subsea hydro power

OKER ENERGY

zero energy emission · zero energy waste · zero environmental impact

Presentation // 02.02.2022

Energy supply and demand for security

Oker Energy AS

Pure dynamics towards net zero

Est. 2020

02.02.2022

We belive that stored energy mix is 50 per cent of the future daily energy supply and technology if one wants to reach net zero with 24/7 supply. Incl. Power to X technology for long and seasonal energy storage.

Industrial- to Grid scale. 1-3 daily cycles for increased economy and efficiency.

Did you know that transfer loss is less than 3% per 1000km transfer?

With that said we can contribute to decarbonize a lot of sectors and give access to sustainable growth and development in decades to come.

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Power Bank - Industrial to Grid scale

Oker Energy provide regions and industries with extra on-demand storage needed to achieve a sustainable reliable energy supply around the clock with low emission down to zero emission. All energy mixes can be stored and fully utilized with zero energy waste. Effect, voltage, and capacity are made to needs.

With a service life lasting for decades without degradation and zero environmental impact.

Pure Dynamics towards net zero

Net Zero Industry & Sectors

Our management and storage solutions contribute in a massive scale to reach the goals for a sustainable future for regions and industries that to today only can trust fossil fuel to operate the processes and production around the clock.

We make full electrification possible for:

Electro fuel production - Oil and Gas extraction - Mineral mining - Mobility - Transportation - Aviation - Maritime - Shore-power - Grid support - Grid balancing - Peak shaving - Aquaculture - Agriculture - Crypto - Data storage and more.

If it can operate on electricity we support it and decarbonize it.

That we need hydrogen and ammonia is obvious. But then produced with renewable energy if it is to provide increased sustainability, and further reduce emissions. This will require delivery safety with a stable on-demand supply over time. And predictability of cost!

Then only stored renewable energy applies. Preferably from Oker Energy AS for full utilization of production potential and highest possible energy return.

Together we can solve our needs for security of clean renewable energy around the clock.

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Pumped Hydro Storage

The pumped hydro battery operates on the energy it is managing when charging by charge pumps. Deep sea compressed water and atmospheric pressurized air when discharge by turbine. 100% renewable and ecologic process. It can perform both cycles simultaneous at full effect for efficiency and performance. Market leading energy return and low cost.

Purity in it's own form and pure dynamics towards net zero.

