

Public acceptance and grid development – presentation of the case studies

Presentation at SusGrid meeting

6th March 2013

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The content of the presentation

- Regulatory framework for grid development focusing on engagement issues
 - In Norway and the UK
- The concession process
 - In Norway and the UK
- Themes investigated
- Presentation of the case studies in Norway and the UK
 - Ørskog-Sogndal
 - SydVestlinken
 - Hinkley Point C connection
 - Midwales connection

The current framework in Norway

- White Paper on the national grid development (Meld.St. 14 2011-2012)
 - **Aim:** securing political backing
 - Emphasise the importance of early involvement of stakeholder
 - **Compensating measures:** routing and camouflage are seen as important, the undergrounding policy, however, is restricted.
 - Concept evaluation at an early stage in the process in order to ensure a rapid (speed up) concession process
 - Third party evaluation of the project before the project is submitted to the authorities

The current framework in the UK

- Planning Act 2008
 - **Aim:** To streamline and speed up planning for major/national infrastructure projects, including transmission lines
 - **Main measures:** Creation of Infrastructure Planning Commission, a non-elected public body, to attribute the development consent to projects; removal of public inquiries and all stages of decision-making processes timetabled; creation of National Policy Statements setting out national policy regarding certain developments
 - **Mitigation measures:** undergrounding as an exception
 - Developers (i.e., intermediaries) must undertake public engagement processes before a request for development consent is made to the authorities
 - Localism Act 2011 - due to “democratic accountability” issues, the IPC is extinguished and the replaced by the Planning Inspectorate, a governmental body

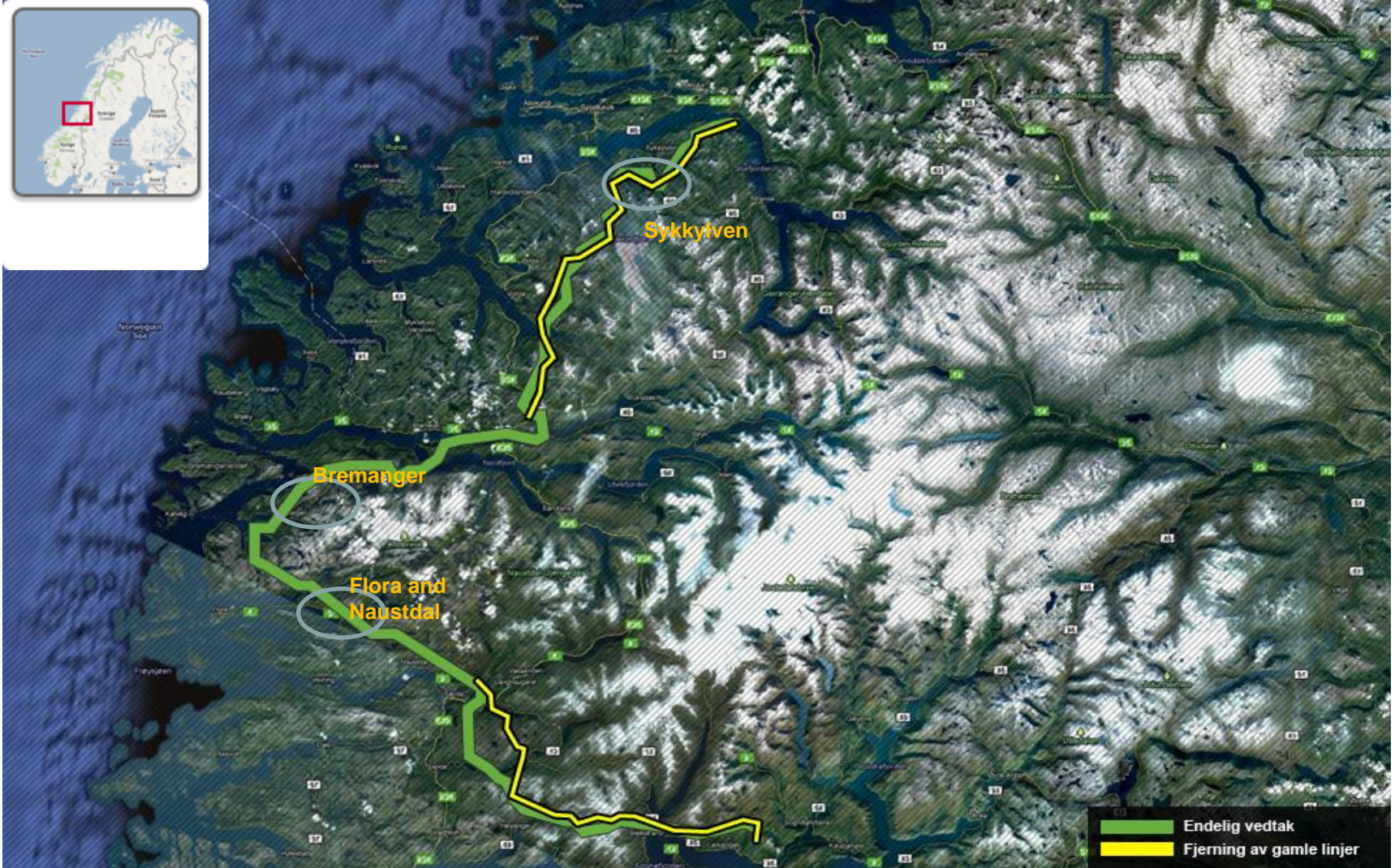
The concession process – differences between Norway and the UK

