

SWOT ANALYSIS OF DECARBONIZATION THROUGH METHENIZATION PROCESS

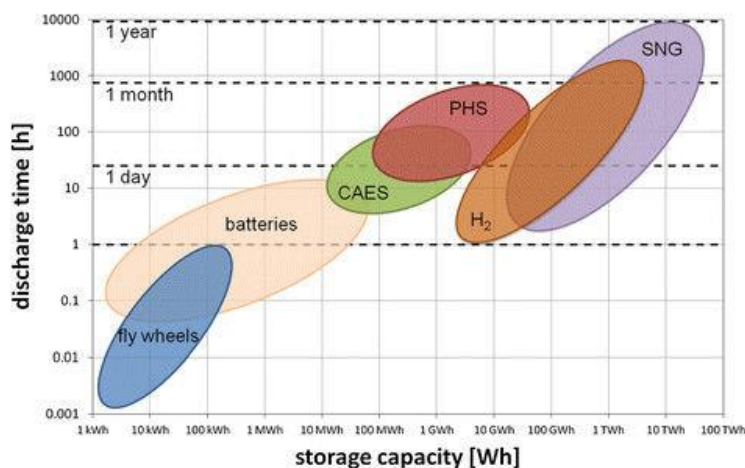
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Abstract

Despite the exhaustion of natural resources, the needs of society which are on the rise, and environmental challenges the current economic system is based on intensive use of conventional energy sources. This requires a reconsideration of prevalent management approaches and the implementation of new management modes. The promising solution is decarbonization which implies the implementation and development of ecological economy policies. Until 2050, a percentage between 50% and 70% of electricity will be supplied by renewable energy sources. Decarbonation represents a trend in economic development, which involves an intense development of civil society based on alternative economic approaches [1].

A comparison of technologies in terms of storage capacity and their characteristic during charge / discharge is shown in follow figure:



Legend:

- ✓ CAES - Compressed Air Energy Storage;
- ✓ PHS - Pumped Hydro Storage;
- ✓ SNG - Substitute Natural Gas.

Charge/discharge period and storage capacity of different electricity storage systems.

An essential requirement for these technologies (energy storage from renewable sources) is high storage capacity combined with long charging / evacuation periods. Only secondary chemical carriers such as hydrogen and carbon-based fuels (SNGs) complies this requirement [2]. State-of-the-art technologies that implement the industrial ecology concept only make it to the market if environmental gains and economic benefits are significant [3].

This delivers results relevant to national and sectorial policy and decision making, by quantifying revenue opportunities.

It also informs the innovation, policy, and regulatory environment required to ensure market development and resilience of different streams.

Management uses SWOT analysis to make decisions about developing the overall strategy.

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