

OREF January meeting

Agenda

- News
- Supplementary guidance for wind consultation
- NIA consultation
- Orkney SPA consultation
- CfD consultation
- Sustainable energy strategy ideas

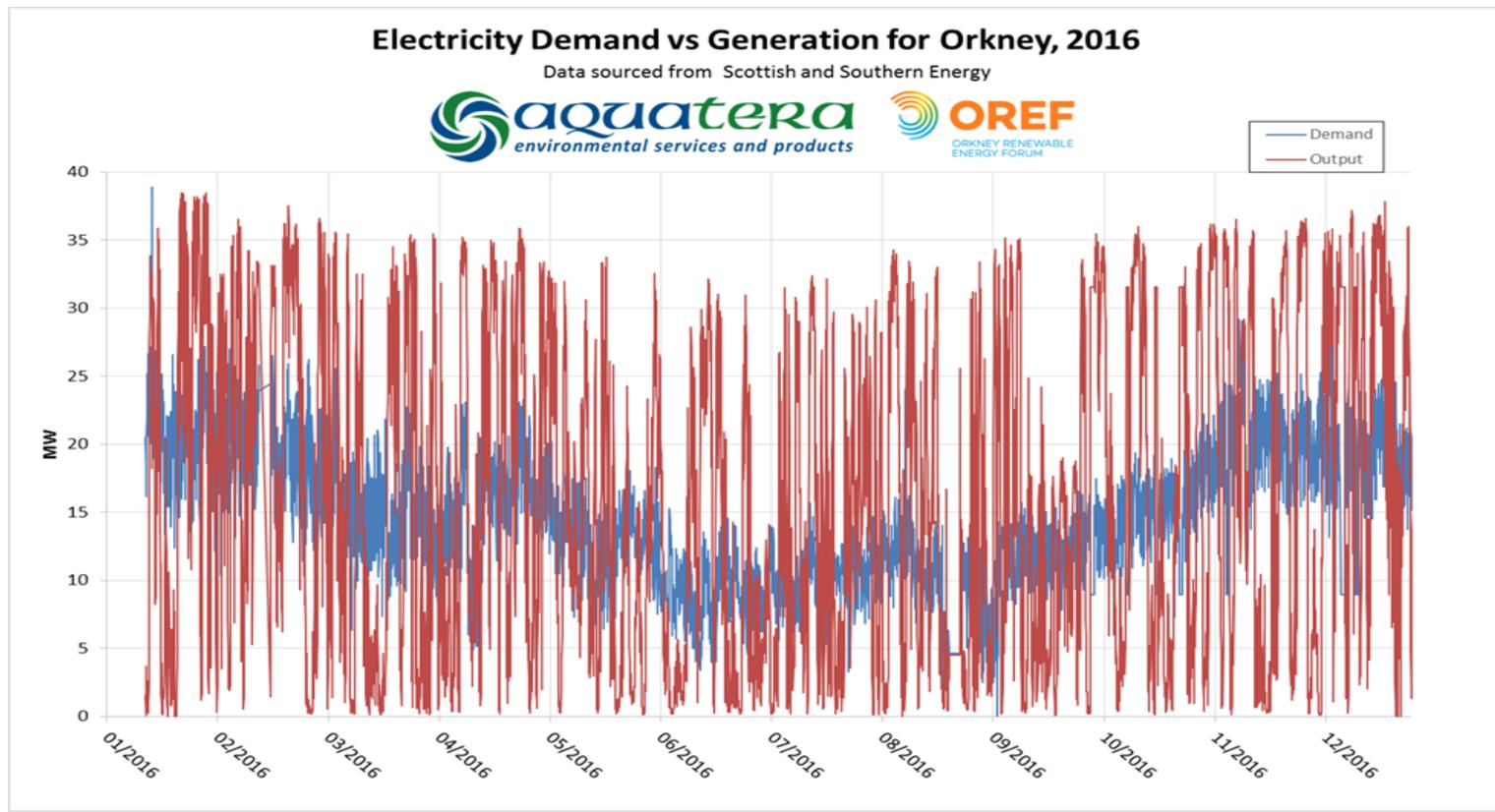
Renewable electricity production

Annual Demand = 117.391 GWhrs

Annual Output = 132.716 GWhrs

Annual % Demand met by generation = 113.1 %

% Demand met by total generation inc. micro wind (@ 50% of 40% of 5 MW = 1MW or 8700MWh) = 120.5 %



Distribution connections

- Initial offers now circulated
- Fine tuning still to be issued
- Applicants invited to confirm interest at the end of Feb
- Option to decline and get refund
- Go forwards for £2500 per connection (non-refundable)
- Liability for further securities/charges at some future date

