

REF

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RESPONSE OF THE RENEWABLE ENERGY FOUNDATION (REF) TO:

*DRAFT COMITOLGY GUIDELINES ON FUNDAMENTAL ELECTRICITY DATA
TRANSPARENCY*

About REF

The Renewable Energy Foundation is a registered charity promoting sustainable development for the benefit of the public by means of energy conservation and the use of renewable energy. REF is supported by private donation and has no political affiliation or corporate membership.

REF publishes data and analysis on the renewable sector worldwide, and provides a free searchable database providing information and monthly performance details for all 5,500 renewable electricity generators operating under public subsidy in the UK: www.ref.org.uk.

We are committed to enhancing data transparency in all aspects of the electricity market to ensure that the consumer is not asked to bear unreasonable costs.

REF is currently proposing significant revisions to the UK electricity market reporting to remedy certain faults in the level of transparency, and thus to ensure that all the costs imposed on customers are transacted through a transparent market. (See accompanying leaflet.)

Our response is divided into two parts, an overview with some general observations, and answers to the 17 consultation questions.

This document has been prepared by Dr John Constable (Head of Policy and Research), Dr Lee Moroney (Head of Planning), with advice from Mr Paul Frederik Bach (formerly Planning Director, Eltra, Denmark).

Overview

REF has published rigorous data-intensive work on the Danish and German electricity markets (Paul-Frederik Bach, *Wind Power and Spot Price: German and Danish Experience 2006-2008* (London, 2009); Paul-Frederik Bach, *The Variability of Wind Power: Collected Papers 2008-2009* (London, 2010). We have also made examined market data from Ireland, the United Kingdom, and Australia. On the basis of this experience we recommend the following:

- 1) Data providers should adopt common rules relating to date and time-stamping for time-series data and pay particular care that changes between winter- and summer-time are clear.

- 2) A minimum data quality should be defined, and the TSOs should be obliged to meet the standard (The quality of some German data is extremely poor.)
- 3) Common procedures for downloading data should be agreed upon, with the focus being on usability. For example, it should be possible to download time series for a selection of data and for at least one year in one download operation. In some cases in Europe each data operation includes a maximum of one month and only one set of data. Thus 120 download operations are required for 10 sets of data, with the result that while the material is technically publicly available, accessing the data is unreasonably difficult.
- 4) In *principle* all embedded generation that is exported to the grid should be quantified and reported. However, we recognise that at present this requirement may be troublesome for some smaller generators (< 100 kW), and that in order to access the data a degree of aggregation will be unavoidable for the time being. However, the principle of disaggregated data should be established at the outset, and exceptions from the principle granted on a temporary basis. **Note that the lower limit of 10 MW proposed in the guidelines is too high and unnecessarily so.** Modern wind turbines, for example, are run remotely and have SCADA equipment which would render electronic reporting straightforward and inexpensive.
- 5) Users are a valuable source of comments on data quality, and there should be mechanism for reporting inconsistent data or other problems observed so that corrections can be made at source.
- 6) The definition of data structures and the quantity of data deserves very careful consideration in order to facilitate fast, efficient and reliable collection and publication. It is highly desirable that the data structures should be stable once established, and therefore we recommend that considerable care is given to this matter before the procedure is initiated, even if this entails delay to the launch of the program.
- 7) In order to facilitate the overview for future users of the data we recommend the data structure to be clarified, for instance in the following way:
 - *National level: Permanent Data*
 - Transmission data
 - Generation data
 - Market rules
 - *National level: Time Series*
 - Transmission Data (ex-ante and ex-post)
 - Interconnections (international)
 - Transmission between bidding areas
 - Bidding area level
 - Market data
 - Day-ahead prices
 - Load data (ex-ante and ex-post)
 - Aggregated load
 - Generation data (ex-ante and ex-post)
 - Aggregated generation per generation type
 - Data per generation unit
 - Balancing data (ex-ante and ex-post) depending on local rules

Responses to Consultancy Questions

1. Are there additional major problems or policy issues that should be addressed by the draft Comitology Guideline on Fundamental Electricity Data Transparency?

