

MAY 2024

# GIVENERGY COMMERCIAL BESS

RUN YOUR BUSINESS ON  
LOW-COST, LOW-CARBON ENERGY

JUNE 2024

GivEnergy®  
Commercial



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# ABOUT GIVENERGY COMMERCIAL

GivEnergy is the UK's no. 1 energy storage brand. We're the largest British owned manufacturer of residential and commercial battery storage systems.

The commercial aspect of our business – GivEnergy Commercial – offers flexible power solutions for businesses of any size. This spans compact 69kWh All in One systems for the SME, right up to multi MWh systems for grid-scale industry.

Whatever your desired power needs, we can tailor your BESS installation to suit.

POWERING THE LIKES OF



Premier Inn

## WHEN YOU PARTNER WITH GIVENERGY COMMERCIAL, YOU'RE GETTING:

### A WELL-ESTABLISHED PROVIDER

Our business-critical commercial solutions are already delivered and working for multiple Local Authorities, the NHS, the hospitality industry and hundreds of others.

### AN EXPERT TEAM

GivEnergy Commercial is made up of expert electrical engineers. Everyone we employ has a deep understanding of the field, coupled with years of experience in the game.

### THE BEST SUPPORTING SOFTWARE IN THE BUSINESS

Our team of 30+ in-house software engineers provides class leading control, operation, and monitoring of your commercial BESS.

### A BRITISH-BUILT PROPRIETARY PRODUCT

Your system will be built in the UK, with fully integrated vertical manufacturing. This end-to-end ownership of our manufacturing ensures unparalleled performance capability.

### UK SUPPORT, WITH INTERNATIONAL REACH

You'll be supported by a hands-on UK team of technicians and field service engineers. Thanks to our global setup, we can also deploy our solutions internationally.

### A FULLY CUSTOMISABLE SOLUTION

The modular design of our systems allows us to combine as many battery packs / units as you need to hit your requirements.

### THE SAFEST, MOST ENVIRONMENTALLY FRIENDLY CELL TECHNOLOGY ON THE MARKET

We exclusively use cobalt-free LiFePO<sub>4</sub> cell technology. So, you're getting premium, ethically sourced cell chemistry renowned for its superior safety.

### AN ETHICAL BESS PARTNER

Our factory is ISO 9001 certified, ISO 14001 certified, and adheres to robust anti-slavery measures - all of which are externally audited.

## WE'LL PUT YOU IN CONTROL OF YOUR ENERGY USAGE

- Store energy from solar / other renewables in a large-scale BESS custom to your building
- Supplement your BESS charging by taking advantage of low-carbon, off-peak energy using flexible tariffs
- Run the business (and all its equipment, machinery, and even its EV fleet) on your supply of stored, sustainable battery power
- Track your consumption, savings, carbon offsets, and more – all in plain sight via our cloud-based software package

## WE'LL HELP YOU EARN FROM YOUR ENERGY STORAGE SYSTEM

### Save money with peak shaving

Charge your commercial batteries when energy is free / cheap, then dodge expensive energy rates by discharging this stored energy during peak demand.

### Save money with grid services

Offering your stored energy to the National Grid during times of distress (via VPP schemes) will earn you an extra income on top of all the savings.

## PLUS, WE'LL HELP YOU...

- Maximise self-consumption from renewables
- Flatten your demand on the grid
- Backup your power supply
- Reduce CO2 emissions and energy waste
- Get load shifting gains
- Lessen your environmental impact
- Increase your energy-resilience
- Champion environmental responsibility

[Meet the products that make it possible](#) ▶



# COMMERCIAL AIO

COMING SOON

A compact, single unit that combines battery and PCS in one integrated system

Our All in One is the most compact, cost-effective commercial battery storage solution technologically achievable. Your energy needs are met with a single, sleek piece of kit.

- 9 high voltage battery units to provide ample power to the SME
- An integrated PCS – no need to install separately
- A high-voltage box to monitor the battery and keep it within pre-set parameters
- An inbuilt SPD and DC circuit breaker – making system safety even more robust



Please note that this product is coming soon, pending a final round of testing. Product appearance may be subject to change.

## KEY FEATURES



### Out-of-the-box convenience

Comes to you as a ready-to-go, turnkey solution that can be quickly and easily installed on site.