- Norway:
 - NVE (Norwegian Water Resources and Energy Directorate) is responsible for conduction the concession process – including arranging public meetings and setting the Environmental Impact Assessment program
 - The TSO is responsible for impact assessment – subcontracting
 - *In addition: voluntarily: TSO: early involvement and 'open door' policy*
 - *More power system expert-driven*
- The UK
 - Planning Inspectorate is responsible for the conduction of the concession process
 - The TSO responsible for 'local' public engagement processes and Environmental Impact Assessments - usually subcontracted
 - *More nationally political-driven*

Themes investigated

- The 'need'
- Undergrounding and routing
- Mitigation measures
- Participation and engagement issues
- Communities' trust and perceptions of developers and other stakeholders involved
- Focus on how stakeholders frame those themes/issues

Ørskog-Sogndal

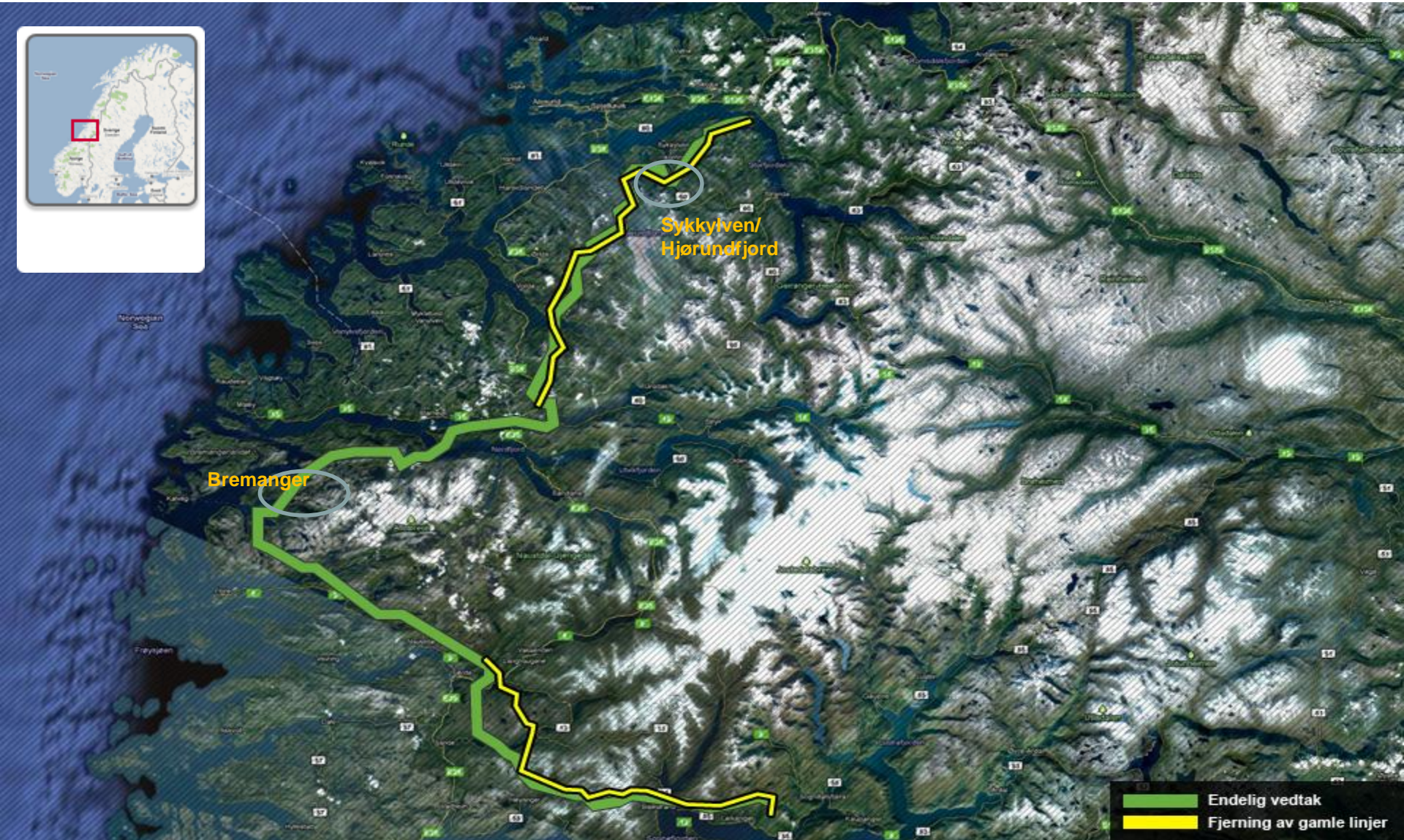


Ørskog-S

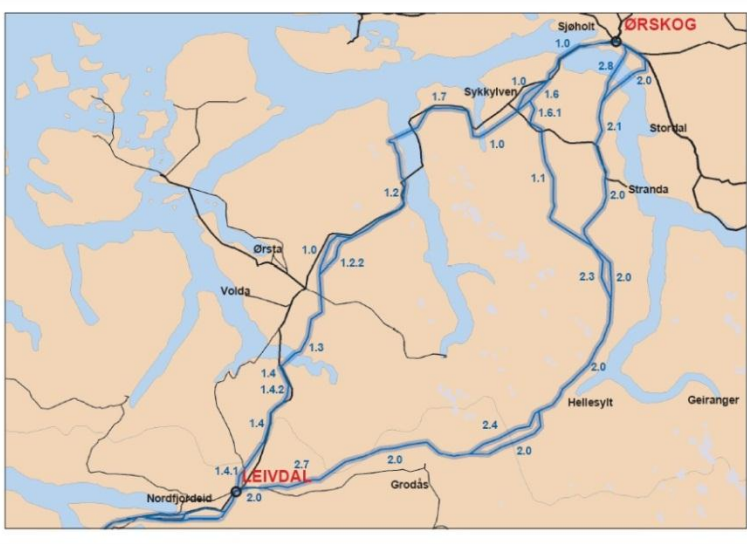
- Located in the fjord district of Norway, covering a long stretch of nearly 300 km. Will run through 15 municipalities and two counties (Møre and Romsdal, Sogn and Fjordane)
- New transformer stations will be constructed in four localities Ørsta, Ålfoten, Høyanger and Sogndal.
- Around 110 kilometers of existing 132 kV lines on the section must be demolished
- Planning started in 2005, and the line got a final concession in 2011/2012 (last for the northern part), construction has started on the sections that got early approval
- The northern section of this case was included in the survey conducted for Wp2 in the autumn 2011. Survey indicates stronger opposition against hV power lines in this area compared to the other case and the general Norwegian public.

Ørskog –Sogndal – on the themes the 'need' and undergrounding

- The 'need':
