



# POWER YOUR TELECOM SITE WITH OLYMPIAN™


Hybrid Power for Telecom Applications — Solar Photovoltaic • Wind • Diesel • Battery

**CATERPILLAR®**



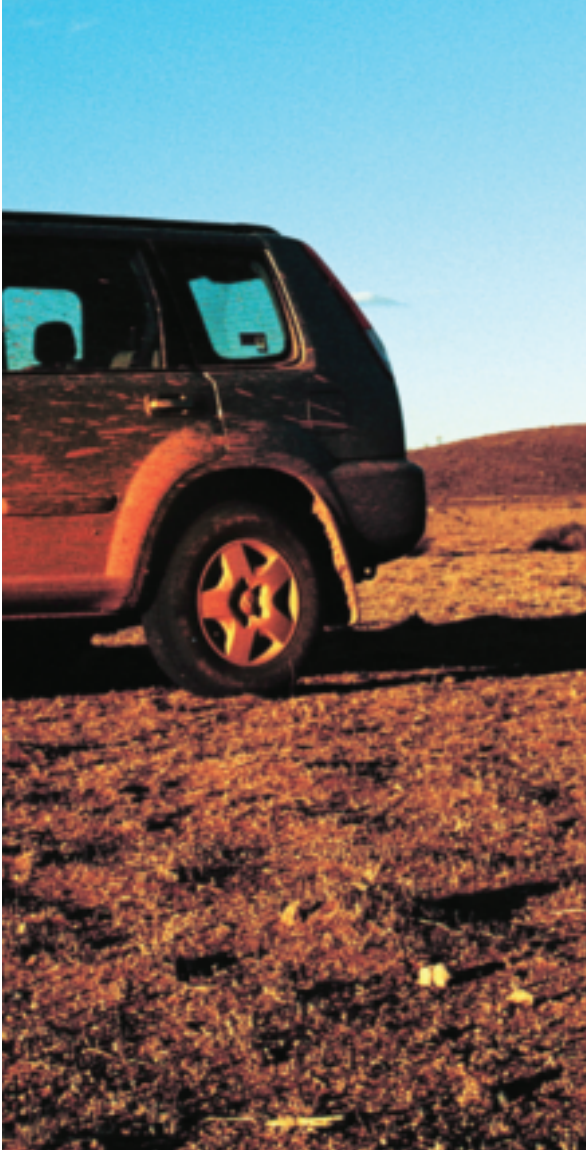






For more than 85 years, Caterpillar has created products and services that support the world's infrastructure and, in partnership with our worldwide network of Cat® dealers, has helped drive positive and sustainable change on every continent. With hundreds of locations around the globe to serve and support our customer base — from the Antarctic to the desert to the jungle — Caterpillar designs, installs and services power systems that reduce operating costs and significantly decrease fuel consumption.

# HYBRID SOLUTIONS BUILD ON A REPUTATION OF RELIABILITY



Now Caterpillar is expanding its expertise and global service network to offer hybrid power solutions for telecommunications applications. Caterpillar offers a line of hybrid power products, technical expertise, Customer Support Agreements and maintenance contracts, as well as full access to our highly reputable Cat global dealer network.

## OLYMPIAN™ HYBRID POWER SYSTEM TECHNOLOGIES

Caterpillar offers a wide range of hybrid telecom systems that provide power solutions incorporating renewable resources, including:

- Solar Photovoltaics (PV)
- Wind Turbines
- Robust Long-Life Batteries
- Diesel or Gas Generator Sets
- Highly Efficient Power Electronics

## DRAMATICALLY REDUCE OPERATING COSTS

Today's telecommunications network operators are asking for less: Less fuel consumption. Lower operating costs. Fewer maintenance trips to the field.

Hybrid power systems deliver the kinds of benefits telecommunications customers need. By optimizing the usage of available renewable resources and operating the generator set at peak efficiency points, hybrid power systems provide breakthrough reductions in total owning and operating costs, substantially decrease fuel consumption, and maximize system reliability. With an Olympian telecom hybrid power system, your business has the potential to increase operating efficiencies, as well as meet or exceed stringent environmental requirements.

