

Zero
Emissions
Developments



PowerCap[®] Home Energy Storage System

OUR PURPOSE

To research and develop clean and safe energy generation, storage and back up technologies to improve the quality of living for all.

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About Zero Emissions Developments

After a decade of research and development by its related entity, Energy Consulting Engineers, PowerCap® technology was released to the commercial, industrial and subsequent residential markets. Designed and developed in Australia, this innovative hybrid energy storage system harnesses natural graphene and metal oxides to deliver safe, clean, and secure electrical energy storage.

Today, PowerCap® technology is also advancing the integration of renewable energy through high and low-speed electric vehicles, hypersonic anti-missile defense systems, protective cultivation structures, and bushfire abatement technology. Supported by a team of internationally registered, chartered, and accredited engineers, PowerCap® technology is setting a benchmark for the renewable energy movement.



*Memberships and accreditations are from Zero Emissions Developments and its related group of entities.

The Energy Challenge



Today, access to safe, clean and affordable energy is a scarce resource. As electricity prices continue to rise and grid voltage remains unbalanced, challenges such as power surges, blackouts, and peak tariff fees are only expected to become more challenging.

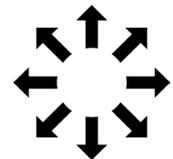
If we collectively transition our energy needs away from fossil fuels, we can protect our environment and stabilize the grid simultaneously.

PowerCap® technology uses a hybrid of electrochemical and electrostatic architecture to ensure that this common goal is achieved.



20 Year Warranty

PowerCap® technology has the highest warranted throughput in the market.



Scalable

Infinitely expandable, flexible layout. PowerCap® technology can grow with your energy requirements.



Australian Designed and Developed

Clean and safe energy technology designed and developed in Australia.



Recyclable

Made from ethically sourced materials, the PowerCap® uses bio-degradable and recyclable componentry.

Battery Technology

As we rely on batteries for a myriad of essential day-to-day tasks, this technology must be efficient, sustainable, safe and durable. The primary issue with energy storage technology today, is the effect it will have on 'tomorrow'.

Currently, Lithium-Ion and Lead-Acid are the industry standard materials used in battery technology. Unfortunately, both elements degrade significantly over time and are not easily recyclable. They can also be potentially unsafe due to a chemical reaction known as '*thermal runaway*' and generated volatile gases.

Designed and developed in Australia, our team of Internationally Accredited and Certified Engineering Researchers created a Graphene Supercapacitor technology that lasts up to 2x longer than any other battery available today.

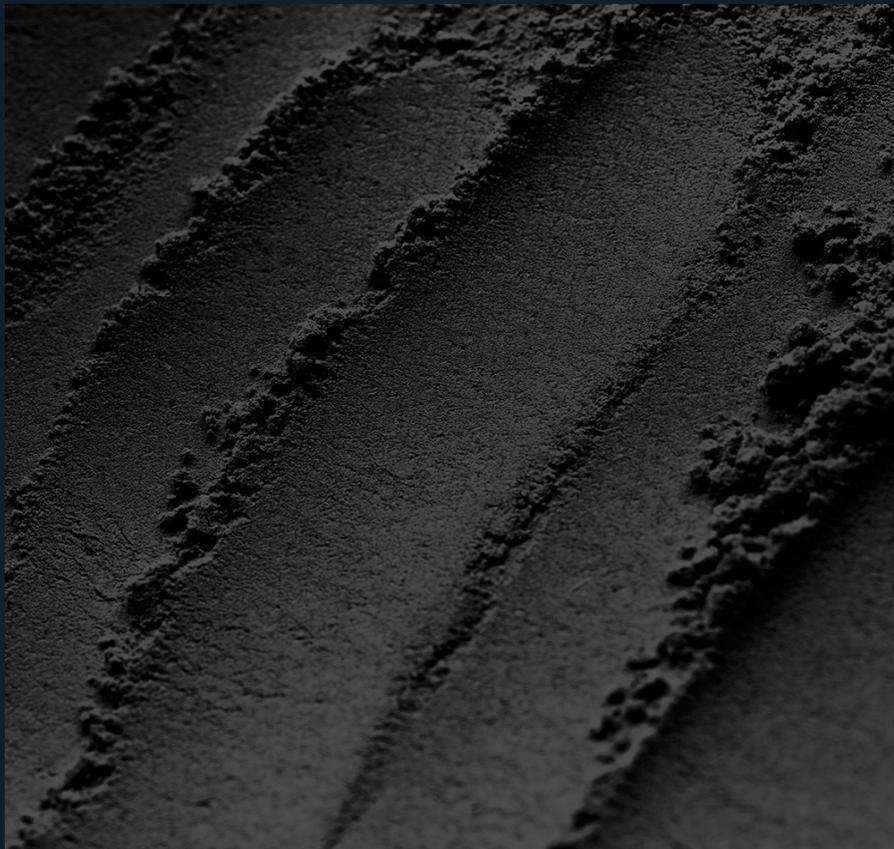
Made with natural elements *from the Earth*, PowerCap® technology is made *for the Earth*.



