

the future is electric



**COMMUNITY ENERGY –
THE NEXT GENERATION**

14th November 2018

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Renewables just can't do it

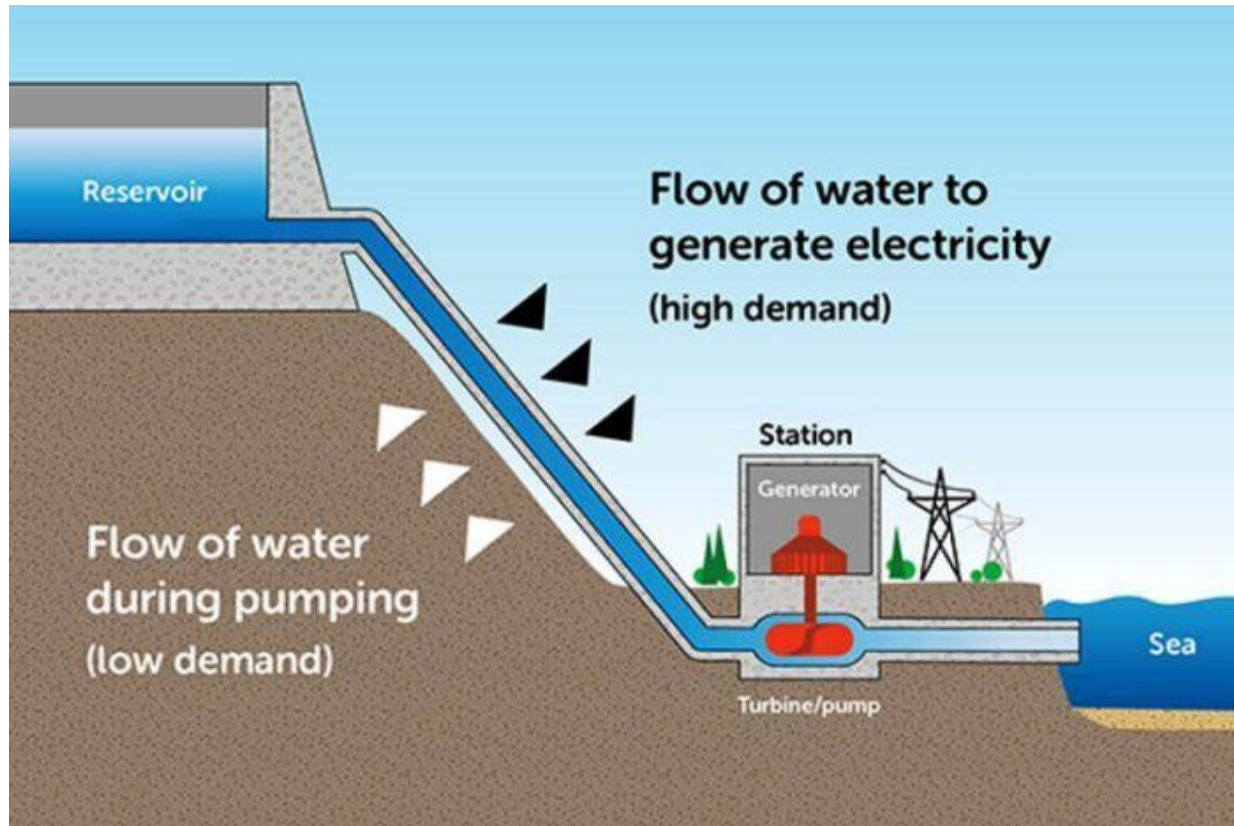


- ❖ We have to decarbonise electricity
- ❖ Solar and wind are the least cost options
- ❖ But they're both variable
- ❖ So we'll ALWAYS need something to provide back up!
 - ❖ gas fired power stations?
 - ❖ Nuclear?



What about storage?

Pumped storage



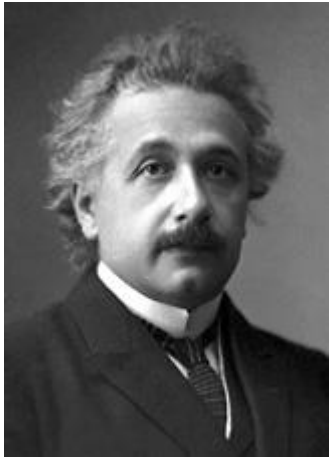
Large scale battery storage



*Expensive options more than
20p per kWh*



.....or is there another way?



A thought experiment

- ❖ There are 31.7m cars in the UK
- ❖ Average car spends 96% of its time parked
- ❖ Average car mileage is 22m per day

.....but what if all those cars were electric?



...and we could borrow the spare power in the batteries?

Battery capacity	40	kWh
Range	175	miles
Daily consumption	5	kWh
Daily spare capacity	32.38	kWh
Daily electricity consumption in UK	978 million	kWh
Daily consumption with 31.7m Leafs	1,137 million	kWh
Spare capacity 31.7m Nissan Leafs	949 million	kWh

So if all the UK cars were Nissan Leafs they could keep the lights on for over 20 hours?