Hybrids are particularly well-suited for applications in remote areas, where electric utility service does not exist. In comparison with the costs of grid extension or the high costs of fuel delivery to remote locations, hybrids can offer several benefits to telecommunications operators:

- Decreased fuel consumption by 30–100%
- Extended maintenance and replacement intervals
- Payback periods of 3 years or less in many instances

Olympian hybrid systems offer the following features and benefits:

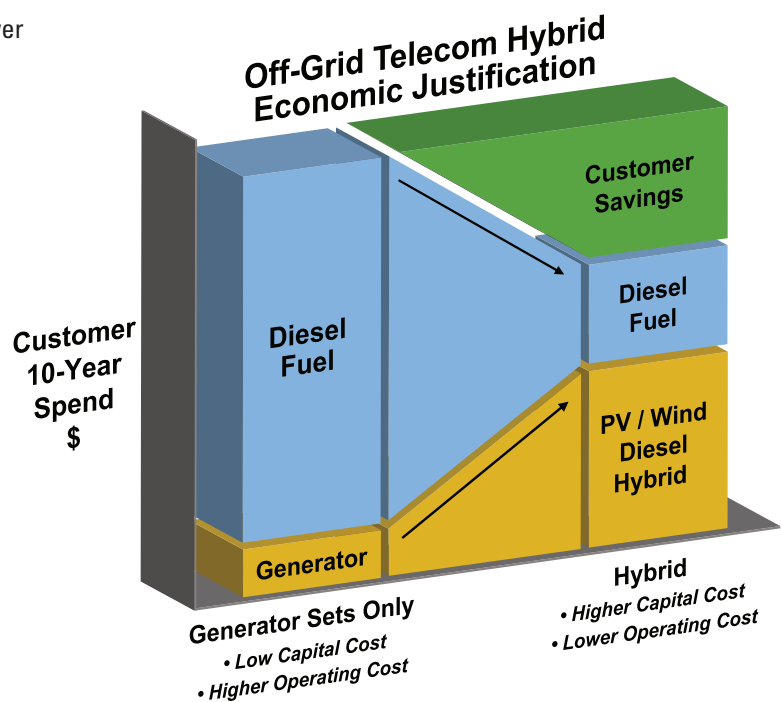
- Factory-built and factory-tested system for high reliability and site uptime
- Remote monitoring, control and alarms for multiple sites through one system
- Multiple, modular upgradable components operating in parallel to enhance reliability (PV and wind charge controllers, rectifiers, solar panels)
- Removal and replacement of modular components without power interruption (Hot Swap)
- Vandal-resistant enclosures rated IP55 or IP43 designed to operate ambient  $-40^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$
- Rectifier efficiency  $>95\%$  from 15–100% nominal power
- Certified to CE, ICE 60950-1, RoHS

## CUSTOMIZED TO YOUR SPECIFICATIONS

Cat dealers know that properly sizing the hybrid power system is critical for the success of your operation. So we work closely with you to customize your system to your exact specifications. We consider each of your sites individually, evaluating the electrical loads, the strength of the sun and wind resources, and the price of fuel and delivery charges. We give you the flexibility to choose the optimal solution that meets your needs: quickest payback, minimum (or zero) fuel consumption, longest maintenance intervals, or any criteria of your choosing.