About Graphene

The Future of Energy

Graphene is a single layer of carbon atoms tightly bound in a hexagonal honeycomb lattice. Discovered in 2004, this '*wonder compound*' conducts heat and electricity more efficiently than copper and silver due to its interconnected surface area.



Being the thinnest and strongest compound known, Graphene weighs just 0.77 milligrams per square metre and is 200 times stronger than steel, with a surface area to weight ratio of 2000 m²/g.

Our Technology:

PowerCap®

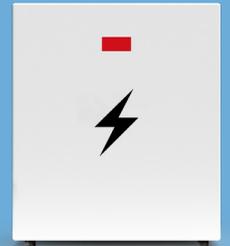
GRAPHENE-ENHANCED HYBRID BATTERY



Existing Technology:

Lithium-ion Battery

INDUSTRY STANDARD BATTERY



20 YEAR WARRANTY



10 YEAR WARRANTY

<5 CENTS/KWH/CYCLE

BASED ON THE 8.5KWH POWERCAP® ENERGY STORAGE SYSTEM



37 CENTS/KWH/CYCLE

BASED ON THE STANDARD 6.5KWH LI-ION BATTERY

80%

CAPACITY AT END OF LIFE



60%

CAPACITY AT END OF LIFE

<\$50.00

COST PER MWH THROUGHPUT



\$373

COST PER MWH THROUGHPUT



TUV Certification

To ensure that our products are built to the highest standard of excellence, our technology is designed and developed in Australia and undergoes TUV testing.

A TUV certification means that our product has been tested for safety and was found to meet the International Standard IEC 62619.

This process includes but is not limited to the following rigorous assessment:

- **Environmental/abuse testing**
- **Temperature cycling**
- **Performance testing**
- **Durability/IP testing**
- **Life cycle analysis**
- **Transport testing.**



Our Solution



Renewable Energy Generation & Storage

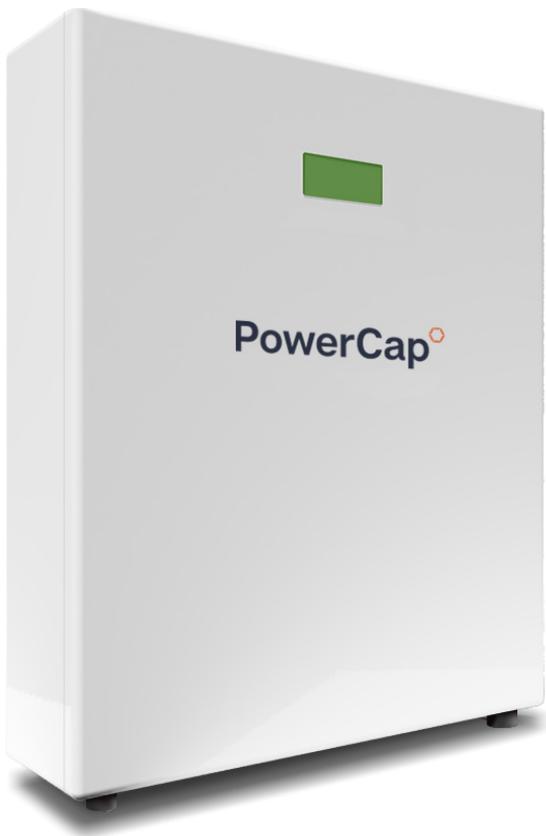
In a fast-changing environment with ever-increasing energy demands, dependable power is paramount. Our Australian designed and developed system combines high powered energy production (solar) with long lasting energy storage (PowerCap® technology) to produce a truly holistic energy solution.

Operating 24/7 to protect your home from blackouts and to reduce your carbon footprint, PowerCap® technology delivers uninterrupted clean and safe energy security.

The PowerCap®

Enjoy the future of energy now with PowerCap® technology. Working to store excess solar energy produced throughout the day, the PowerCap® energy storage system acts as a evergreen energy bank for your home.

Automatically detecting and adjusting to demand. the PowerCap® energy storage system provides uninterrupted, green energy usage even during blackout periods.



By operating autonomously to the grid, the PowerCap® energy storage system can eliminate up to 100% of your energy bill requirements.

With a straightforward installation process and minimalist design, the PowerCap® energy storage system integrates seamlessly into a variety of home styles.

KEY FEATURES

- 20 Year Warranty
- 2x the Life of Lithium-ion Batteries
- Australian Designed & Developed
- Black-out Protection Available*
- 99% Depth of Discharge (DC)
- High Load Acceptance
- Zero Carbon Footprint
- 100% Recyclable
- Safe and Reliable
- TUV Certified.

*The PowerCap® can fully charge independent to the grid.

PowerCap^o

Energy Storage System

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