Supplementary guidance

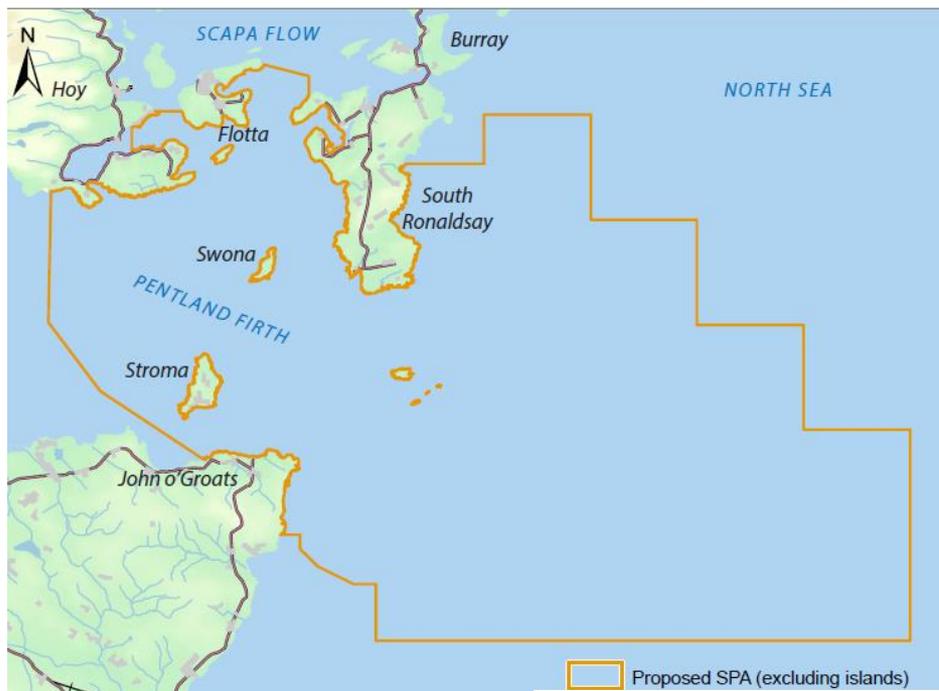
1.01	Reference to heat , transport and renewables targets is incomplete. In addition the need for vehicle charging infrastructure will become much greater over time and EV charge points will become ubiquitous.
1.02	The text is accurate, but fails to recognise that world leading supply chain for renewables in the county. This needs re-wording
Background	Overall the introduction felt as though it ran out of steam. It feels as though it needs a conclusion
Box A.	The content of the box is excellent! There is one minor error
Box B i.	The document says: ‘....development plan policies <u>and</u> where there is potential to connect to off-grid areas’. Why only off-grid areas? There will be plenty of ‘on-grid ‘ areas where this approach will also work and policy should not prevent it.
Box D ii.	The linkage between machines and properties is acceptable.
D iii c.	Disagree with blanket ban imposed. The National Scenic Areas are not natural landscapes and will not be undermined by some development.
D vi.	If there is no time limit on the planning permission for a house, then why would there be a time limit on the house’s power supply? The 25 year limit is illogical.
1.05	Flood storage should refer only to fluvial flooding. Areas susceptible to tidal flooding will be unaffected by consumption of flood volume.
1.09	Good reference to positive impacts.

2.04	Good that the supply chain is recognised as important.
2.13	Emissions are not necessarily a threat only if >20MW, it is the aggregate of the emissions that does the damage. So why can no positive benefit be claimed for renewables under 20MW? This approach is not applied in terms of other incremental impacts such as flood policy or sewage load. This position is therefore Illogical.
3.01	No mention of heat-pumps. Note geothermal is NOT the same as ground source heat pumps.
Q1.	Prefer Option B. i.e. 4 or more turbines = a farm. Disagree with Policy 2 (SP2) that neolithic heart requires absolute prohibition.
4.28	Matt finish to turbines – good.
4.33	This paragraph lacks scientific underpinning and is highly subjective. There is acceptance that change is appropriate by Scottish Historic Environment and needs managing in 4.55 as opposed to absolutely preventing.
Development Criterion 7	Should be ' <u>Fresh</u> ' Water Environment. At the moment it looks as though it will capture the marine environment and the drivers stated are inappropriate for the seas.
4.78	Either all developments could be required to submit a statement or else it is only necessary for particular scales. Please clarify.
4.82 et seq.	I disagree with Landscape Capacity Assessment generally as it is highly subjective and wrapped up as pseudo-science.
6.01	Storage does not only have to happen where grid is inadequate. There is no need to limit storage to being near generation. On the other hand; storage may be needed near a generator and this should not be prohibited or subject to additional hurdles.
6.03	No need to limit the location of storage to hard-standings.
6.04	Ultra-varies? The final use of a fuel is not relevant to granting of planning permission and this paragraph should be omitted.