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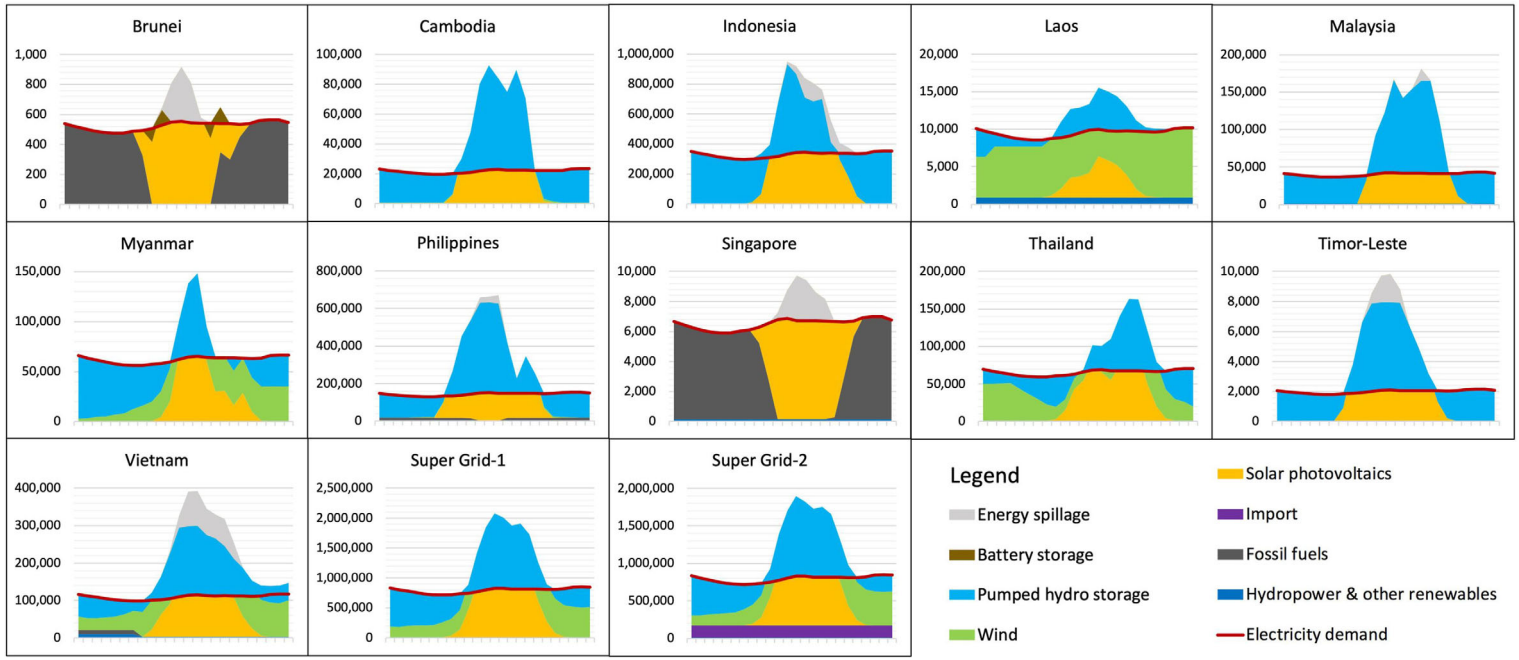
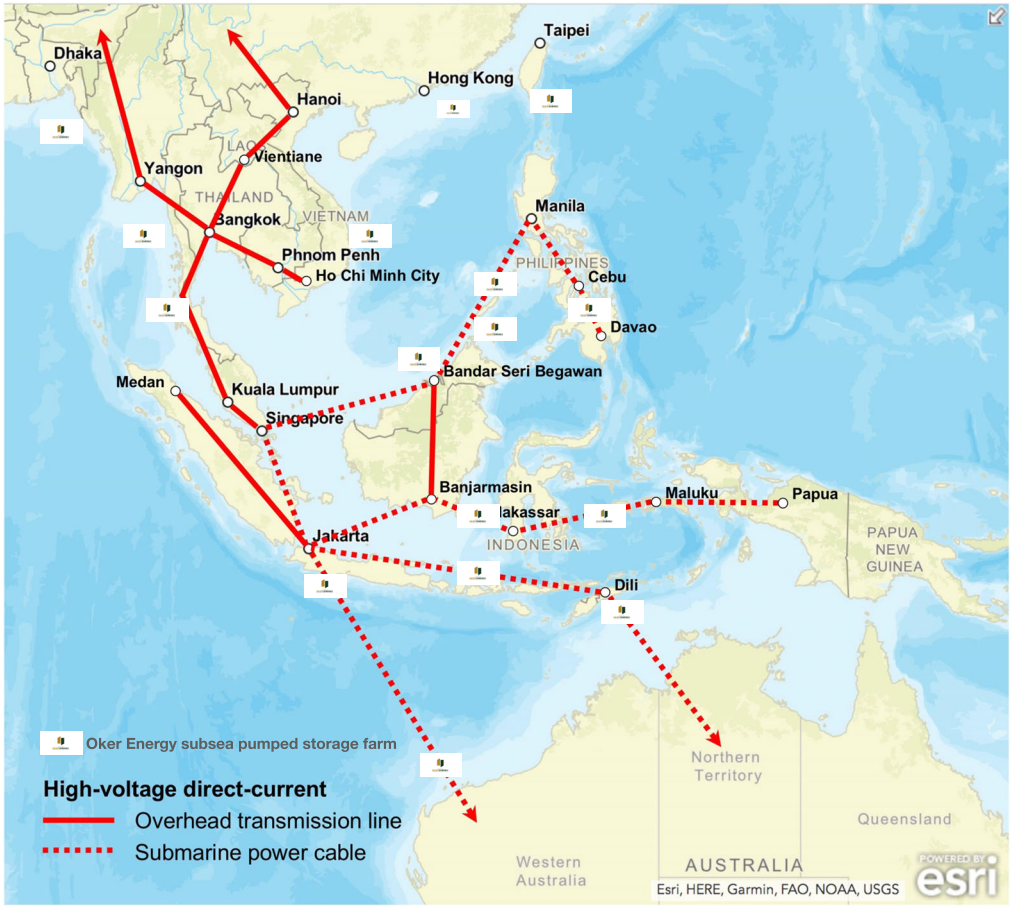
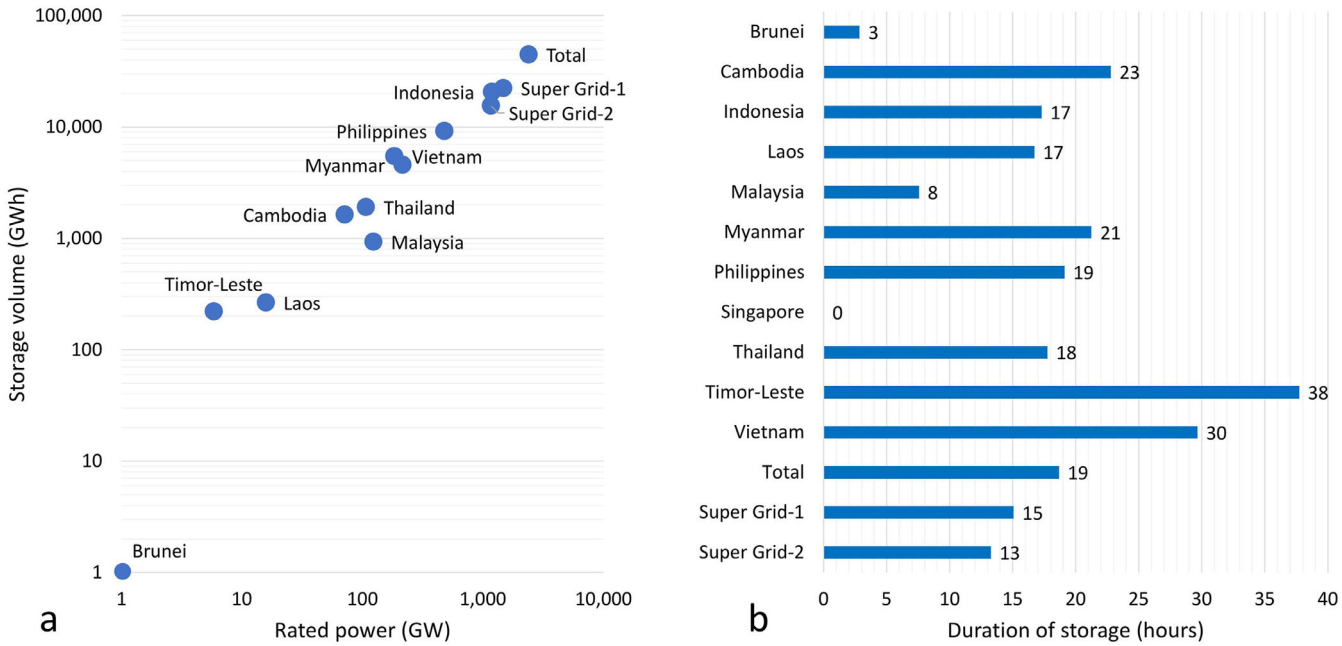
Storage - as - a - service Asia



