antenna and active data plan can provide the second route. Add a router with two wide-area network (WAN) connections only if the existing router cannot select the backup automatically. If both connections are cellular, ask whether the two services use the same tower or upstream transmission link. Two SIM cards are little help

against the loss of a tower they share. A single dual-WAN router also remains a common point of failure; specify a separate gateway only if router failure is among the events the buyer wants covered.

A usable second network, but no protected supply for the terminal

Keep the existing cabinet if a suitable protected output, reserve capacity, space and cooling are available. Include the device at the far end of the power cable. A power-over-Ethernet (PoE) injector, for example, feeds an outdoor radio through its data cable. Backing up the router but leaving the injector on an unprotected outlet leaves the radio off. Depending on the equipment, the right purchase might be an approved DC-fed injector or a backed AC outlet for the manufacturer’s adapter, not another cabinet. Match the actual voltage range, connector and start-up demand before choosing.

No independent terrestrial path and no dependable power at the mounting point

Consider a separately mounted **satellite terminal** with a solar-and-battery supply, subject to local service availability and the terminal’s view of the sky. If a nearby facility has an independent upstream connection and a clear radio path, get a point-to-point wireless quote as well; both ends need power. The U.S. Department of Energy’s guide to remote solar-site connections is useful for those survey questions. Where no working primary service exists, a new satellite connection is the first connection, not a backup.

For the power side of that purchase, Huijue’s Satellite Communication Energy Cabinet family lists the HJ-PS-0105K and HJ-PS-0315K. It combines solar generation, a maximum power point tracking (MPPT) controller, lithium iron phosphate batteries, thermal management and power distribution for off-grid communications equipment. A cabinet quotation addresses how the terminal will be powered. It does not establish that the terminal, router or airtime is included. If the site already has power infrastructure, compare this option with a retrofit from the site energy equipment range .

Editorial illustration: the energy cabinet supplies power; the satellite terminal and network service are separate items.

What should the supplier include in a backup internet quote?

Ask each bidder to price the same working connection: the equipment at both ends of the power cable, the service that carries the data, and the work needed to bring it online. Mark each line as included, optional, owner-supplied or excluded. A blank cell is not a zero price.

Quote line	What to compare
Network hardware	Router or existing spare WAN port; modem or satellite terminal; antenna, mount, cable and any required power injector. Identify who owns the terminal if the service ends.
Power equipment	Reuse or retrofit the existing supply, or quote a populated outdoor cabinet. Identify the battery-backed outputs, converters and adapters; state which loads and operating hours the offer covers.
Connectivity charges	Separate activation and installation fees from monthly service, data allowances, overage and any minimum term. Compare both offers over the same period with the same expected backup traffic.
Field work and handover	Assign mounting, protected cable entry, electrical installation, service activation, network configuration and the witnessed site test. Include travel if a specialist must visit.

Consider a hypothetical solar monitoring station in Chile. Its existing router has a spare WAN port and a protected DC supply. Bid A includes a satellite terminal and service; Bid B adds a new outdoor cabinet. Before deciding that A is cheaper or B is safer, ask for the terminal power drawing. Suppose it shows an AC adapter, and the station has no backed AC outlet. Ask A to price a supported power interface and verify the existing battery reserve under the added load. Ask B to identify that interface inside its offered cabinet. If the retrofit meets the same outage target, there is no need to buy a second enclosure. If it does not, the cabinet premium now pays for an identifiable capability.

Who is responsible for getting the site online?

Put a name against three jobs before releasing the order: powering the terminal, activating its service and getting traffic into the owner’s monitoring platform. These can belong to three different parties. A factory test can show that a cabinet energizes a representative load; it cannot establish coverage at the site or permission to reach the owner’s network.

For an owner-supplied terminal, have the network contractor send its model, input window, peak demand and adapter details to the cabinet supplier. The cabinet supplier can then identify the exact **protected power output** on the drawing. Give the installer both documents before the cabinet ships. If the operator later substitutes a different terminal, reopen that interface check rather than assuming the old adapter will fit.

Give the service account and renewal date to the team that will operate the site. Have the owner’s IT team approve routing and the secure connection from the backup network before the field visit. Decide which traffic may use a metered link: a low-battery alarm may need immediate delivery while a camera upload can wait. Use the same approved access controls on both paths; a public route directly to the battery controller

is not a substitute. The telecom site monitoring guide covers how field signals reach the operations team.

How do you verify backup power and connectivity at handover?

Test loss of the primary network separately from loss of the normal power source. In each case, use an authorized maintenance window and a harmless, uniquely identified test alarm. The engineer checks the active route and terminal power; the operator at the monitoring platform confirms that the new event arrived. A green router light or an old battery reading is not evidence of delivery.

1. With normal power available, have the network owner disable the primary path. Test a physical disconnect and, in a separate run, an upstream interruption that leaves the local Ethernet port up. Restore and verify the primary route between runs. In each run, confirm that a new test event reaches the platform over the backup route.
2. Return to the primary route and verify that the platform receives a baseline event. Have qualified staff simulate loss of normal power to the communications branch without defeating site protection. Check power at the gateway, router, injector or adapter, and terminal. Send an event on the primary route to test power loss alone. Then have the network owner select the backup route while the equipment is still on battery and send a different event. Record the actual test duration; a short transfer test does not demonstrate the full specified runtime.
3. Restore the preferred connection and normal power under the agreed procedure. Once routing is stable, send a different test event and check which path carried it. The newest reading should advance at the platform, not just at the cabinet display.

Agree on the allowed **alarm delivery time** before the test. For example, on synchronized clocks, a test alarm created at 09:14:10 and received at 09:14:35 took 25 seconds to arrive. If the contract allows 30 seconds from event creation, that event meets that criterion. It does not prove a 25-second network switchover. To measure switchover, record when the main path failed and when the backup route became usable. To measure delivery, record the event ID, creation and receipt times, and which route carried it.

Request a cabinet configuration and itemized quote

Send Huijue the site location, your present power source and internet connection, the communications equipment model or load, and the number of hours it must run without

normal power. A photo of the existing cabinet and the terminal’s power label is useful if drawings are not yet available. Ask for a price for the cabinet or retrofit, the proposed terminal power interface, and a separate list of network hardware, subscriptions and field work that others must provide.

Request an itemized quote

Contact Us

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