 - security of energy supply (Central region and in particular in Møre and Romsdal County) as well as in order to facilitate integration of new renewable energy production (County of Sogn and Fjordane)
 - The reasoning has changed through the process.
 - The need has been contested by the stakeholders.
- Undergrounding
 - Request from stakeholders: Sea cable bypassing the whole county of Sogn and Fjordane
 - General complaint that cable alternatives have not been sufficiently addressed
 - NVE in general negative to any cable alternatives, but in the final decisions from MoPE earth cable has been chosen as mitigation measures at some parts of the route
 - Sea cable has been assessed as too costly, technically challenging and difficult to maintain and in addition a hinder for development of hydro power and wind power



Sykkylven-Hjørundfjorden



Main conflicts and type of intervention

- New Sykkylven transformation station at Heiane; impact biodiversity
- Crossing of the Hjørundfjord; affect scenic tourism destination and passes several settlements

Participation and engagement issues

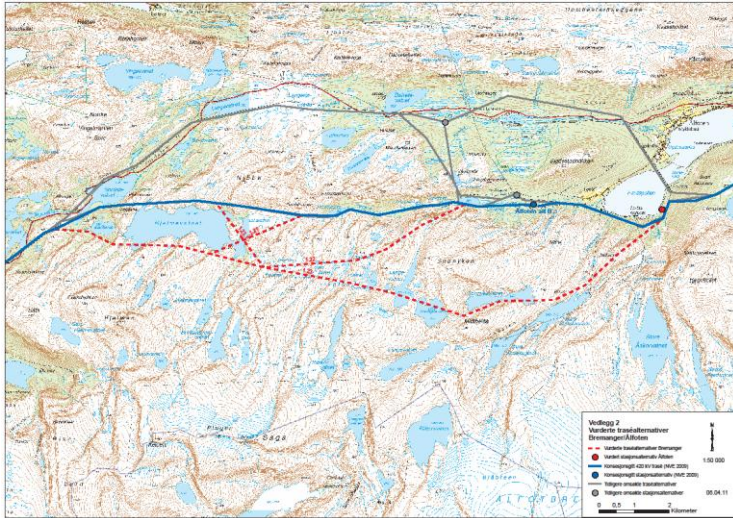
- Sykkylven transformation station, disadvantages for landscape and biodiversity
- Landowners in Sykkylven concerned about cultural heritage, visual impacts and impacts on recreation, business, forestry
- Local engagement against crossing of the Hjørundfjord

Mitigation issues

- Cabling was discussed
- Instead existing 132kV is replaced (extra cost of 300 millions). The MOPE emphasise that local authorities prefer the grid replacement alternative



Ålfoten-Myklebust-Bremanger



Main conflicts and type of intervention

- Major conflicts in the local community over the MOPE decision to route the 420 power line through Myklebustdalen and Sjørdalen nature reserve instead of through Førdedalen. Ålfoten transformation station located in Myklebustdalen.

