

## Sources for UGC cost comparisons and related info 2010-11

### PART 1

#### From news315 of 2-1-11:

6. It will be important for the non-open KEMA review (news314) of undergrounding to try to resolve differences between various reports and cost estimates which have been raised as matters of public concern. Anything less will leave the public suspicious of such a hasty and closed review directed by interested parties. Differences may be partly down to capacity and non-like-for-like comparisons; they need clearly identifying without advocacy one way or the other. This is an opportunity to make a thorough and helpful analysis of alternatives, but it must cover the ground and not hide key features.

7. Among other things, the KEMA review should cover and expressly respond to
- Europacable reports (news312 etc) on XLPE AC cable solutions in relation to the Beaulieu-Denny line, especially the most recent (December 2010) rebuttal of a Scottish Power report, but also earlier reports and comparisons.
  - All three reports relating to the Irish interconnector, including those commissioned by government and/or industry like the Ecofys 2008 and PB Power 2009 reviews, but also including the Askon 2008 study commissioned by objectors NEPP. The KEMA reviewers must obtain this important balancing review and answer it expressly.
  - Details of the 22km 110kV Ballywater-Crane UGC line near Wexford (news213) which appeared to provide significant cost advantages (at only 227kEuro/km) compared with industry estimates; a careful like-for-like comparison is needed.
  - New submissions on GIL with reference to Siemens, raised in connection with Hinkley Point in the “Ambrose & Pratt Report” 2010 for Wraxall Parish Council.
  - The ICF Consulting 2002 report TREN/CC/03-2002 for the European Commission, together with the Commission Background Paper of 10 December 2003 including its Table 7 of cost ratios and its discussion of environmental values in Appendix I.4, notwithstanding that the data and considerations will need updating. These papers should be taken alongside the Revolt note R06 UGC.
  - Revolt FAQs (2008) particularly section 16 at [www.revolt.co.uk](http://www.revolt.co.uk) including notes on actual environmental impact of the Yorkshire 400kV UGC.
  - The latest developments and industry reports on high-temperature superconducting (HTS) transmission including details from the Tres Amigas and Long Island facilities in the USA (news288, 263, 258 etc) and industry reports such as the ASC White Paper 2003 (with updating).

8. The above sources and reports may not be covered by other submissions to the KEMA review. For example, while the CPRE / CNP / NAAONB submission calls for resolving discrepancies between the Ecofys (Ireland) and SPTL (Scotland) reports, very surprisingly it does not mention either of the important rebuttal reports by Askon (Ireland) and Europacables (Scotland). The Ecofys and SPTL reports are

commissioned by government or industry and need to be balanced by these rebuttals from competent professional consultants commissioned by public groups.

## PART 2

In addition to the above bulleted sources there are:

- Submission by PLACE to KEMA and papers by Prof Oswald available from PLACE (see extract from news317 below)
- ENTSO-E – Europacables Report to the EC of December 2010 on partial undergrounding (see extract from news318 below)

From news317 of 16-1-11:

1. The group PLACE <[www.p-l-a-c-e.org](http://www.p-l-a-c-e.org)> has made a late submission to the KEMA review. The submission includes papers by Prof Oswald with direct comparisons of costs of overhead versus underground 380kV cables for particular projects in Germany. PLACE also notes from NG's own figures that the cost-ratio for cables through an existing disused railway tunnel compared with overhead is only 3 to 1.

2. PLACE's submission refers to "*the internationally acclaimed beauty and variety of the British landscape*" and to "*Access to tranquil and undamaged countryside*". It calls for evaluating "*the costs to the community and to the environment of NOT undergrounding*" over a 40-year life span, in agreement with CPRE. We also support this call.

From news318 of 20-1-11:

3. Europacable and ENTSO-E (the association of European TSOs) has recently released a report on the "***Feasibility and technical aspects of partial undergrounding of extra high voltage power transmission lines***". The official document has now been released on the European Commission's website at [http://ec.europa.eu/energy/infrastructure/studies/doc/2010\\_high\\_voltage\\_power\\_transmission\\_lines.pdf](http://ec.europa.eu/energy/infrastructure/studies/doc/2010_high_voltage_power_transmission_lines.pdf)

The report itself is dated December 2010 and the submission to the EC 11-01-2011. The revolt list of sources on underground cable costs has been updated and **attached**.

4. The ENTSO-E report should go some way to resolving discrepancies in cost ratios. The Executive Summary includes:

*The Underground Cable (UGC) investment cost is typically 5 to 10 times higher than Overhead Line (OHL) costs. These cost ratios are directly related to the capacity of the link. Factor down to 3 can be reached for links with limited rating and under special favorable conditions for cable laying or in case of expensive OHL. Factors above 10 can be reached for high capacity double circuit links and if specific structures are needed.*

5. The Executive Summary also includes:

*“It shows that four cable systems would be generally needed leading to a corridor of 20-25 meters on which no deeply rooted trees may be planted and appropriate access must be managed.”*

It will be important that this description does not give way to the former seriously misleading phrase *“swathe of sterilised land through the countryside”*. It should also be stated that in many cases farming continues as normal and the presence of the cables is practically visually undetectable.

(ends)

MJOC for Revolt 20-1-11