

# GLEN EASTMAN



## **SKYE ENERGY**

Cheap and Sustainable Electricity for the Isle of Skye

with additional green hydrogen fuel production

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# Electricity production and consumption on the Isle of Skye



## Today's electricity situation on the Isle of Skye:

- Inhabitants: approx. 10.000 permanent
- Households: approx. 4.500 households
- Estimated annual electricity demand for households: 18 mill. kWh/a
- Estimated annual electricity demand for industry: NN mill. kWh/a
- **Electricity production: approx. 300% of island's consumption from wind and hydro**
- Distribution grid owned (?), operated and maintained by Scottish Power Energy Networks as well as Scottish & Southern Energy Networks
- Customers are free to choose their electricity provider under UK law
- **Almost highest electricity prices in UK**
- Domestic heating by oil-/gas-/liquid gas-central heating plus stoves for wood and solid fuels as well as direct electricity heating; small, but increasing numbers of electric heat pumps
- Public transport (bus, ship) 100% diesel/petrol
- No electricity storage facilities
- Increasing numbers of electric charging stations for e-cars
- No hydrogen production and infrastructure
- High number of tourists from mid March to mid October



## Skye Energy: Strategic target

The energy strategy of Scotland's Government is defined by its target to

**produce 100% of Scotland's electricity demand from renewable energy sources**

like

- On-shore wind farms
- Off-shore wind farms
- Conventional hydro power
- Offshore hydro power (tidal, streaming)
- Solar (very limited because of long dark periods in winter)

Additionally it is a declared political target to develop the automotive sector (cars, HGVs, busses, rail, ferries, ships) into a 100% CO<sub>2</sub>-free sector.

**Key problem** is that almost the entire electricity production, the nationwide high-voltage grid as well as the regional and local distribution grid is owned and operated by

**private, profit-orientated companies, mainly owned by foreign shareholders.**

This is the main difference to many European countries where many key electricity companies are entirely or partly in public ownership (EdF, RWE Power, Vattenfall, etc.)

## Skye Energy: Strategic Target



**Skye Energy** is a business concept for a **mutual electricity supplier**, owned by the communities and the electricity customers on the Isle of Skye.

Main business targets are

- to secure for electricity consumers of the Isle of Skye the lowest electricity price possible as direct revenue for their acceptance of massive expansion of on-shore wind electricity production with its heavy and partly damaging effect of the island's main asset – its unbelievable natural beauty and its main source of income, the tourism.
- to construct and operate a green hydrogen infrastructure on the island especially for the automotive sector

The investors into massive new on-shore as well as future off-shore wind energy parks will influence the island's economy heavily by damaging its natural beauty which is the foundation for its main economic sector – tourism. 40% of the island permanent population are working in the tourism sector!

There are many negative examples already existing in the Scottish Highlands, where heavy expansion of wind electricity production have damaged local tourism (Lairg, Reay, Caithness, etc.). The Isle of Skye doesn't accept this damage without a compensating profit for its own citizens (5,000-7,000 GBP per MW is a bad joke as compensation).

## Skye Energy: Strategic Target



Based on the existing successful structure in Scandinavia, Germany and other European countries we propose to organize Skye Energy as a mutual company,

- owned 50% by the communities of the Isle of Skye and/or the District council of Skye and Lochaber (part of the Highland Council) and
- owned 50% by its electricity customers on the Isle of Skye.

Skye Energy should be a non-profit company, repaying its annual profits to its owners as bonification on its electricity prices.

There are two alternatives of implementation:

Alt.1: Skye Energy receives the electricity demand of the island from new on-shore wind farm operators for free, uses the existing distribution grid for its supplies to its customers based on existing tariffs. This strategy keeps Skye Energy small but effective and guarantees low electricity prices.

Alt. 2: Skye Energy takes over the electricity distribution grid from Scottish Power Energy Networks as well as Scottish & Southern Energy Networks and operates it. It gets its electricity from new on-shore wind farm operators for free.

## Skye Energy: Reasons and arguments



One on-shore wind farm in the north of Isle of Skye with f.e. 10 wind mills each 4 MW<sub>el</sub> is generating

**annual revenues of approx. 9.6 – 11 mill. GBP p.a.**

Typically wind farm planners and operators offer to local communities 5,000 GBP per MW, up to 7,000 GBP per MW to get the permission for construction and operation. This means that the **annual costs for acceptance** of such wind farm would be

**200,000 – 280,000 GBP p.a. or 2 - 2.5% of revenues**

Destroying or damaging the main asset of the local economy – Skye's untouched natural beauty and main attraction for tourism – without a fair compensation for the citizens of Skye is a **real bad joke**.

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