Participation and engagement issues

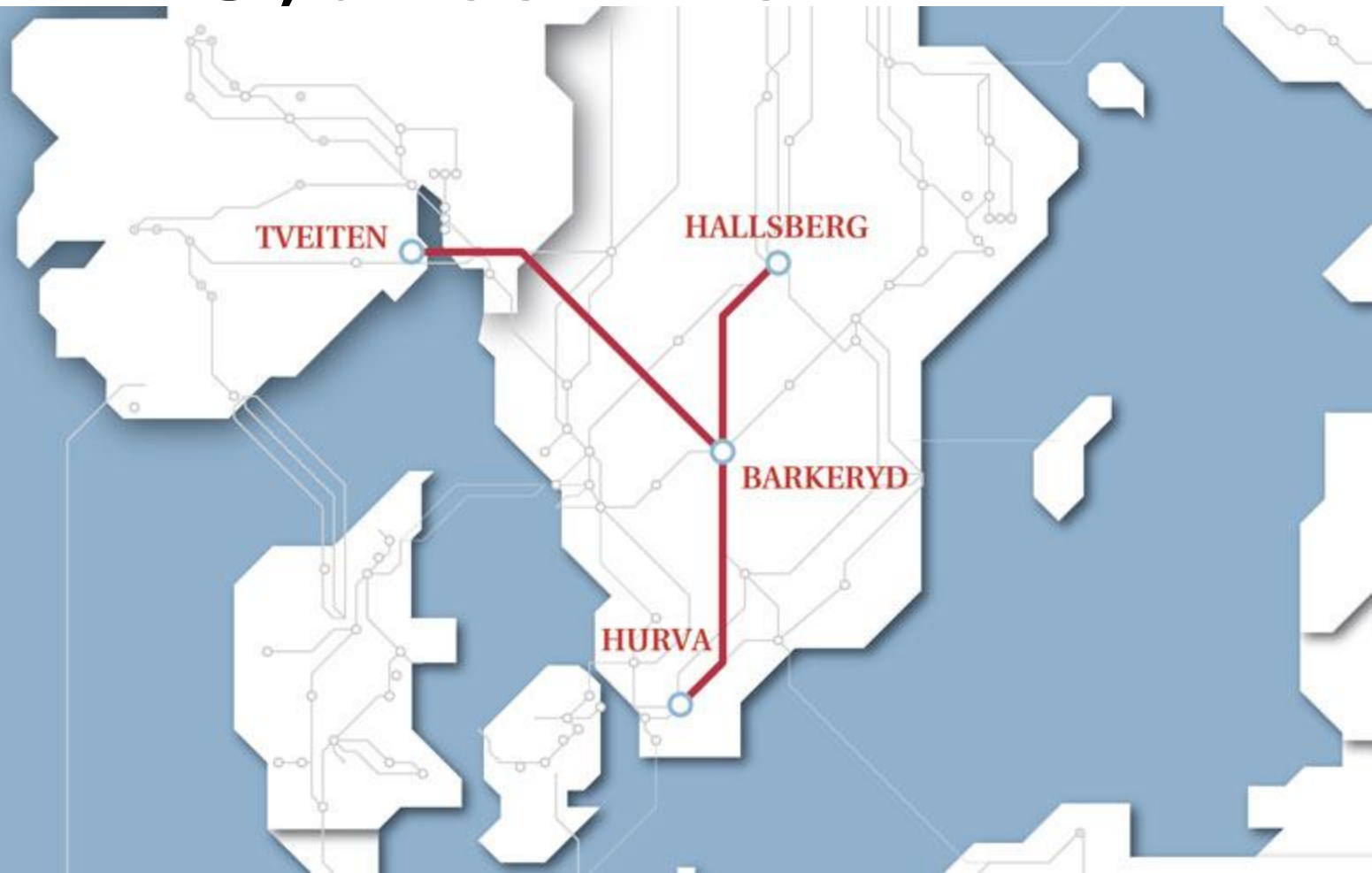
- Landowners complains about impacts on planned cabin area, traditional pasture farming (Myklebust særtra), tourism, recreation and react against routing through Sjørdalen nature reserve.
- Both Statnett and Sogn and Fjordane County Governor preferred alternative route through Førdedalen
- Political element: Centre Party – distrust
- Complaint from the "sivilombudsmann"
- Fylkesmannen i Sogn og Fjordane avslår søknaden frå Statnett om dispensasjon for å føre en del av kraftlinjen mellom Sogn og Sunnmøre gjennom Sjørdalen naturreservat i Bremanger.

