

# Powering the Future of Construction

Mobile Battery Energy Storage Systems for Modern Construction Needs



# The Construction Industry's Energy Challenge

# **Current Pain Points**

- Diesel generators dominate temporary power, producing excessive noise and emissions
- Strict urban noise ordinances limit night work capabilities
- Rising fuel costs and frequent maintenance drain budgets
- ESG goals and regulatory compliance create pressure to decarbonize

87%

### **Fuel Reduction**

Potential savings in diesel consumption with hybrid BESS systems

70%

**Cost Savings** 

Reduction in operating expenses versus traditional generators





# **Introducing GreenGrid 90K Mobile BESS**

The GreenGrid 90K is a 90 kWh/20 kVA mobile battery energy storage system engineered to deliver silent, clean and compliant power at construction sites. Instead of relying on noisy diesel generators and complex fuel logistics, builders can deploy this trailer-mounted battery to energize switchgear, office trailers, cranes and electric equipment.



### **Zero Emissions**

Completely clean operation with no exhaust fumes or carbon footprint



### **Silent Power**

Virtually no audible noise for urban and night operations



# **Fast Deploy**

Rapid setup with simple cam-lock connections and minimal training



## Low Maintenance

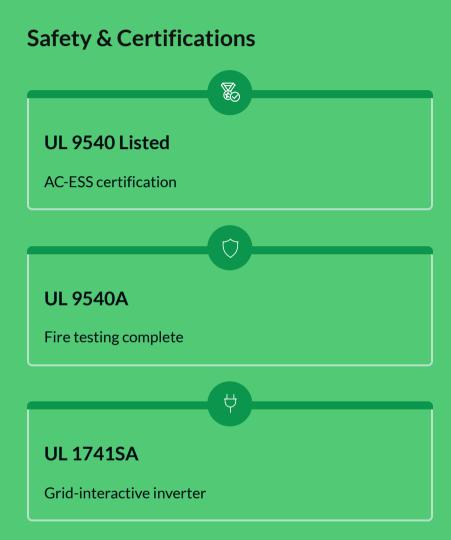
Minimal service requirements compared to diesel generators



# **Technical Specifications**

Usable Energy	90 kWh
Continuous Output	20 kVA at 208V (77A)
Output Configurations	208Y/120V three-phase 120/240V split-phase
PV Input	4 MPPT trackers, 120-500 Vdc
Charging Power	Up to 10 kW at 208V
Operating Range	0-40°C outdoor rated
Dimensions	15' L × 5' W × 8'4" H
Weight	~5,000 lbs

Eligible for 30% tax credit



Lithium-iron-phosphate (LFP) chemistry eliminates thermalrunaway concerns while providing long cycle life and integrated battery management.



# **Five Key Construction Applications**

01

# **Electrical Commissioning Power**

Stable, clean power for energizing switchgear, relay checkout and load-bank tests without voltage fluctuations

02

# **Temporary Site Power**

Office trailers, pumps, tower cranes, lighting and tools powered with dual voltage modes

03

# **Night Work Operations**

Silent power for urban sites with strict noise ordinances, enabling 24/7 construction schedules

04

# **Hybrid Generator Systems**

Pair with downsized gensets to reduce runtime by 50-90% and eliminate light-loading damage

05

# **EV & Equipment Charging**

Level-2 charging hub for electric excavators, forklifts and crew vehicles without grid upgrades