Broadly, the guidelines cover the necessary ground. However, we feel that the current approach is focused a little too precisely on the short term commercial arguments for data transparency. We suggest that longer term and more abstract grounds, for example public accountability and the need for good data on which academic research can proceed, should be given greater emphasis.

2. What timescale is needed to implement the Comitology Guideline on Fundamental Electricity Data Transparency seen from your organisation's point of view?

Our own experience suggests that much of the data needed to make significant improvements in transparency already exists, or can easily be obtained. We see no reason for extended delays, though note our remark above regarding the desirability of avoiding revisions to the data structures once the system has been initiated.

3. Do you see a need for more firm specification of the role of each market participant in delivering transparency data to the TSO/information platform in the Comitology Guideline on Fundamental Electricity Data Transparency?

National market legislation already obliges all market participants to give the TSO data on request, and requires that the TSO respects confidentiality where necessary.

4. Do you see a need for more firm specification of the role of the TSO in collecting data in the Comitology Guideline on Fundamental Electricity Data Transparency?

National rules should give Transmission System Operators (TSOs), Distribution System Operators (DSOs) and Market Operators necessary access so that they are able to collect relevant data, including data from market participants. The TSOs should be obliged to organize and publish this data as soon as possible in a clear and easily accessible way.

5. Taking into account the interface between wider transparency requirements and the costs of data storage, do you consider storage of basic data for 3 years, to be made available for free, as sufficient?

No. It is unacceptable that data should be deleted after so short a time. The cost of data storage is low, and decreasing rapidly. There is no excuse for anything other than free availability of all data in an archive which is expected to be maintained in perpetuity.

6. Are the suggested market time units for information reporting and publication requirements adequate and compatible with wider transparency in a European perspective?

In our experience the lack of fine-grained data of all kinds is one of the most significant obstacles to productive research. We recommend that ERGEG seeks to ensure that the smallest time units generated within the market are made available to the public.

7. How do you see the costs and benefits of the proposed transparency framework for fundamental data in electricity? If possible, please provide qualitative and/or quantitative evidence on the costs and benefits or ideas about those.

A simple Cost-Benefit analysis is not appropriate when considering the issue of data transparency, largely because it is impossible to anticipate and quantify the benefits that may transpire from full transparency. ERGEG should not be persuaded by any such arguments, and should instead insist on full transparency, even if the short run costs are significant (which we doubt they will be), because the medium and longer term gains are likely to be large.

Furthermore, there is an abstract argument in favour of data transparency that engages with matters of public accountability, where evaluation is not straightforward, and a principle close to a moral imperative can be invoked. The costs imposed on consumers should be available for public inspection, on *principle*. While no one would say that this data should be provided *regardless* of cost, only high costs could outweigh the principle involved.

However, in practice we suspect that relevant market data will always be obtainable at reasonable cost, since if it is relevant to the market it will already exist and be accessible to some parties.

8. Do you see a need for publication of load data linked to different timeframes or an update of load data linked to different timeframes than those suggested in the draft document?

It will probably be satisfactory for markets to report in the timeframes relevant to local circumstances, but, as stressed in our overview, it is important that analysts are able to correctly collocate data from different markets (for reasons that already obvious and will be come more so as interconnection increases), and thus time-stamping is a matter requiring careful technical consideration.

9. The draft document suggests that the information on unavailabilities of consumption units is disclosed in an anonymous manner identifying the bidding area, timeframes and unavailable load. Do you consider these pieces of information sufficient for the transparency needs of the internal wholesale electricity market or should also the name of the consumption unit be published?

Generally speaking, anonymous data is worse than useless. However, we understand that consumers of electricity may feel that they may be disadvantaged if, for example, they are required to disclose interruptions in production. Nevertheless, such consumers are bidding their load into the market as flexible demand and thus benefitting from this engagement. There is thus a strong, though not overwhelming, argument for full identification.

This is a finely balanced matter, and we suggest that ERGEG argues for anonymous disclosure at the least, with the commitment to return to the matter in the future.