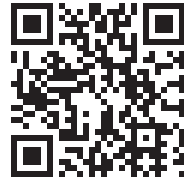
With a worldwide reputation for service and reliability, your Cat dealer will provide:

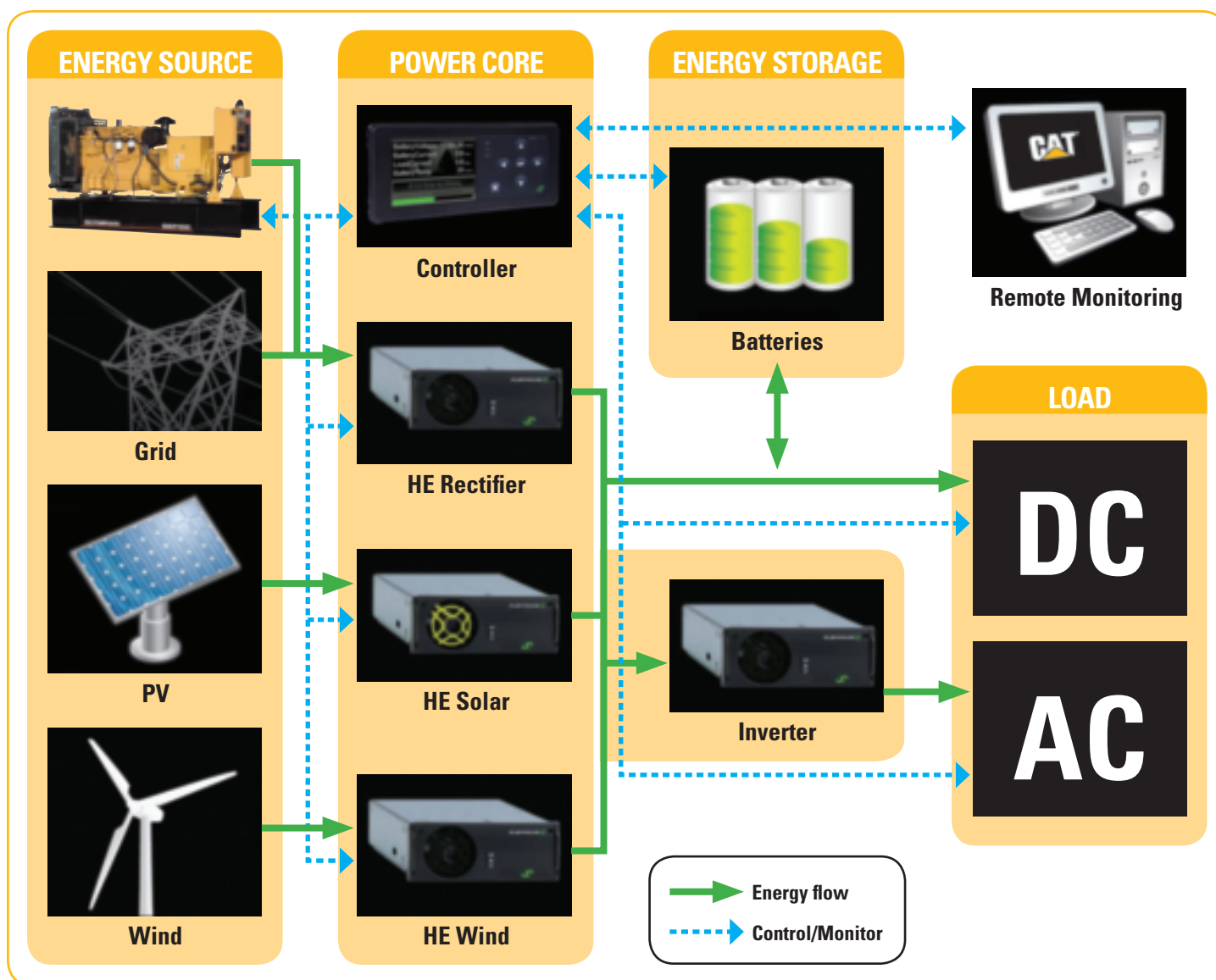
- Detailed product specifications
- Expert system sizing services and dealer consultation
- Flexible configurations
- A variety of financing options
- Clear communication throughout the entire process





Watch video  
demonstration





### THE OLYMPIAN TELECOM HYBRID PACKAGE AND EQUIPMENT

We have outlined the Olympian telecom hybrid package and product configurations below to illustrate the products that are available to our telecom customers. Keeping in mind that each customer has unique specifications, your Catdealer will work with you to customize your hybrid power system to your exact needs. Hybrid power system sizes range from 100 W to 10 kW of telecommunications site load. They also include options for extreme environments, as well as a variety of budgets.