Mitigation issues

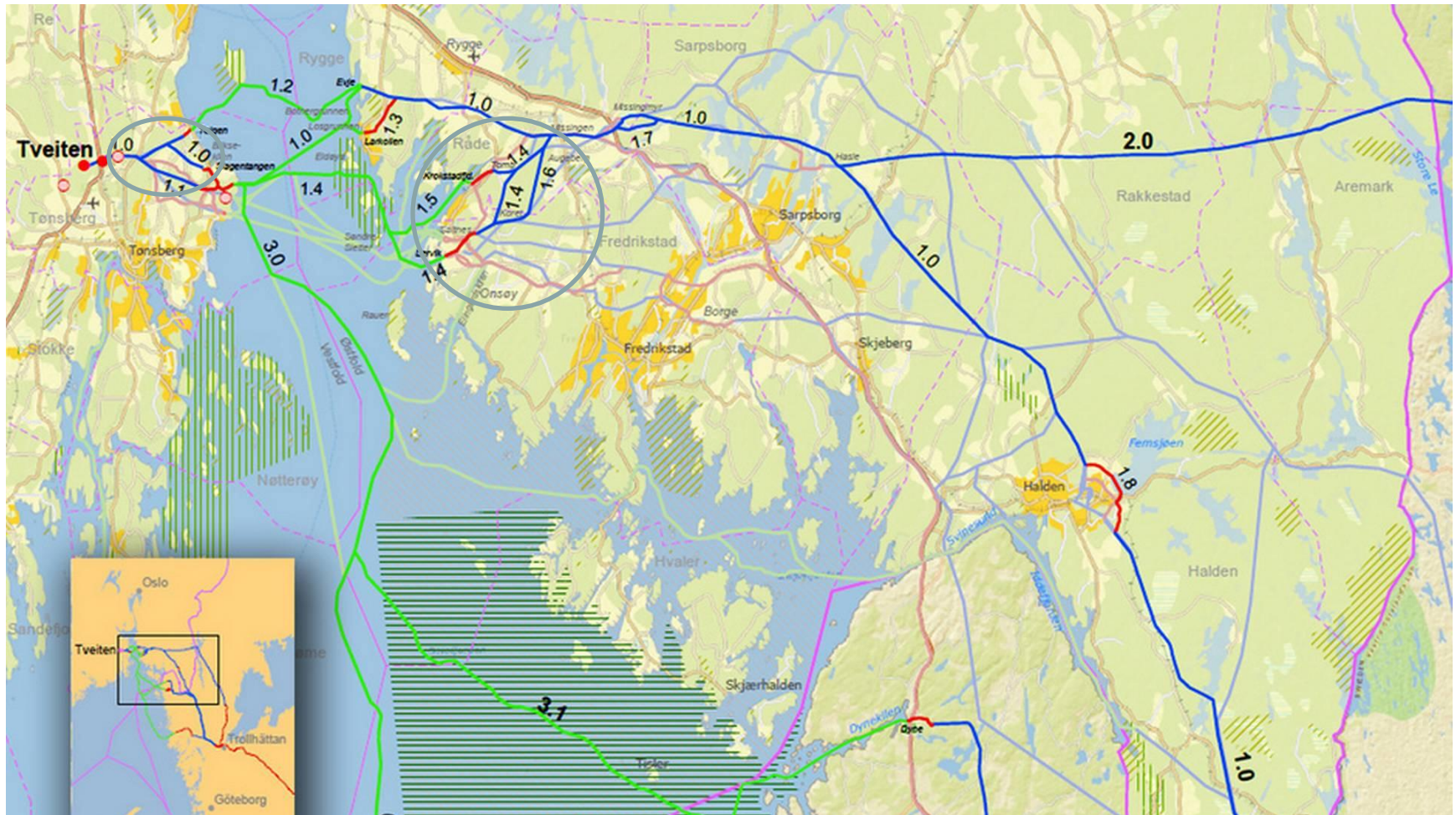
- Earth cabling of existing 66 kV through Sjørdalen nature reserve



SydVestlinken



SydVestlinken



SydVestlinken

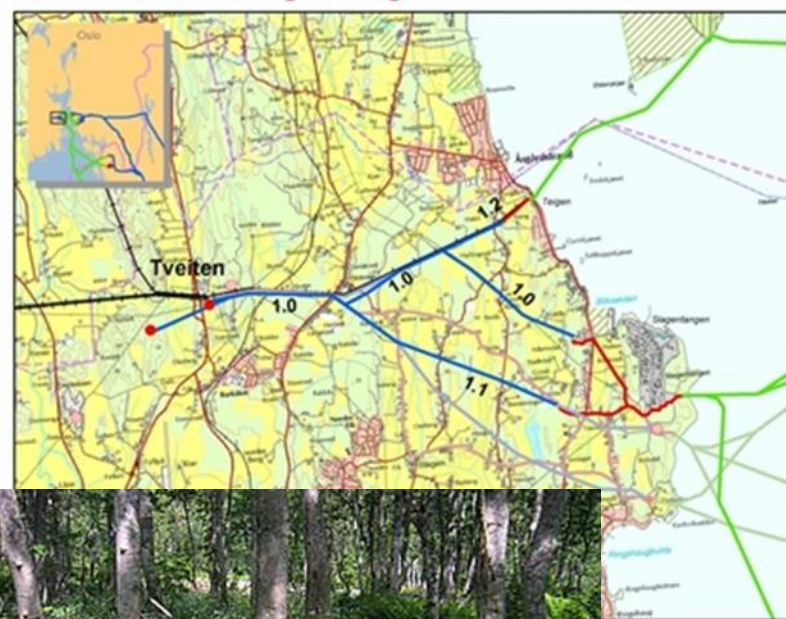
- Located eastern part of Norway in densely populated areas (compared to other parts of the country) covering a long stretch of nearly 400 km from Tveiten in Norway to Barkeryd in Sweden. Routing in Norway: 60-110 km (depending of the alternatives chosen)
- New transformer station will replace existing transformer station at Tveiten (Tønsberg). Land fall points needed on the western part of the Oslo fjord.
- Hafslund nett has another grid project (132 kV) in Østfold (coordination of the consultation processes)
- In Norway the following areas will be affected:
 - two counties are affected; Vestfold county (on the western part of the Oslo fjord) and Østfold county (on the eastern part of the Oslo fjord).
 - Thirteen municipalities are affected by the project; Four of the municipalities are located in Vestfold; Tønsberg, Horten, Nøtterøy and Tjøme, and nine of them are located in Østfold; Rygge, Råde, Sarpsborg, Halden, Fredrikstad, Aremark, Marker, Rakkestad and Hvaler.

