

Good News Friday Edition 5 – Sustainable Solar Batteries



INDUSTRIAL ECOLOGY – MOLTEN SALT BATTERIES

As a person who has lived off solar power for about 20 years and worked in the recycling industry over this time it is wonderful to find one of the new generation of batteries that ‘ticks all my boxes’ for being a sustainable product.

Many of us have put solar on our roofs or are considering it. If you are currently investigating batteries, then this type of battery is definitely worth considering. This battery is ideally suited for home use, for commercial use and large-scale use like the community batteries being trialled in Canberra servicing a new residential development. (refer to Good News Edition 2 – Earth Day 2022)

So what ‘ticks my boxes’? For something really to be sustainable (or have low impact on the planet) it is helpful to consider the whole life cycle of the product from the raw materials, its production and its end-of-life disposal and hopefully recycling.

Industrial Ecology

There is a new frontier in product design called Industrial Ecology which focuses on the use of technology to reduce environmental impacts whilst balancing human development and economic progress with environmental stewardship ([What is industrial ecology? - International Society for Industrial Ecology - ISIE \(is4ie.org\)](https://www.is4ie.org/))

Here are some examples of questions we could ask ourselves as consumers:

- What is the source of the materials, does it have recycled content?
- Are the materials abundant on the earth or rare?
- Does it contain materials that are toxic to humans or other life?
- How much energy and water is used during its production?
- Has it been designed for a long life?
- During its life can it be easily serviced or maintained?
- Does it use smart technology (for a low carbon future)?

- At the end of its life can it easily be pulled apart and recycled?
- Is there a recycling collection system in place for this product or can I take it locally for recycling?

The “Molten Salt Battery”

Now for the Battery. Introducing the “Molten Salt Battery”! Yes, you heard me, a battery made from salt (sodium chloride) – one of the most abundant materials on earth. (Tick) It contains no toxic materials and require no maintenance over its lifetime which is an incredible 20 years. (Tick, Tick) It uses smart technology to monitor and control charging and discharging of the battery. (Tick) It is robust, compact and can easily handle deep discharging of the battery. (Tick, Tick) It is 100% recyclable at the end of its life. (Tick) It is non-flammable and has a high heat operating tolerance which for a battery is extraordinary. (Tick, Tick)

For this fact alone when we consider bushfires mixed with household and community batteries it is a game changer. When we compare this to other battery technologies such as lithium which are highly flammable and dangerous in a bushfire scenario.

This battery technology uses heated salt (NaCl) as the negative electrode and nickel (Ni) as the positive electrode with nickel being the 5th most abundant material on earth. (Tick)

https://gridedge.com.au/assets/quantum_leaflet_ge-ew.pdf

I could go on. If you are interested to learn more, please see the links included!

[PowerPoint Presentation \(gridedge.com.au\)](#)

ATA [PowerPoint Presentation \(gridedge.com.au\)](#)