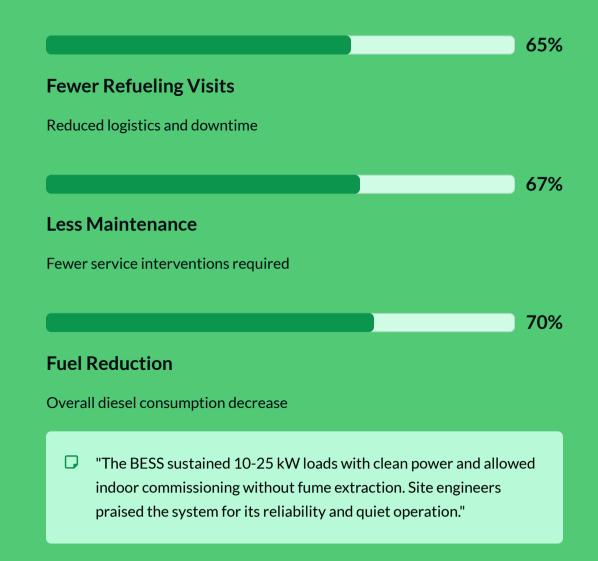
# **Case Study: WestConnex Tunnel Project**

# **Project Overview**

The WestConnex M4-M5 tunnels in New South Wales required continuous power for 16 temporary sheds housing fans, HVAC and lighting during commissioning. A 45 kVA BESS combined with a 100 kW generator replaced around-the-clock diesel operation.

### 12-Month Results

- Generator runtime reduced from 24 hours to 6 hours per day
- Fuel savings of 53,091 liters
- Prevented 143 tonnes of CO<sub>2</sub> emissions
- Delivered \$78,677 AUD in savings





# **Hybrid Operations: Maximum Efficiency**

Pairing the GreenGrid 90K with a downsized generator creates a hybrid system that delivers the best of both worlds: extended autonomy with minimal fuel consumption and emissions.



# **Battery Handles Base Load**

BESS supplies continuous power for lights, tools, trailers and equipment

# **Generator Recharges**

Small genset runs only when needed to top up battery, operating in optimal efficiency range

# **Dramatic Savings**

50-90% reduction in runtime, fuel costs and maintenance while eliminating wet stacking

### **Toronto Mid-Rise**

71% less generator runtime 38% fuel reduction \$10,271 monthly savings 87% fewer maintenance visits

# **Auckland Airport**

Tower crane powered 7 months 29,890 liters diesel saved 80 tonnes CO<sub>2</sub> avoided Continuous crane operation

# **Earlswood Complex**

Generator ran <12% of time 55-58 liters saved daily 148-157 kg  $CO_2$  cut per day Zero noise complaints



# **Electrifying Heavy Equipment**

# The Future is Electric

As construction equipment electrifies, the GreenGrid 90K serves as a portable charging hub for excavators, forklifts and crew vehicles. The integrated EV charger provides Level-2 AC charging without costly infrastructure upgrades.

### **Komatsu PC210E Pilot Results**

A 20-ton electric excavator charged overnight from a mobile BESS delivered an **eighthour runtime**. Over a 40-hour week, this approach reduced diesel consumption by **98** gallons and prevented **2,200 lb of emissions**.

# **Battery-Buffered Fast Charging**

In grid-constrained locations, mobile BESS units buffer DC fast chargers, reducing capital costs by **65**% and shortening project timelines by **2-5 years** compared to waiting for substation upgrades.

# **Commanding the Electric Jobsite Future**

Unleash the full potential of your operations with the GreenGrid 90K EV charging hub, enabling contractors to rapidly electrify fleets, circumvent costly infrastructure delays, drive sustainable practices, and command the future of the electric jobsite.



### Volvo EC230

5 hours runtime per charge

## Komatsu PC210E

8 hours runtime per charge



# Ready to Transform Your Construction Power?

# Why Choose GreenGrid 90K

**Proven Performance** 

Deployed on major infrastructure projects worldwide with documented fuel savings of 50-90%

**Code Compliant** 

UL 9540 listed with complete fire testing and NFPA 70E compliance for safe operation

Rapid Deployment

Simple cam-lock connections and remote monitoring enable fast setup with minimal training

**ESG Leadership** 

Meet sustainability goals while reducing operating costs and improving site safety



■ Get Started Today

Contact our sales team for a live demonstration and comprehensive specification package including electrical drawings, arc-flash study and IFC compliance guidance.

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