.....but what if they were all Teslas?

Battery capacity

100 kWh

Range

300 miles

Daily consumption

Daily spare capacity

Daily elec

Daily con

Spare cap

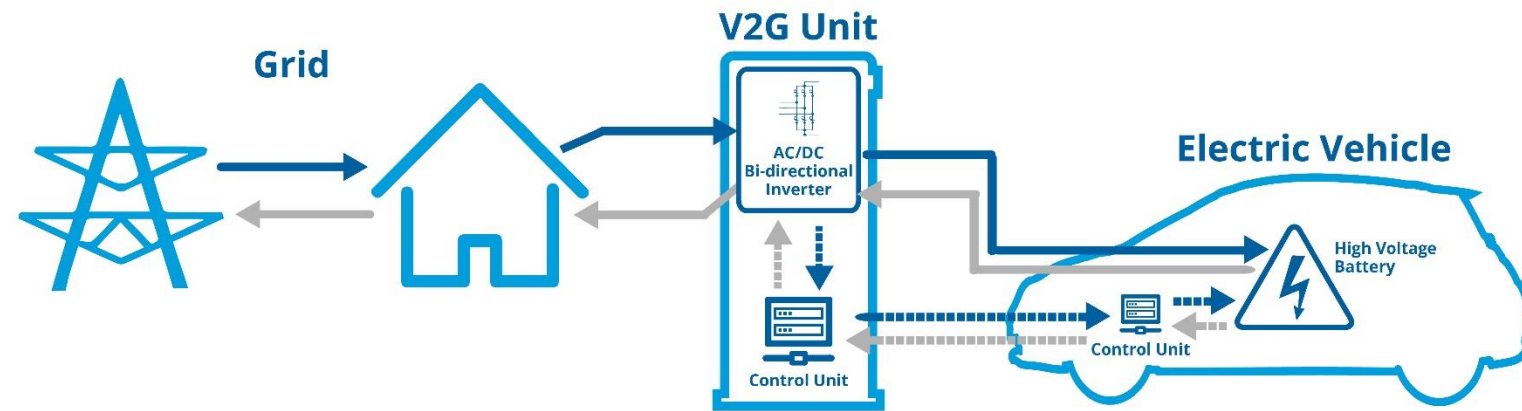
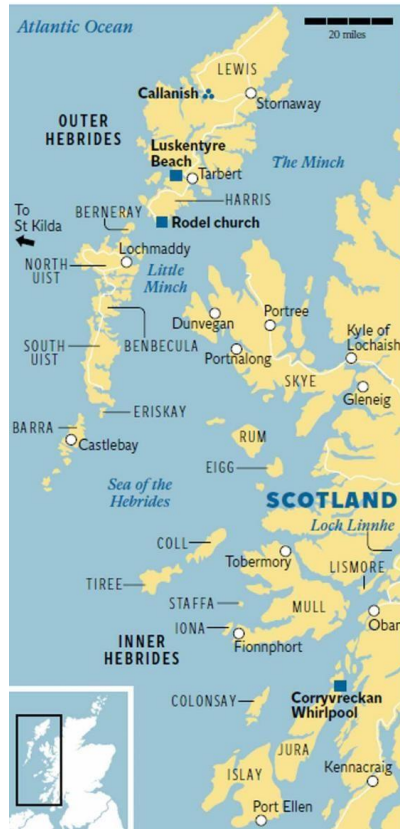


So if all the UK cars were Teslas they could keep the lights on for 50 hours?



Vehicle to grid on the Western Isles

V2G is two way charging and discharging of EVs



- ❖ 2015 - ZCM and London based E-Car Club launched fleet of 10 EVs in Stornoway
- ❖ 2018 - Innovate UK provide funding for V2G feasibility study in Western Isles