National Infrastructure Assessment

Orkney SPA consultation

- Illogical need – bird feeding areas vary in space and time, main challenges are climate induced
- Poor evidence – bird data sparse and old
- Boundary definition – non-optimised – need to avoid key areas for others where dubious value to species
- Underestimated consequences – cost much higher
- Misguided identification of impacts and management measures
- Areas already protected through breeding population designations



CfD consultation 1

1) Should non-mainland GB onshore wind be considered a separate technology from onshore wind more generally?

YES, we need to explain WHY! This should include reference to previous UK government acknowledgement of the unique problems being faced, the EU requirements for ensuring island and peripheral communities are supported and the UN Sustainability development Goals along with a host of other issues that make onshore island wind distinctive and extremely valuable. Some key differentiating factors include:

- Political status of the islands*
- Vulnerable socio-economic status of island communities*
- Policy and statutory protection for islands*
- History of isolation and discrimination by UK government, grid regulations and grid operator*
- Major local investment, support and commitment*
- Local reliance upon renewables for jobs and wealth creation*
- Strong links between renewables and wider energy resources*
- Interdependencies between projects and technologies*
- Potential for large installed capacity*
- Strategic geographical location to act as an energy hub*
- Track record of problem solving, innovation, application and adoption*
- Productivity of island wind in terms of capacity factors and system balancing potential*
- Strong cost benefit of island energy overall for the UK consumer and taxpayer*

CfD consultation 2

2. We would be interested to hear if you believe there are specific barriers/costs/issues associated with non-mainland GB onshore wind?

If you believe there are, please provide evidence.

- *The whole reason that the island CfD was established as a concept was as a work around given the extreme and excessive costs that island developers have to bare for grid connections. So the core evidence has been presented many times which shows that with such grid charges the projects are not viable. In addition to the pure grid use of system cost issues there are others around grid planning, site planning, construction, maintenance and decommissioning costs which are site specific to onshore island wind.*
- *There may be other issues as well*

CfD Consultation 3

3. If you have set out any specific challenges for non-mainland GB onshore wind projects, do you consider there to be other measures outside of the CfD scheme that could be adopted by the Government, or others, to remedy those challenges?

What would these measures be?

- *Option 1: The inappropriate and excessively expensive grid connection process and use of system charges are brought more in line with UK mainland costs – this was why the CfD was introduced as an idea in the first place*
- *Option 2: Provide an alternative revenue support mechanism as a grant or through other means to compensate developers for the excessive grid connection costs*
- *Option 3: Establish a non-electrical, non-grid market for the energy produced on the islands such as producing hydrogen, thermal energy (heat/cold), stored energy (batteries etc)*

Any further inputs and suggestions from members on these questions and the possible case we can put forward.

CfD additional points

What is the level of local backing for onshore wind energy?

- Over 500 households with micro wind turbines
- Consistent opinion poll support of around 60-70%
- Consistently elect councillors with strong renewables support

What are the local supply chain benefits that can arise?