SydVestlinken – on the themes the 'need' and undergrounding

- Communication of the 'need'
 - Prepare for renewable energy
 - Reduce the bottlenecks in the power market
 - Improve the security of supply
 - More optimal management
- Overhead lines, undergrounding and sea cable.
 - Overhead lines will be used in most cases where it is possible.
 - However: Since Direct current (DC) is suggested used for the connection the length of the cable is not limited by technological barriers. The disadvantages of extensive use of sea cable is rather to be found in extra cost such a connection is expected to cost, as well as maintains challenges.
 - Routing: The main alternative is planned to be routed parallel to the existing 420 kV grid, except in cases where it affects residential areas.

Tønsberg – Tveiten station/the Slagen valley/ESSO forest

Kartutsnitt over planlagte traséer i Vestfold



Main conflicts and type of intervention

- New Tveiten transformation station; discussion about location. Close to settlements and other infrastructure
- Crossing of the Esso forest and Slagendalen (alt. 1.1); affect cultural heritage interest, recreation and biodiversity

Participation and engagement issues

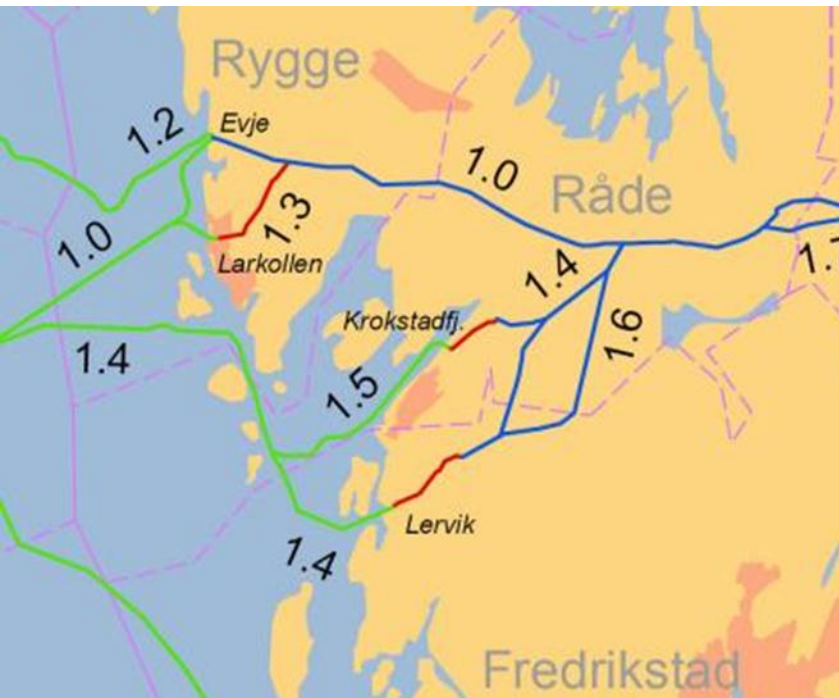
- Tveiten: expected conflict when the detailed planning begins
- Slagendalen and the Esso forest: Important biodiversity, landscape as well as cultural landscape. Potential high conflict is alt. 1.1 is chosen

Mitigation issues

- Cabling and routing is discussed
- The location of the Tveiten transformer station

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Råde/Rådesletta/Missingmyr and Kurefjorden



Main conflicts and type of intervention

- Closeness to residential areas, cropped land, cultural heritage, secondary homes, natural reserves, commercial interests
- Wants sea cable alternative (connection further south) – away from Råde and Rygge.
- Routing, land fall points and technology – different views