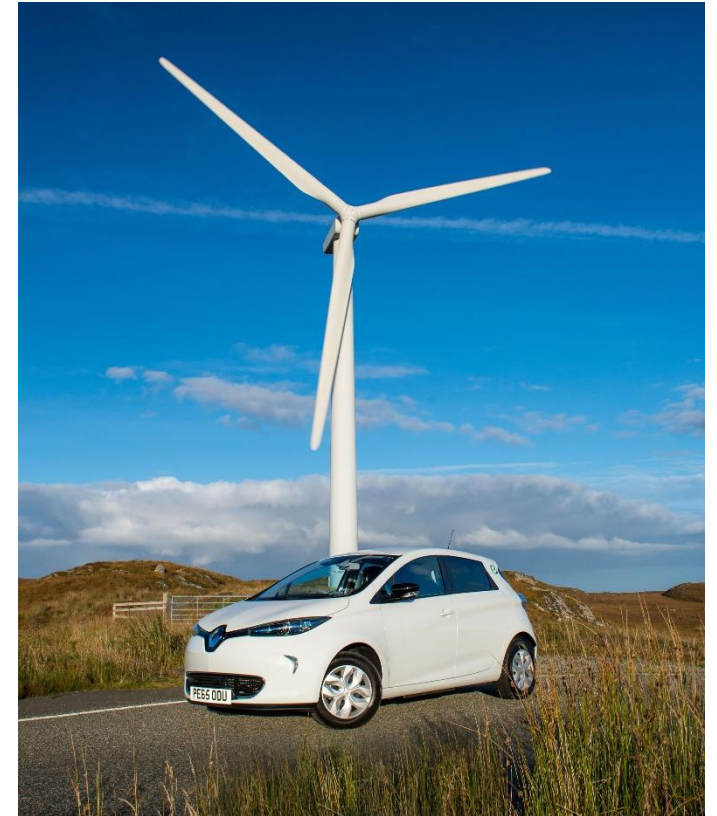


EMaaS energy and mobility as a service



Hebrides Energy - new '*not for profit*' electricity supplier backed by Our Power

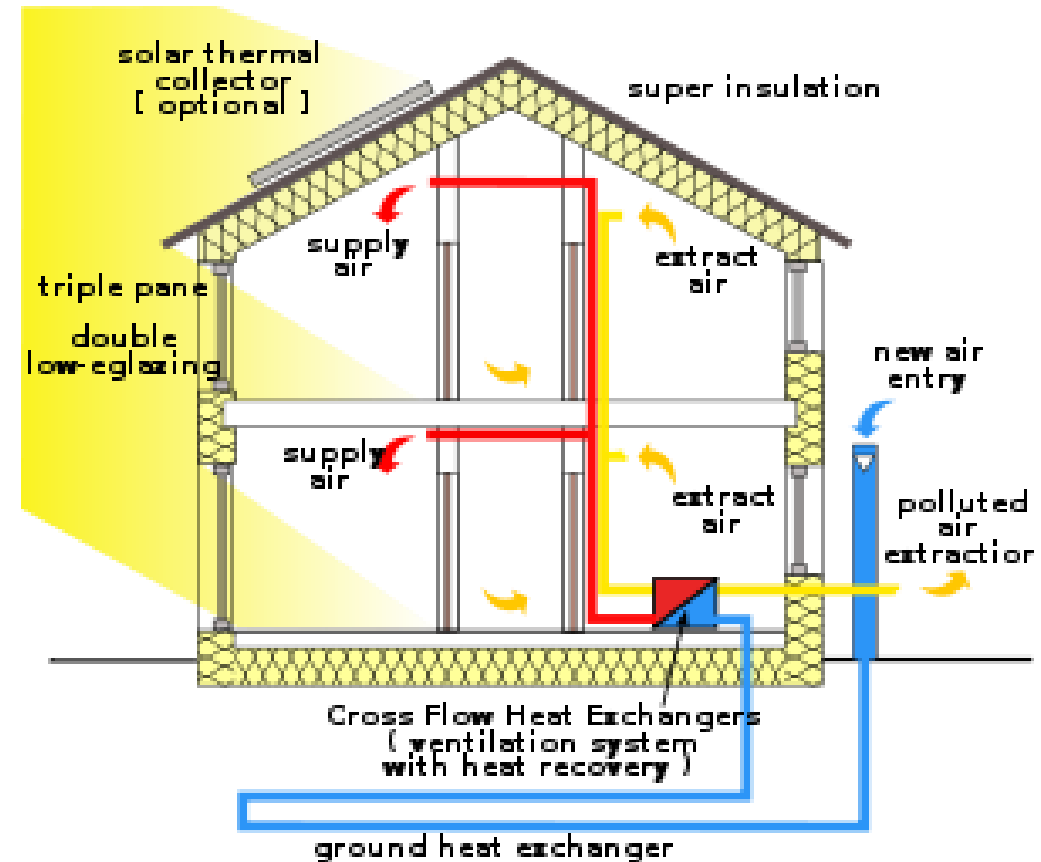
- ❖ Electricity at 10% below market
- ❖ Electricity at 15% below market if you sign up to lease an electric car
- ❖ Or if HebEnergy put an EV on your drive
- ❖ Car battery plugged in behind the meter can supply house at expensive peak times



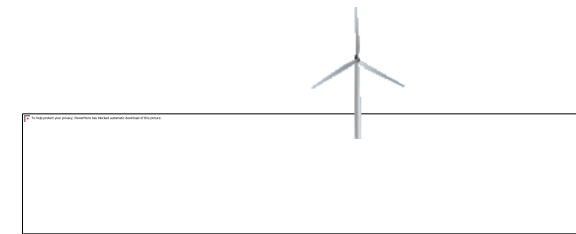
Housing, energy and mobility as a service HEMs

Coming soon to a site near here!

- ❖ Housing development of PassiveHouse + standard
- ❖ Affordable homes for rent only
- ❖ Electricity supply at 10% below market and free membership to:
 - ❖ Pool of car club EVs onsite
- ❖ Option to lease personal EV with further reduction in electricity charges



Housing, energy and mobility all on one monthly bill



thank you

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