Project 296 - Britib

Interconnection project between South-West England (United Kingdom), Cordemais (France) and Basque Country (Spain) in a multiterminal HVDC configuration of 525-600 kV with 3 inputs/outputs of 1800 MW each, and a mostly subsea route from Spain to Great Britain along the French coast of about 1330 km in total.

Classification Future Project

Boundary Spain, France, United Kingdom

PCI label

Promoted by ACS Cobra

Investments

Investment ID	Description	GTC Contribution	Substation 1	Substation 2	Present Status	Commissioning Date	Evolution since TYNDP 2014	Evolution Driver
1437	New HVDC interconnection (e-Highway) as first piece of the North-South West priority corridor in Western Europe.	100%	Gatica/Hernani, Cordemais and Langage/Indian Queens	Gatica/Hernani, Cordemais and Langage/Indian Queens	Under Consideration	2020		Information provided from TSO

Investment needs

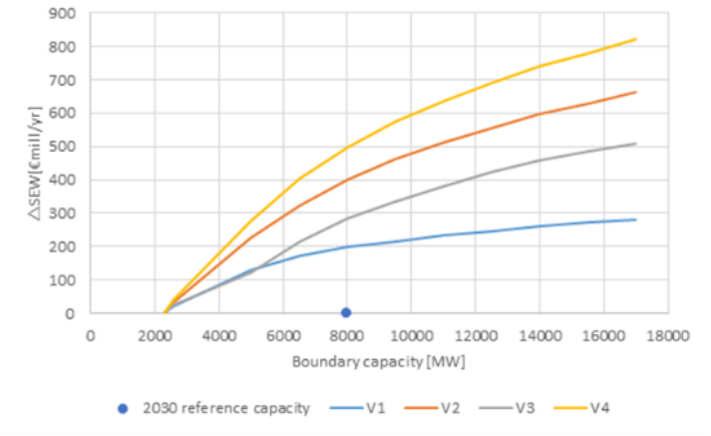
This project was promoted for TYNDP inclusion by a non-ENTSO-E member. An application process was set out by ENTSO-E in Q2/2015 followed by a public consultation. At the time of closure of the consultation, this project did not demonstrate compliance with the EC's draft guidelines for treatment of all promoters. This project proposal does not result directly from planning studies coordinated in ENTSO-E's Regional Groups.

The European Council in October 2014 called for speedy implementation of all the measures to meet the target of achieving by 2020 an interconnection level of at least 10 % of their installed electricity production capacity for all Member States. It also included an indicative objective for 2030, to enhance this threshold to 15% while taking into account the cost aspects and the potential of commercial exchanges in the relevant regions.

The Common Planning Studies performed in the ENTSO-E Regional Investment Plan published in 2015 tested for CSW region the borders of Spain with France, Portugal, Great Britain and Italy in order to increase the interconnection level of the Iberian Peninsula. The study concluded that additional interconnections to GB and IT although could give certain savings in variable generation cost would not be cost-effective due to the high investment cost estimated; that is, high length of the links (900-1200 km) that have to be adapted to particularities of the seabed regarding depths, slopes, canyons, etc…increasing standard costs while also considering socio-environmental constraints like protected areas, commercial ports and leisure marinas.

The curves in the right show how the Socio-Economic welfare of Iberian Peninsula- central Europe boundary evolves when exchange capacity increases. In Vision 1, in which the main interest of cross-border development is to substitute gas by coal generation, the curve saturates much earlier than for Vision 4 in which additional capacity mainly allows better integration of RES, especially in the Iberian Peninsula, as well as some substitution of coal by gas generation.

Further development beyond the point where the cost of additional projects is not balanced by the SEW may be driven by additional considerations, like the fulfilment of 10% interconnection rate.



Project Cost Benefit Analysis

This project has been assessed by ENTSO-E in line with the Cost Benefit Analysis methodology, approved by the EC in February 2015.

The indicators B6/B7 reflect particular technical system aspects of projects based on a summation of qualitative performance indicators, in line with the CBA methodology; these cannot be used as a proxy for the security of supply indicator.

General CBA Indicators	
Delta GTC contribution (2020) [MW]	Delta GTC was not checked for 2020 and the 2030 values were considered for SEW, RES and CO2 assessment.
Delta GTC contribution (2030) [MW]	Boundary Iberia-central EU: 0 MW IB-->central EU; 1400 MW centralEU-->IB
	Boundary GB-central EU: 1800 MW both directions
Capex Costs 2015 (M€) Source: Project Promoter	2450
Cost explanation	
S1	NA
S2	NA
B6	+
B7	++

Scenario specific CBA indicators	EP2020	Vision 1	Vision 2	Vision 3	Vision 4
B1 SoS (MWh/yr)	N/A	N/A	N/A	N/A	N/A
B2 SEW (MEuros/yr)	N/A	50 ±10	140 ±10	140 ±20	100 ±20
B3 RES integration (GWh/yr)	N/A	<10	870 ±290	1040 ±180	540 ±140
B4 Losses (GWh/yr)	N/A	N/A	N/A	N/A	N/A
B4 Losses (Meuros/yr)	N/A	N/A	N/A	N/A	N/A
B5 CO2 Emissions (kT/year)	N/A	1400 ±200	600 ±200	-800 ±100	-900 ±100

Savings in variable generation costs (SEW) in 2030 V1 are caused by a decrease of CCGTs in the Iberian Peninsula compensated by an increase of cheap coal in the UK and Central Europe. This situation results however in a global increase of CO2 emissions.

In both 2030 V3 and V4, there is a replacement of gas by less expensive technologies like nuclear and renewable energy. This produces a higher SEW than in V1 and a global decrease of CO2 emissions. There is additionally a high integration of RES in the area that leads to very positive values of the RES indicator.

For the assessment were considered Hernani in Spain, Cordemais in France and Indians Queens in GB.

As the accurate location and project scope are still under investigation, B4 indicator (impact on losses) was not assessed