10. Should the publication obligations regarding planned or actual outages of the transmission grid and interconnectors require the publication of the location and type of the asset (i.e. identify the part of transmission infrastructure that due to planned outage or a failure is facing a limitation in its transmission capacity) or should the information on transmission infrastructure equipment outage be non-identifiable? Please justify your position why either identified information would be necessary or why only anonymous information on the transmission infrastructure outages should be published.

The only powerful arguments against full disclosure of such information involve national security. ERGEG should consult with the relevant security agencies to discover their views.

11. The requirement to disclose outages in the transmission infrastructure is proposed to be placed on such events where the impact on capacity is equal to or greater than 100 MW during at least one market time unit. Do you consider this absolute, MW-based threshold appropriate, or should the threshold be in relation to e.g. the total generation or load of the bidding area, or alternatively, should the absolute threshold be complemented with a relative threshold? The relative threshold would mean, for example, that the publishing requirement would apply if a planned or actual outage of transmission infrastructure would equal to or be greater than 5 per cent (or any specified percentage value). This question on relative threshold stems from the fact that for some bidding areas the proposed 100 MW threshold may be relatively high. However, raising the general European threshold might in the majority of the European bidding areas lead to too low a threshold and a vast amount of information being reported.

We are, on principle, opposed to any thresholds that limit data availability. It is unwise to prejudge the utility of any data set.

12. With regard to publishing requirements on congestion (in paragraph 22 (d) and (e)), what kind of information do you consider important to receive and how frequently? Please justify your position.

The definition of transfer capabilities may be difficult for elements in an HVAC grid. We recommend that special attention is paid to international interconnections and potential internal bottlenecks. It should be noted that within a market administration area internal bottlenecks are often transferred to the junctures between bidding areas. Consequently, data relating to net transfer capacity and the time series for offered capacity (terms defined in 2.5.6 and 2.5.7) will be of special interest.

13. Should unavailability of generation infrastructure relate to a given plant or a given unit? Please justify your position.

Yes, it should. We are aware in the UK that generation companies have sometimes engaged in profitable gaming across congested boundaries by making plant

unavailable, and doubtless this occurs elsewhere too. Full disclosure of unavailability data should discourage such activities.

14. The draft document proposes that actual unit by unit output for units equal to or greater than 10 MW be updated in real time as changes occur. Do you consider the 10 MW threshold for generation units appropriate?

No, definitely not. 10 MW is a significant economic unit, and can easily bear the cost of the telemetric monitoring and reporting needed. Furthermore, the aggregated capacity of such units in the European system is already economically and technically of very great significance, and will become more so. It is imperative that the 10 MW threshold is abandoned. Without such a measure much of the value of the data transparency proposed by ERGEG will be lost.

All embedded generation which is exported to the grid needs to be quantified and reported, and since this measuring is commonly taking place for the purpose of claiming subsidy this will not entail further costs.

Furthermore, utility scale generators, > 1MW, for example, are run remotely and have SCADA equipment that would render electronic reporting straightforward.

We emphasise: The 10 MW threshold is needless, and will devalue the resulting data set. ERGEG should reject arguments in its favour, and can confidently do so in the consumer and public interest.

15. The requirement to disclose hourly information on actual aggregated generation output is now related to generation type. Should this threshold be linked to fuel requirements or generation technology?

Sensibly aggregated data can be very useful and save much work for researchers. However, the availability of aggregated data should not be regarded as a substitute for the publication of raw or disaggregated data. By and large researchers can aggregate data according to their needs, so the fundamental requirement is for raw data availability, with aggregation as a secondary matter.

16. The transparency requirements on balancing have been widened compared to the Transparency Reports prepared within the framework of the Electricity Regional Initiatives. Is the proposed list of data items sufficient - also taking into account the evolution towards cross-border balancing markets?

There is considerable variation from country to country in the way that the markets for balancing power are organized, and one data structure will not be valid everywhere. It is difficult to see any straightforward solution to this problem, and it may be necessary to update the data lists when more harmonized balancing markets have evolved. Such changes in data structure may inhibit researchers for making long term analyses, but this may be unavoidable.

