



## Our services

We design and build large-scale photovoltaic and wind farm.

We design and manufacture energy storage with the assumed turnkey capacity. Investment tasks are divided into stages:

- technical and economic analysis;
- administrative analysis / feasibility study;
- execution of a construction project;
- execution of turnkey installations;
- training;
- technical commissioning / connection to the grid;
- servicing maintenance (optional).

Our LAES systems of the second generation have the necessary certificates.

## Team

Our team consists of employees who are experts in their field. Our engineers are active employees of universities.

They also have business experience. We design installations with a capacity from 10 - 15 MWh to 200 - 1200 MWh and electric power from 4 to even 300 MW.



Substantive supervision over the projects is carried out by research workers of the University of Birmingham / UK.  
Team leader: prof. Yulong Ding.



**Head office**  
Huge Energy Ltd., Kemp House, 160 City Road, London United Kingdom, [www.huge.energy](http://www.huge.energy)  
**Office in Poland**  
2-221, Pokorna str., 00199 Warsaw, e-mail: [info@huge.energy](mailto:info@huge.energy), phone: +48 536 537 000, +48 535 880 980

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## Cryogenic Energy Storage Systems



## Photovoltaic and wind farms



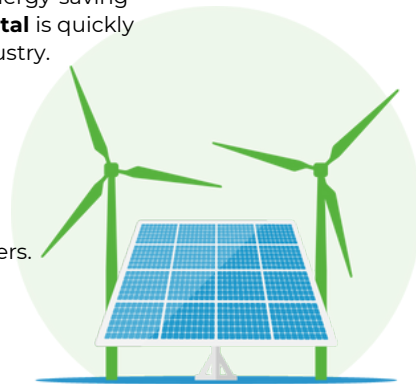
**Huge Energy Ltd.** is part of a family of companies that share the same vision, values and founders. Another member of this group is **Proseed Capital Sp. zo.o.** - a company founded in 2020 whose main focus is on the design and construction of wind and solar systems. The two companies work closely together.



**Proseed Capital** is a leading designer and installer of commercial photovoltaic and wind systems, including photovoltaic farms in Poland, Italy, and Sweden with plans to expand further.

With a strong commitment to delivering the best energy-saving and customer-focused solar solutions, **Proseed Capital** is quickly becoming the most reliable solar installer in the industry. The company works with excellent and dependable service, and shares the same vision and values as its founders.

**Proseed Capital** directly employs > 50 workers who can install up to 20MW per month. If there is a need, it is possible to quickly increase those numbers.



Along with the development, the Company expands to other market sectors - including Liquid Air Energy Storage with a capacity of upto 1GWh. The company works closely with leading device manufacturers, which enables it to deliver and install quickly.

### Reference Projects:

- 664 kWp – Rooftop – Pieve, Italy
- 950 kWp – Rooftop – Parma, Italy
- 5.6 MWp – ground based solar plant – Casale, Italy
- 3.4 MWp – ground based solar plant – Anguillara, Italy
- 869 kWp – Rooftop – Vittorio Veneto, Italy
- hybrid farm 8 MW wind, 15 MWp PV, Poland

### Energy Storage Projects:

- 25MW/125MWh – grid level Energy storage based on LAES technology (Liquid Air Energy Storage) Gaj Oławski, Poland - in progress

## Liquid Air Energy Storage



Liquid Air Energy Storage (LAES), i.e. a cryogenic energy storage system uses three main processes:

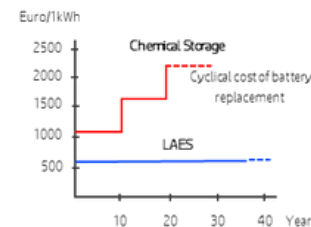
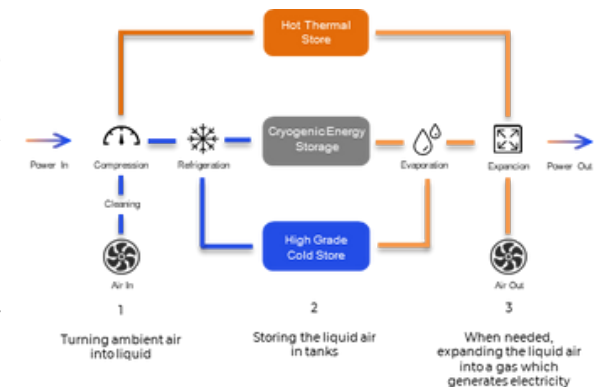
- turning ambient air into liquid,
- storing the liquid air in tanks,
- when needed, expanding the liquid air into a gas which generates electricity.

Condensed air is used for energy storage. Ambient air is sucked into the installation, compressed, and then cooled to a temperature of -196 ° C and placed in insulated low-pressure tanks. Chilled air can be stored for hours or even days.

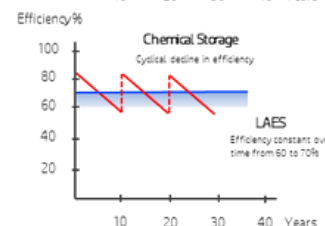
To generate energy, liquid air is heated in such a way that it expands rapidly. The sudden increase in volume drives a turbine to generate electricity. The first generation of this technology is already widely used in Spain and the USA. **Huge Energy Ltd. has second generation technology (LAES II) with greater efficiency.**

Huge Energy LAES II helps to integrate renewable energy with energy from traditional sources and stabilize regional power grids.

The main benefit is the avoidance of shutdowns of RES installations caused by the concern to ensure the energy security of the grid.



Compared to traditional technologies, **LAES II** generation ensures stable operation of energy storage for at least **30 years**. At the same time, e.g. chemical warehouses will require multiple, costly cell replacement. Thus, the LCC (Life Cost Cycle) costs of the LAES technology are orders of magnitude lower than in the case of chemical warehouses.



The efficiency of energy storage in cryogenic storage facilities is constant over time and can be even higher thanks to the use of waste heat generated during an air phase change.

The use of heat increases the efficiency of the system by **up to 70%**.