OLYMPIAN TELECOM HYBRID PACKAGE PRODUCT CONFIGURATIONS		
Model Name	System Type	Typical Fuel Reduction
DB	Diesel-Battery	30–50%
SDB	Solar-Diesel-Battery	50–100%
DBW	Diesel-Battery-Wind	50–100%
SDBW	Solar-Diesel-Battery-Wind	70–100%
SB	Solar-Battery	100%

## FEATURES:

### • Power Control Center

- Supervisory control (multiple sites)
  - Battery per batt. string
  - Battery discharge testing
  - 6 x configurable inputs
  - 6 x configurable outputs
  - Generator set monitoring
- PV control
- Wind turbine control
- Generator set rectifiers
- Optional alarms:
  - Generator
  - Battery
  - Rectifier
  - System fail
  - High temperature
  - Hybrid in operation
- Communications (multiple sites)
- Vandal-resistant IP 55 enclosure

### • Solar Photovoltaic (PV) Array and Mounting Structure

- 1.5 to 3 kW solar PV
- Typical 8m PV array length fits within 10m telecom site
- Mounted 3-4m above ground to avoid shading from cell site walls, and to provide shading for equipment mounted beneath
- Seismic-rated structure
- Simple floating-concrete footings
- Optional vandal-resistant frame

### • Wind Turbines and Towers

- 300 W to 100 kW PM ratings
- Robust design high efficiency blades
- Maintenance free
- Neodymium magnets and bearings for high performance

### • Generator Set (Optional)

- Additional ratings available
- Fuel-efficient 4-stroke diesel
- Water-cooled engine
- Quiet operation
- Meets emission regulations
- Standard, robust AC generator

### • Battery Banks

- Long-lasting, lead-acid batteries
- Robust deep-cycle rating
- 1-6 days of backup power
- Forced cooling and H<sub>2</sub> ventilation (optional)
- Vandal-resistant IP 43 enclosure

## EVERYTHING YOU NEED

### Dealer Network

At Caterpillar, we know your business demands more than just quality products. That's why you can count on the Cat global dealer network to offer the additional resources, reach and know-how that add value to your operation and contribute to your success.

### Turnkey Solutions

With a full range of hybrid power system products and equipment, including mounting structures, power control centers, battery banks, wind turbines, solar photovoltaics and more, Caterpillar has everything you need to get your operation up and running in no time.

### Customer Support Agreements (CSAs)

CSAs are the most effective way of operating your hybrid power systems at peak performance. They greatly reduce the risk, disruption and loss of revenue caused by unscheduled downtime. And they ensure that your service, maintenance and repairs are performed by highly skilled professionals, giving you more time to concentrate on driving your business forward.

### Maintenance Contracts

From analysis and assessment to the service agreements that take maintenance worries off your mind, your Cat dealer can supply the total support you need for maximum efficiency and peak performance.

### Financing

Our experienced industry finance representatives understand Olympian products and will help you get the most out of your investment.





## COUNT ON CATERPILLAR TO DELIVER

Caterpillar delivers value and sustainability by leveraging our multiple strengths, including:


- A rich history of innovation
- A relentless focus on quality
- A real-world perspective on sustainability
- A first-rate team of regulatory experts
- A track record of technology leadership and systems integration expertise
- Consistent, best-in-class manufacturing processes
- A global dealer network that's trained and ready to support the next generation of Olympian power systems

**For more information contact, Energy Power Systems Australia**



**CALL: 1800 800 441 Email: [epsa@energypower.com.au](mailto:epsa@energypower.com.au)  
Visit: [www.energypower.com.au](http://www.energypower.com.au)**

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