17. The transparency requirements on wholesale market data have been deliberately left outside the draft Guidelines as they will most likely be addressed by other legal measures that are currently under preparation. Should some basic wholesale data, i.e. information on aggregate supply

and demand curves, prices and volumes for each standard traded product and for each market timeframe (forward, day-ahead, intraday) as well as prices and volumes of the OTC market still be part of the Comitology Guideline on Fundamental Electricity Data Transparency?

At the very least, ex-post information should be collected and published, with confidentiality being protected by the existing market rules. Prices in day-ahead markets, intra day markets and real time markets are important information and should be included. The financial markets, though important, are rather different; any person or institution can open a financial market, so no common framework exists, thus limiting the utility of the relevant data.

Appendix: Description of REF's Data Transparency Initiative

Published in July 2010 as part of an ongoing initiative to improve data transparency in the UK electricity market. Further details on www.ref.org.uk.

GenID	Generator	Type	SettDate	SPd	MW	Bal BO	Total	Meter	Checked	Diff
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	7	509.35	9.6	518.95	159.80	F	-359.1
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	8	509.35	9.6	518.95	169.40	F	-349.5
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	9	509.35	9.6	518.95	169.40	F	-349.5
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	10	509.35	9.6	518.95	179.00	F	-339.9



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RENEWABLE ENERGY FOUNDATION

DATA TRANSPARENCY IN THE ELECTRICITY INDUSTRY
A Renewable Energy Foundation Initiative 2010–2011

In the next decade the United Kingdom needs to renew, modernize, and redesign its electricity infrastructure, with costs potentially running into hundreds of billions of pounds and met ultimately through increases in consumer bills.

However, the electricity industry, and the market in which it operates, is characterized by obscurity and even secrecy.

This is unsatisfactory since Generation and Supply must be regulated by open competition to ensure efficiency. For such a competitive mechanism to function, all the costs imposed on customers by generators should be transacted through a transparent market.

At present this is not the case, a point that is particularly true of the generation sector, where detailed, metered, data is costly, difficult, or impossible to obtain.

For the following reasons this is not in the national or the public interest:

- New entrants to the electricity market are impeded and competition is inhibited, to the disadvantage of the consumer.
- Technical and financial problems arising from current energy policy and its targets cannot easily be anticipated by the innovators who might solve them.
- Academic and technical research into the electricity system and its costs is rendered all but impossible.
- Analysis of progress towards UK and EU energy and emissions targets is prevented.
- Without full electricity system data disclosure there can be no satisfactory public accountability for Government policy measures.

In view of these concerns REF is building on its track record of publishing empirical data relating to renewables, and is now calling for full data transparency in the overall electricity sector.

Specifically, REF is calling for:

1. The requirement that embedded generators on the distribution network record sub-hourly metered generation data and make this freely available to the regulator, Ofgem, who should in turn put this into the public domain. *At present this information is not collected.*
2. Free public release of sub-hourly metered generation output data for each and every individual electricity generator in the United Kingdom, whether subsidized or unsubsidized. *Currently, only part of this information is collected, and what exists is only available on subscription and for restricted and confidential use.*
3. Full, free, and public disclosure of data relating to the Balancing Mechanism, including all participants in the market, and their utilization by National Grid. *This material is not at present available to the public, and since costs in this area are set to rise significantly, in large part due to the Government's renewables policy, there is a pressing need to improve public scrutiny.*

ANYT-1	Any								F	-361.1
ANYT-1	Any								F	-357.6
ANYT-1	Any								F	-357.6
ANYT-1	Any								F	-358.1
ANYT-1	Any								F	-358.8
ANYT-1	Any								F	-359.1
ANYT-1	Any								F	-359.1
ANYT-1	Any								F	-359.4
ANYT-1	Any								F	-359.4
ANYT-1	Any								F	-360.0
ANYT-1	Any								F	-360.0
ANYT-1	Any								F	-363.0
ANYT-1	Any								F	-360.2
ANYT-1	Any								F	-361.1
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	7	509.35	9.6	518.95	159.80	F	-359.1
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	8	509.35	9.6	518.95	169.40	F	-349.5
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	9	509.35	9.6	518.95	169.40	F	-349.5
ANYT-1	Anytown Gen	CCGT	19/7/2010 00:00	10	509.35	9.6	518.95	179.00	F	-339.9