Energy supply-demand balance for a typical day in the Southeast Asian countries and two Super Grid scenarios.



The Asia-Pacific Super Grid: a high-voltage direct-current backbone in the Super Grid scenarios.



The storage requirements (a) and the duration of energy storage (b) in the high electricity scenario.

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Storage - as - a - service Europe

Available **daily** capacity located within Exclusive Economic Zones - Worldwide

Conservative numbers on capacity and target (LCOE) numbers on cost and operation when scaled and industrialized phase 1.

Area 100,000+ km2 suited for subsea pumped hydro storage max slope 1 degree with a minimum head-pressure 650 meter/ 66bar.

One Cycle 800-999 GWh - 8 euro cent/KWh - 8 Hour operation/daily
Two Cycle 1,6 - 2,0 TWh - 5 euro cent/KWh - 16 Hour operation/daily
Three Cycle 2,4 - 3.0 TWh - 2 euro cent/KWh - 24 Hour operation/daily

Plus cost of electricity source 0-2 euro cent off peak. There are also huge possibilities to trade surplus energy and idle power into storage for own use or arbitrage. Arbitrage alone can finance further investments in capacity and maintenance. All this to bring economy in the transition towards net zero by 2050.

Average LCOE of hydropower globally 2010-2020 onshore 0,4 euro cent/KWh. Source: Statista

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What's next?

- Est. Consortium/Cluster with project partners
- Apply for funding & finance
- Development - Commercialization - Industrialization
- Lifecycle analysis
- Cost analysis
- Geo analysis
- Technology & HQ facilities
- Production sites close to marked
- Supplier partners & tenders

Several tasks are done or well on it's way.

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Thank you!