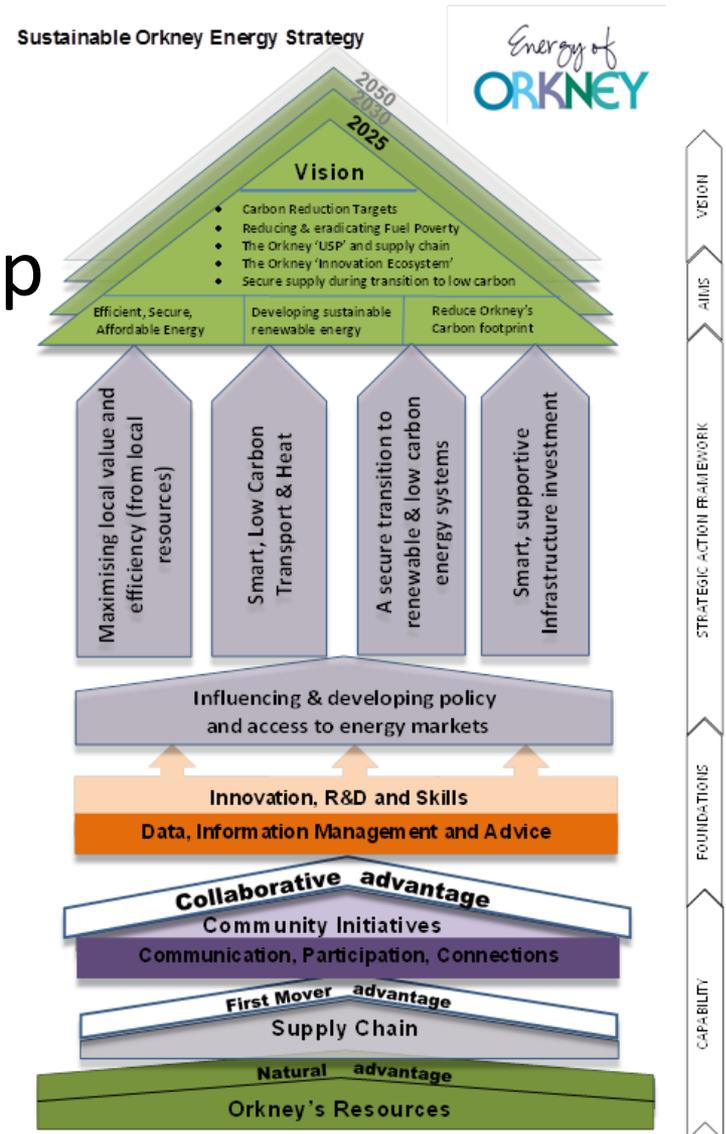
- Hundreds of jobs
- Over 150 million local investments
- Population growth of 10%

What is the resultant effect on consumer prices?

- For example what is the cost of the CfD compared to other customer costs, also taking into account the Scottish Hydro tariff that island consumers already pay

Sustainable energy strategy

- For Orkney as a whole
- Community wide ownership
- All energy
- Sustainable energy
- Evolving strategy
- Supporting action plan
- Monitored performance



Preamble question A: What have we achieved in Orkney regards sustainable energy?

Record breaking achievements

- **World's largest wind turbine** (3MW) 1984-95
- **First locally owned 1MW turbine** in Scotland (2003)
- **World's largest** marine energy test centre
- **First** grid connected offshore wave energy
- **First** UK grid connected tidal energy
- Over **109% of electricity demand** from renewables in 2015

Major energy infrastructure

- **30 large wind turbines** installed
- **500 micro wind turbines** installed
- **400 other micro renewables** and energy efficiency installations
- **Over 60MW** installed renewables capacity
- **Over 60%** of capacity in local and community ownership
- Also handled **10% of UK oil** production since 1970's

World leading experience and expertise

- Cluster of **10 major marine energy companies**
- **Operating base** for a number of technology and project developers
- **19** marine energy **technologies** tested
- Over **50 technology deployment and recovery** operations
- **3000 vessel days** of maritime support operations
- **1600MW of marine energy capacity** awarded under lease options
- Home to the worlds **largest permitted marine energy projects**
- **450 MSc** and PhD graduates
- Knowledge transfer and collaborative relationships with over **20 countries and including 50 islands**
- Total renewables investment of over **£500M** including local investment of **£150M**

Preamble question B: What are the problems that we have not been able to solve YET?

- Fuel poverty
- Grid connection options
 - Transmission
 - Distribution
- Grid charging
- Constrained capacity
- Low local content in public sector works
- Crown estate governance
- Marine CfD
- Planning policy for onshore wind
- Marine designations (spa's)
- Housing standards
- Etc

Strategy question 1: What are the key assets or foundations for a Sustainable Energy Strategy for Orkney?

- Natural resources and possible energy flows?
- Experience and expertise?
- Community and collaboration?
- Public bodies and co-ordination?
- Others?

Strategy question 2: What are the key issues that need to be addressed and how can these issues be best organised?

Option 1: Energy Pillars

Maximising Local Value and Efficiency (from local resources).

Smart Low Carbon Transport and Heat

A secure transition to renewable and low carbon energy systems

Smart, supportive infrastructure investment

Influencing and developing Policy and access to Markets

Option 2: Energy Pillars

Energy policy and planning

Energy production

Energy transport/delivery

Energy use (electricity, thermal, industrial, transportation)

Energy storage

Energy efficiency

Energy Infrastructure

Energy transitions

Energy impacts

Energy understanding

Strategy question 3 What are the key enabling factors that need to be considered to enable these assets to help meet the issues identified?

- Innovation
- Research & Development
- Skills
- Data,
- Information Management and Advice
- Others???