Participation and engagement issues

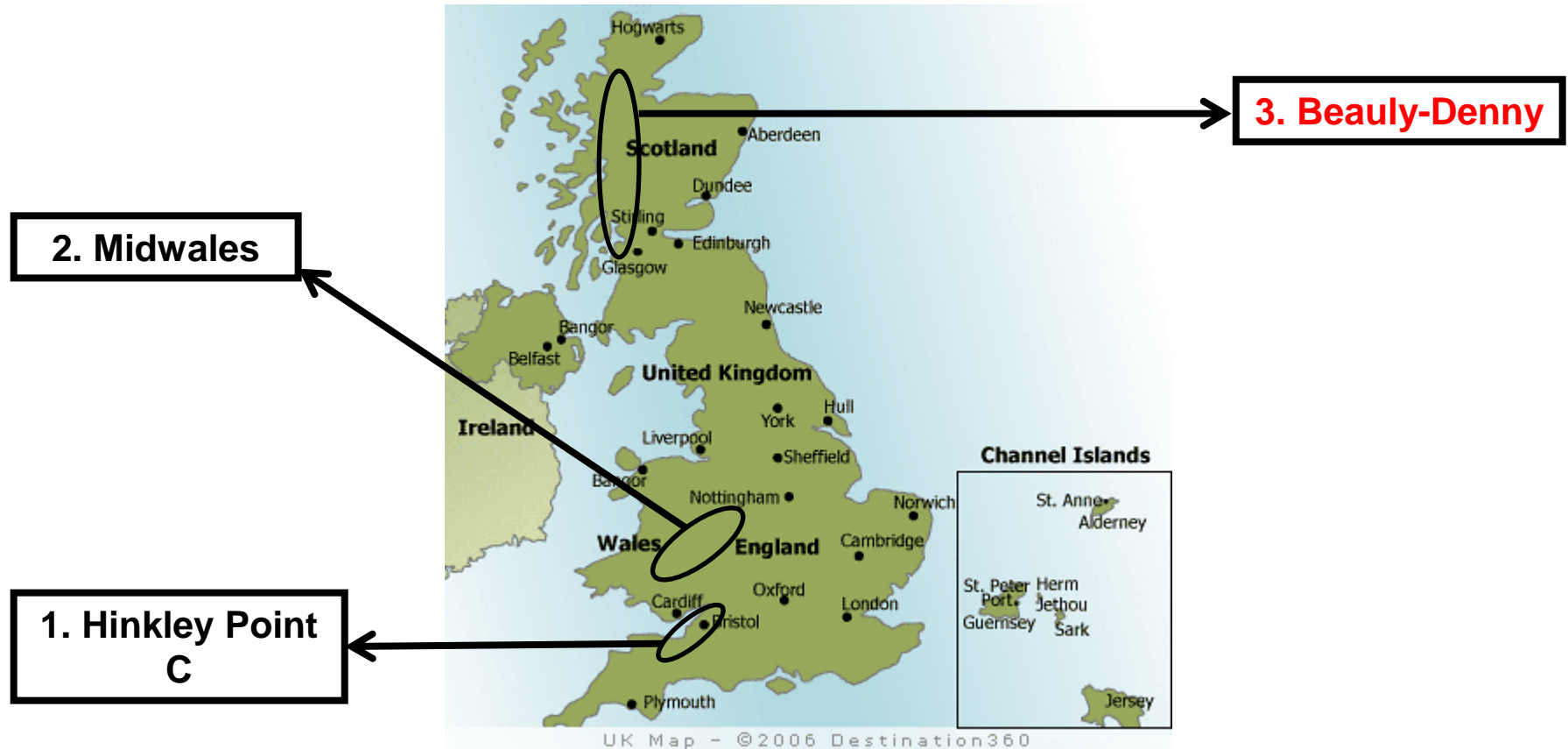
- Conflict level high if Rådesletta is chosen (commercial interests and cultural landscape)
- Kurefjorden: natural reserve, valuable cultural landscape, recreational areas

Mitigation issues

- Co-routing with Hafslunds nett's planed grid
- Use of undergrounding



The case studies in the UK



A map of the Bristol region showing the proposed Pylon Route. The route is highlighted in yellow, starting from the south and heading north. It passes through several locations: Hinkley Point, Weston-Super-Mare, Pylons, Nailsea, and Bristol. A red section of the route is labeled 'UNDERGROUND'. The Mendips area is also shown. The map includes labels for Avonmouth, Bristol, Nailsea, Weston-Super-Mare, Hinkley Point, Pylons, and the Pylon Route.