### A true cost and space saver

By integrating all needed components into a single unit, the system represents maximum value, at a minimal size and price.



### Built-in safety

Every practical protection has been built-in to the system. It's reliable, rock-solid, and rigorously safety-checked.



### Simple & user-friendly

Effortless operation, plus easy cloud control. There's no simpler way to get started with commercial battery storage.

## PLUS A HOST OF EXTRA BENEFITS

- Parallel option, install 1-6 units
- Transformer-less design for the lightest, most sustainable system
- High flexibility for various loads
- Multiple high-efficiency operating modes
- Comprehensive mix of communication modes for monitoring
- Pre-installed in our UK manufacturing facility with no custom work required

## TECHNICAL SPECIFICATIONS

- 69kWh system capacity
- 30kW rated power
- 90% depth of discharge
- 10 - +55°C (Derating below 0°C and above 45°C)
- Dimensions 600W\*800D\*2050H (mm)



# SME UNIT

A battery cabinet solution for your small to medium sized enterprise

Our SME battery system will give you the power you need to cut your reliance on the grid and make massive energy bill savings. All via a neat, customised, highly secure solution.



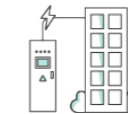
- **The battery cabinet.** Each battery cabinet contains 69kWh of batteries
- **The GivEnergy EMS** – the computer part of your SME battery system
- **The DC cabinet** – installed whenever multiple battery racks are required
- **A display** of each individual pack and cell status – for full visibility plus extra control and safety

## KEY FEATURES



### Expand to your desired capacity

Up to 6 battery cabinet units can be installed together, offering your SME up to 414kWh of storage.



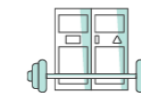
### Power whole sites

Coupled with our 30, 50 or 100kW PCS, the SME battery system can comfortably power your whole site.



### Get a quick, easy installation

Our built-in bus bar system allows batteries to simply slide into place – no additional DC or data connections needed.



### Built with the SME in mind

The system is lean but powerful. It's flexible enough to supply large homes, offices, or small industrial environments.

### TECHNICAL SPECIFICATIONS

- 69 kWh battery cabinet
- 7.68 kWh battery
- High voltage box
- 80% depth of discharge
- 0°C - 55°C operating range



# C&I SOLUTIONS

Full commercial open battery racks, to meet any power need

Power even the highest-demand businesses cleanly and robustly. Our large-scale C&I solutions can comfortably meet any energy need via an easily scalable setup.



## YOUR C&I SOLUTION WILL COMPRISE A CUSTOM COMBINATION OF:

### BATTERY PACKS

An accurately calculated number of high voltage battery packs, providing the desired power capacity

### RACKING

Neat, convenient rack-mounting customised to your space and sized to meet your power needs

### PCS

Your batteries work alongside the GivEnergy PCS which manages energy conversion and grid syncing

Let's explore each contributing piece of tech in a little more detail. [▶](#)



# BATTERY PACKS

As part of your C&I battery storage system, you'll need battery packs. The GivEnergy high voltage battery pack works alongside our Power Conversion System (PCS) to provide a powerful, fully flexible energy storage solution for your organisation.



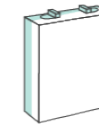
- ✔ Modular by design, enabling us to create a system with as many combined battery packs as needed
- ✔ Delivered conveniently rack-mounted, in a setup sized to meet your power needs
- ✔ Flexible size, voltage, and capacity options to make your solution a bespoke fit

## KEY FEATURES



### Built-in BMS

A built-in, multi-layer BMS offers precise cell monitoring and balancing



### LiFePO<sub>4</sub> cell technology

Our chemistry is cobalt free and uses LiFePO<sub>4</sub> – the safest cell technology on the market



### Longevity

Your GivEnergy commercial system is engineered to give 20 years+ lifespan



### Integrated EMS

An integrated EMS allows multiple monitoring points

## TECHNICAL SPECIFICATIONS

- ✔ 230AH / 8.8kW
- ✔ 221 x 691.5 x 488.7 (mm)
- ✔ 38 - 51 nominal voltage
- ✔ -10°C - 45°C operating range
- ✔ 230 - 300Ah capacity



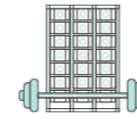
# BATTERY RACKING

As part of your C&I battery storage solution, your battery packs will sit within large open racks.



