Eco G Energy Ltd

Energy storage & production of Energy technologies

Eco G Energy Ltd is developing a revolutionary compressed air energy storage and production system using cutting-edge, patent-pending technology.
Our system effectively leverages stored energy to produce incremental energy output by a factor of more than 100%. This innovative approach allows us to offer a dual solution in a single system, providing unparalleled efficiency and cost-effectiveness for our clients.

Problem Space

The integration of renewable green energy sources into the power grid presents a unique challenge, as these sources are inherently unstable. To effectively utilize and harness the potential of these sources, energy storage systems are essential part of any renewable Energy Source.

However, the current state of energy storage solutions presents several limitations. These include relatively low-efficiency levels in energy reproduction, typically no higher than 80%, limited lifespan and degradation over time, and high capital expenditure costs.

Furthermore, the geographical dispersion of green energy production sites, coupled with a limited capacity of high-voltage transmission lines, can lead to difficulty in delivering energy to consumption centers. Compressed Air Energy Storage (CAES) systems, in particular, exhibit lower density capacity compared to other energy storage solutions.

EcoG's Solution

Our patent-pending technologies, which powers the Compressed air Ideal piston engine, offers a revolutionary solution to the challenges faced by the energy industry. By leveraging stored energy to produce additional energy output by a factor of more than 100%, we address the limitations of current energy storage solutions. Specifically, our technologies effectively addresses the following:

- Low-efficiency levels in energy reproduction by providing a more efficient energy reproduction process
- High capital expenditure costs by offering a dual solution in a single system
- The need for upgrading transmission lines by providing small, standalone energy storage and enhanced production units in consumption centers, reducing the dependence on transmission lines
- The only most reliable Energy source for the "Safe City" Concept

How do we do it?

EcoG's Compressed Air Ideal engine addresses the limitations of traditional Compressed Air Energy Storage (CAES) systems through two key innovations:

- Advanced design - The Compressed Air Ideal engine features a unique design of both its structure and components, as well as the materials used in its construction and operation
- Advanced control and management software - proprietary software that manages the Compressed Air Ideal engine engine's operating process and the movement of its components, allowing precise control of air pressure and minimizing energy loss

Therefore, EcoG presents an integrated energy system that combines energy storage and production capabilities, offering a revolutionary solution to the challenges faced by the energy industry. The ALFA 1MW power station, utilizing this technology, has an estimated cost of 1.7 million dollars, with the potential for further cost reduction to 1.3 MM in serial production. This cost-effectiveness, coupled with the system's advanced design and control software, sets EcoG apart from traditional energy storage solutions.

- CAPEX - 1.2 cents per 1KW
- OPEX - 0.3 cents per 1KW

Business Model

EcoG's business model includes two key strategies:

1. Ownership of standalone power stations - ranging from small, local systems for individual buildings to large-scale power plants - with the sale of electricity as the primary revenue source
2. Sale of energy storage and incremental production systems to existing renewable energy facilities - with revenue generated through royalties or revenue sharing agreements