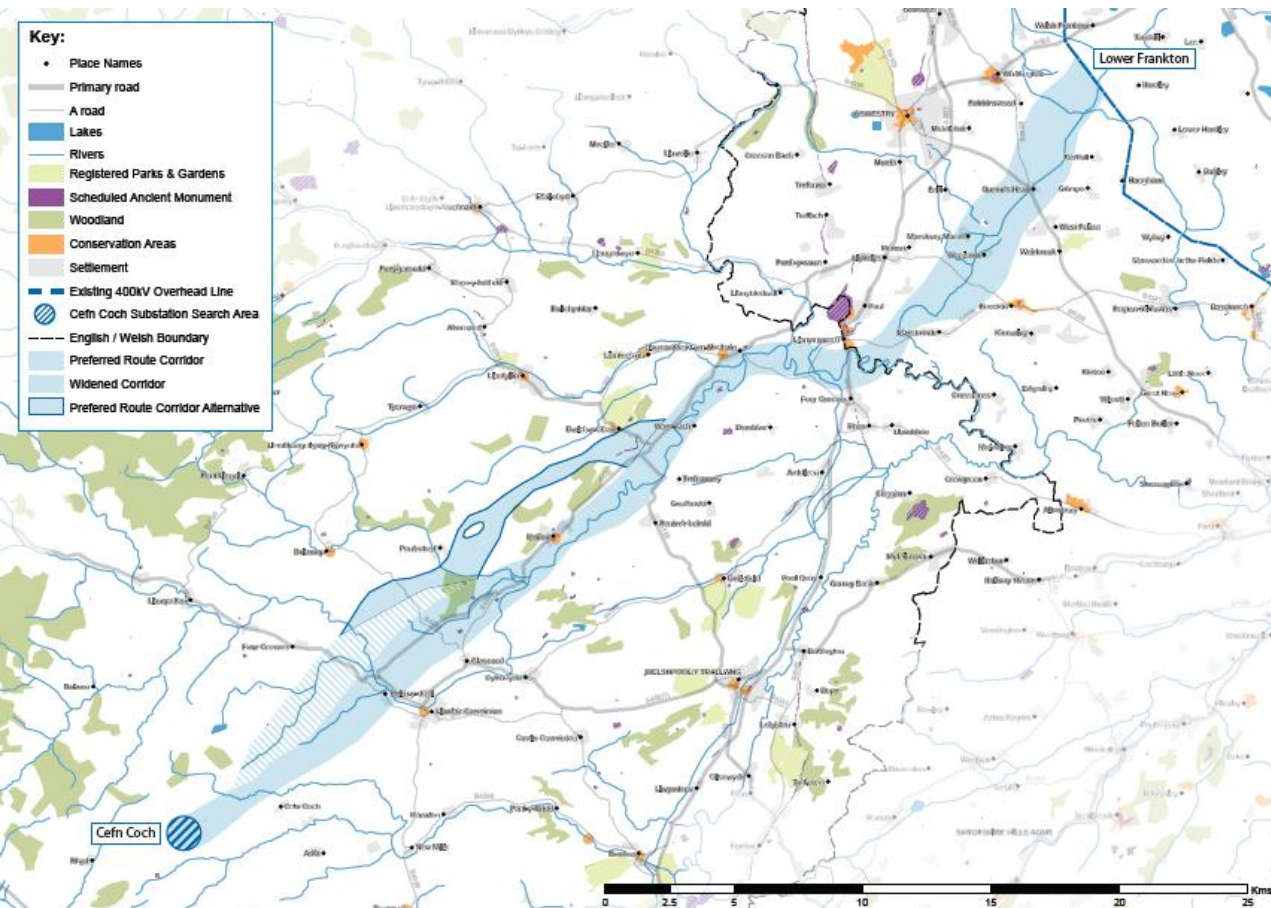
Hinkley Point C connection

- **Need case:** New 400kV TL to connect new 3600MW nuclear power station to the grid
 - Approximately 60km length
- **TSO:** National Grid Plc. (EDF is nuclear developer)
- **Timeline:** Current phase: 3 - Detailed routing and siting: public consultation for choosing the specific route/undergrounding; EIA
- Public consultation began in 2009; Detailed Planning Application to be delivered by 2013, Aimed to be connected to the transmission network by 2018
- Removes one 132kV line owned by a distribution network operator (Western Power Distribution) and replaces it with a 400 Kv overhead line.
- Nuclear power station still not given development consent (Planning Inspectorate: *The Examining Authority has issued its recommendation to the Secretary of State. A decision will be published on or before 19 March 2013*)
- **Public opposition – both to the nuclear power plant (Stop Hinkley) and to the powerline (Save our Valley, Yatton against pylons, No Moor Pylons, Pylon Moor Pressure)**

Hinkley Point C connection – on the themes the 'need' and undergrounding

- Communication of the 'need'
 - Duty to connect people to the energy they use in everyday life
 - National energy challenge: security of supply + reduce carbon emissions = need to connect to new nuclear power station
 - And also to other potential low carbon energy generation projects to be located in the area
- Overhead lines, undergrounding and sea cable.
 - Undergrounding in Mendip Hills Area of Outstanding Natural Beauty (around 5 miles)
 - Taking down of 132kV line between Bridgwater and Avonmouth once the 400kV is built
 - Undergrounding of 132 kV line between Nailsea and Portishead
 - Following the other route corridor option in some locations, following some stakeholders' opinions and concerns
 - Will consider the use of new pylon designs

Midwales connection



Midwales connection

- **Need case:** New 400kV TL(with around 45km), new substation and new system of 132kV DL to connect to new 2GW on-shore wind farms
- **TSO:** National Grid Plc.
- **Current phase:** Current phase: 3 - Detailed routing and siting: public consultation for choosing the specific route/undergrounding; EIA
- **Application** to be delivered **by 2013**, Construction aims to start by 2015
- Some consultation events are being developed in liaison with SPEN and SSE Renewables (responsible for distribution lines)
- Most of the planned wind farms were still not given developmet consent
- **Some of the opposition groups:** People against pylons, Stop the Abermule Hub, Montford against pylons, Trannon residents against power plants.

Midwales connection – on the themes the 'need' and undergrounding

- Communication of the 'need'
 - Duty to connect people to the energy they use in everyday life
 - Ageing infrastructures → New energy sources to reduce carbon and meet UK > energy demand (**UK&Welsh govs agreement**)
 - General need of new energy sources to replace old ones
 - Midwales as important location for onshore wind by the **Welsh government**
 - A 400kv solution instead of several 132kv has a “less significant effect on communities and the environment”
- Overhead lines, undergrounding and sea cable.
 - So far (only recently started study on detailed connection):
 - **Widened route corridor:** due to feedback received on potential visual impacts on the Powys uplands, National Grid will provide additional options within route corridor chosen
 - **Variation to the route corridor:** adjacent to Virrmy valley, due to sensitivities of the area regarding an overhead line, but also technical difficulties with undergrounding

The way forward

- During the spring and summer of 2013 we will gather the primary data.
 - Interviews with TSO, authorities, NGOs, and a selection of other stakeholders at the local, regional and national level
 - Conduct focus group interviews in two localities in each case
- The results from the analysis will contribute to deeper understanding of the survey data (WP 2)
- Further more the results will provide important input how a sustainable grid development regime should be deigned



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