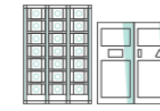
- Pre-drilled fixing points on all sides make for an easy installation
- A robust steel frame keeps your solution securely housed
- Multi-point monitoring via our integrated Energy Management System

## KEY FEATURES



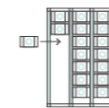
### Powerful

Each battery rack contains 200kWh of batteries. With a DC cabinet, 3 units are installed together – offering a massive 600kWh of storage.



### Flexible

Couple your custom-sized battery rack with a compatibly sized GivEnergy PCS, up to a maximum rating of 0.8c. (I.e., 600kWh - 500KW or 2.4MWH - 2MW.)



### Accessible

On install, the battery packs simply slide into place. Then, post-install, accessible power and data connection make for easy maintenance.



### Scalable

It's simple to add more capacity in future if your energy needs change. We can expand in 200kWh increments either side of your rack.





# PCS

A bi-directional PCS converts the electrical energy between the battery system and the grid and/or load. And with the GivEnergy PCS, you're dealing with truly best-in-class technology.



- Flexible, modular, and suitable for both commercial and industrial use cases
- A built-in visual display of the operation of each PCS, also offering basic system control
- Modular construction, allowing you to install as many units as required
- Comes in 30kW, 50kW, 100kW, 150kW, 250kW and 500kW – with options to combine multiple units

## KEY FEATURES



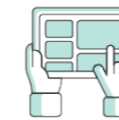
### Protect your power supply

Built in black start functionality provides backup power to your site.



### Hybrid by design

On-grid, off-grid, and energy storage function combined.



### Adjust to your needs

Control charge and discharge rates based on pre-defined parameters with our EMS.



### Customise your solution

Can be installed internally or in a bespoke container to suit your space.

## PLUS A HOST OF EXTRA BENEFITS

- Intelligent charging function with shorter battery charging path
- Enable operation with up to 100% unbalanced load for 3-phases
- Support various load types, independently or mixed
- Online seamless handover between on-grid and off-grid modes
- Autonomous energy management and operation, with or without EMS
- Active and reactive power control (instantly)
- Multi source hybrid function, enable to on-grid paralleling with diesel generator
- Comprehensive and high precision operation, fault monitoring, and recording

## TECHNICAL SPECIFICATIONS

- Up to 5000W nominal AC output power
- 450-1000V battery voltage
- IP21 rating
- 5 year warranty



# CONTAINERISATION

A fully containerised commercial battery storage system to suit your space

Compact, mobile, convenient, and fully customised to your power needs. With a GivEnergy battery storage container, you can house your critical battery assets securely. We can neatly package your large-scale commercial battery storage system in a custom-built container – giving you unparalleled flexibility on its location.



- ✔ Contains your PCS, high-voltage battery packs and bespoke rack-mounting
- ✔ A HVAC keeps your system cool. This can be pre-installed as an optional extra, or we can connect your existing site infrastructure once the container is located
- ✔ For your convenience, we'll fit your container with LED lighting backed up by the internal power supply, plus a double socket as standard
- ✔ Maximises floor space and gives you flexible size, voltage, and capacity

## KEY FEATURES

### Install anywhere

Need your container in a remote or off-grid location? Prefer it in a purpose-built plant room, or an existing space? Either way, we'll work with you to deploy the ideal system.

### Peace of mind guaranteed

Your containerised system comes to you with all the necessary systems included, Class 0 fire rated, and fully insulated and lined. So, you can enjoy the most efficient operation from the off.

### Get the power capacity you need

Containerised solutions range from 30 – 500kW power and 200 – 2800kWh capacity, within 10 - 45ft containers. For even larger storage capacity, multiple containers can be combined and stacked.

### Expert consultation included

We'll work with you to ensure that regulations, cooling requirements, and access are considered in your system design. We'll also install, test, and commission the system as part of the process.

