

Terrajoule

24/7 Clean Energy

What it is NOT

Because Terrajoule technology is unexpected, we summarize its distinctions:

- Terrajoule does **not** use photovoltaic (PV) solar panels.
- Terrajoule is **not** in direct competition with solar panels. Solar panels (without batteries) compete in markets where storage has no value.
- Terrajoule does **not** use chemical batteries to store energy. Terrajoule's storage technology costs less than 20% of battery technology, is **not** cycle-limited, does **not** degrade, is **not** toxic, is **not** subject to spontaneous ignition, and does **not** use rare materials.
- Terrajoule is **not** compressed air energy storage (CAES). CAES is a proven technology that costs substantially more than Terrajoule storage technology. Terrajoule storage exploits the phase change between steam and water to park energy until needed, using vessels rated for much lower pressure, which are much cheaper for the same amount of energy storage.
- Terrajoule is **not** conventional CSP (Concentrated Solar Power). CSP is a package of technologies for centralized solar power above 100 MW, using molten salt for storage. Terrajoule uses similar thermodynamics, but is a fundamentally different technology packaged for **24/7 distributed-scale power**. Terrajoule power stations comprise identical units of 2 MW, to make power stations of 2 MW, 10 MW, 100 MW or more.
- Terrajoule steam engines are efficient at 1 MW and retain their efficiency over a wide power range. These characteristics are essential for Terrajoule's storage cost breakthrough.
- Terrajoule does **not** use Stirling engines. Stirling engines are not steam engines. They do not have a viable energy storage method.
- Terrajoule does **not** deploy new science or new materials. It is based on 300 years of steam engine evolution, over 100 years of thermal power station evolution, and is entirely manufactured without challenge within existing supply chains.
- Terrajoule is **not** capital intensive. Terrajoule was conceived to bypass the large capital requirements that have depressed returns on many renewable energy technology investments. To ramp up production rapidly to meet massive growth in electricity demand, Terrajoule needs no new factories, and needs no new manufacturing equipment, no new processes, and no new materials.
- Terrajoule is, in general, **not** in competition with natural gas. Natural gas is a low-cost energy source in certain markets such as the USA, however it is not available at low cost in many locations. Terrajoule does not target the limited portion of emerging growth markets for electricity where natural gas is piped to the site at low cost.

- Terrajoule **does** compete with Compressed Natural Gas (CNG) in markets where CNG competes with diesel as a genset fuel. The delivered price of CNG is higher than the price of natural gas. Terrajoule power plants are highly competitive with CNG-fueled power plants.
- Terrajoule does **not** supply power systems for residential use.