## PLUS A HOST OF EXTRA BENEFITS

- ✔ Add internal and external lighting as needed
- ✔ Decide where you'd prefer any internal and external doors
- ✔ Pick exterior colours to suit your environment (anthracite grey by default)
- ✔ Protect your system with fire detection and fire suppression
- ✔ Add additional outlets for a fire detection system and / or HVAC
- ✔ Opt for exterior cladding to blend your container into your environment
- ✔ Request a two-storey unit to maximise the use of a smaller footprint
- ✔ Practical, reduced shipping weights by shipping the container and battery modules separately

## TECHNICAL SPECIFICATIONS

- ✔ 30 – 2MW power
- ✔ 10 - 45ft container
- ✔ 69 – 2800kWh capacity
- ✔ -20°C – 60°C environment range



# CLOUD SOFTWARE

Easily control and monitor your energy system in the cloud

When you buy a commercial system from GivEnergy, you're also getting advanced data monitoring services.

All data from the Power Conversion System (PCS), the battery packs, and metering are reported regularly to the GivEnergy cloud. You get:



### API access

All information is also available via API, to allow full integration into your building management system.



### Data access

As well as broad power and energy values, you also get granular data such as cell voltages and pack temperatures.



### Remote control

Mode selection and timed control are available via the web app, enabling a full remote monitoring platform.

# SUPPORT AND FAQ

## What types of businesses can benefit from commercial battery storage?

Any business or organisation, in any industry. To list a few examples: farms, office blocks, factories, hospitals, council buildings, hotels, leisure centres, fire stations, large domestic residences even – anything! If your business uses energy, it will benefit from commercial battery storage. And anywhere a battery would add value, our solutions are scalable and can fit in.

## How much energy can you store with a commercial system?

There's no real limit. You can store as much energy as you require and the systems are scalable. So, that's a very flexible answer depending on the size of the battery we're talking about. As a real-world example, a large current project is a 4.8 megawatt hour (MWh) solution with 4 megawatts of power – that uses 8 of the 500kW PCS's in that system. However, that by no means represents a limit. We can scale up (or down) based on your power needs.

## How long will a GivEnergy commercial battery last?

The warranty on the commercial battery is for 10 years, with at least 70% battery capacity after that period. It's worth noting, though, that all of the products across the GivEnergy range are designed and manufactured for a 20 year lifespan.

## Does GivEnergy come and help with the install of the commercial system?

Yes we do. For the larger systems, we include commissioning. Your installer – whoever that is – will come and fit the system for you. But GivEnergy Commercial will attend and make the final DC connections, programme the EMS, make sure everything is reading and operating correctly, and then we can also offer a demonstration to the end user as well.

## Are the commercial solutions IP rated?

The individual components are IP rated for indoor use only. If we have a containerised solution, that is of course totally IP rated. So, that can be outside and that will be delivered fit-for-purpose.

### Do the commercial batteries need to go in a container?

No – not at all. The main thing for the batteries is that they need to be kept dry. The actual individual components are IP21 or above. (Depending on which component we're talking about.) The overall system though does need to be protected from the elements.

So, it would need to go either inside, or in a container. There is no problem at all in the system going in a warehouse, a plant room, or a service cupboard. The only key requirement here is that we need to make sure the temperature is kept within the allowable tolerances and the access should be restricted.

Because these batteries operate at a high voltage, they can be quite dangerous for anyone who's not trained and suitably qualified to work with them. So, they should be kept behind a locked door or cases.

### Do the commercial batteries require maintenance?

Not really. They all have the online monitoring, and they all report up to the portal. The end user, the installer, and GivEnergy alike can see all of that information.

Here at GivEnergy, we'll generally know if there are any concerns even before the end user does, and can react to them accordingly.

The real maintenance piece is just making sure that:

- ✔ Ventilation and filters are clear
- ✔ There's nothing stored around the batteries that shouldn't be

Then we can offer a maintenance service if required. So, we can put together a maintenance plan along with a schedule of all the items that we'll come and check. We can do that on a 6-monthly, annually, or bi-annually basis depending on your requirements.

### Can commercial storage be used with PV or wind?

Absolutely. We can work with any form of generation no problem at all. All of the commercial solutions currently are AC coupled type. So, they can work with solar PV, wind, hydro, and potentially even generators or gas-powered CHP plants.

We just meter the generation and meter the incoming grid supply. Plus, we can actually work as an off-grid solution. There are a few sites out there that are already working entirely off-grid. (That's the battery, the generation plant, and a diesel or gas-powered generator.)

So, commercial storage can work on or off grid with any generation source.

### What if I have a question not covered above?

Give us a call or email – we're a friendly bunch!







GivEnergy<sup>®</sup>  
Commercial