

**Union of the Electricity Industry - EURELECTRIC Position Paper on  
market transparency (as further to the request of the 12th Florence Forum)**

**February 2006**



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### **Executive Summary**

The XII<sup>th</sup> Florence Forum in September 2005 entrusted EURELECTRIC with the task to *“provide a list of information that it considers market agents need to have in order to trade efficiently, where possible in co-ordination with traders, power exchanges and customers, with the aim to provide this list by November 2005”*.

The Report “Integrating Electricity Markets through Wholesale Markets: EURELECTRIC Road Map to a Pan-European Market” (June 2005) highlighted the importance of market transparency in the development of European regional markets as an interim step towards a pan-European wholesale electricity market.

EURELECTRIC welcomes the opportunity to put forward its views on wholesale market transparency. The paper sets out why EURELECTRIC believes in the importance of market transparency, the key principles underpinning transparency arrangements and the need for a balanced assessment. Finally, the paper sets out the principles which should govern transparency requirements and provides a list of information that is useful for market agents to trade efficiently. From a practical viewpoint, the paper recommends a regional framework as the best context in which to take forward transparency requirements.

A broad agenda for European wholesale market transparency is set out in this paper. It calls for more transparency with the over-arching aim of making European wholesale electricity markets function more efficiently and reinforcing trust in these markets. It calls for market participants and national regulators to work together to deliver this agenda and create firm foundations for a pan-European electricity wholesale market. The role of generators in the context of market transparency is to deliver the relevant data to the entities which are responsible for data publication. The latter have to ensure that commercially confidential data is not disclosed to the market.

EURELECTRIC wants to initiate a dialogue with various stakeholders, including regulators, power exchanges, TSOs and market participants, on how the process of improving market transparency should proceed.

## **1. Introduction**

EURELECTRIC is fully committed to developing open and transparent markets which engender confidence in all key stakeholders including customers, generators, traders, potential new entrants and regulators. In implementing the EURELECTRIC road map, we recognise the need for improvement in transparency levels across the EU. Market transparency is a key driver in developing wholesale markets and will thus further stimulate liquidity in the markets. Therefore, transparency should not be viewed as an end in itself, but as a means to promote efficiency and market confidence.

This paper sets out in its main part the principles of market transparency and in the Appendix a list of information EURELECTRIC believes should be made available – where applicable – in order to increase the efficiency of electricity trading. EURELECTRIC’s proposals are intended to represent best practices on market transparency within the EU and will be revised and updated when markets develop further. When implemented, these proposals will make European electricity markets functioning more efficiently.

## **2. Market efficiency and confidence**

Market transparency is important for a number of closely inter-related reasons, but primarily because it:

- promotes market liquidity and enhances market efficiency;
- facilitates new entry;
- engenders market confidence; and
- facilitates regulatory oversight.

EURELECTRIC has consistently highlighted the critical role that wholesale markets play under a liberalised industry structure and the importance of market participants having access to efficient wholesale markets. Liberalised markets give rise to a range of price and volume risks which deep and liquid wholesale markets enable market participants, including customers, to manage. For instance, liquid wholesale markets allow market participants to:

- Effectively risk-manage their positions and cater for demand and supply uncertainties, such as weather variation or plant breakdown;
- Take “make or buy” generation decisions and thus source lowest cost generation (production efficiency);
- Compete in generation and supply markets without fully matched generation and customer portfolios, and enter the generation, trading or supply business of the market without being vertically integrated;
- Pool generation reserve capacity, thus facilitating and lowering the cost of maintaining security of supply.

Without access to fully functioning efficient wholesale markets, market participants would not be able to conduct their normal every day business without being exposed to unmanageable risks, nor would customers be able to handle their risks and have trust in price formation. In addition, customers should be able to understand and gain from price formation models on liquid wholesale markets so that they can participate actively in the trading markets. Consequently, EURELECTRIC has consistently supported the development of liquid wholesale markets and measures designed to bolster their efficiency.

However, even in a fully transparent electricity market, there are external factors that may also influence the market results. Therefore, it is important that specific information regarding underlying markets, such as the gas market, is also accessible. One such issue is the full compliance in all Member States with the requirements of the Gas Regulation 2005/1775 and the Gas Storage Guidelines (GGPSSO). In addition, customers with rather high loads should also provide relevant information to the data providers.

At the same level, one should also be aware that market transparency needs not only input from TSOs, generators and customers but also additional information from the wholesale market, e.g. cross-border auction results, power exchange and broker results, permanent (within day / on line) view on the clearing prices and traded volumes of OTC standard contracts<sup>1</sup>. This point is also addressed in the list of information attached in the Appendix with a specific section on wholesale markets.

Market design, market structure and trading arrangements vary widely in European electricity markets and are an important factor in determining the range of information to be made available and who should publish them. Although sufficient harmonisation of transparency standards should be pursued, due attention should also be paid to the nature and state of development of the markets, the needs of the market participants and the necessity to strike a proper balance between the usefulness and the cost of providing market data. In bilateral markets, data collection and publication are usually done by the TSO whilst in exchange based markets, data is generally collected and published by the spot market operator. In addition, independent data providers publish information on bilateral and exchange based markets.

### **3. Key Principles**

In determining transparency requirements<sup>2</sup>, specific attention should be paid to carry out an informed and balanced assessment as to the level of market transparency needed. It is therefore essential that the degree of detail is determined by the range of data relevant to price formation. The costs of collecting not yet available data have to be proportional to the benefits this information will bring to market transparency and market functioning. Our proposal is based on such an approach and calls for a meaningful aggregation of data.

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<sup>1</sup> See for comments Table 5. Wholesale Markets in the Appendix.

<sup>2</sup> This paper does not address transparency for financial products per se as this issue is already governed by EU and/or national financial legislation.

Market participants in general must be able to operate in wholesale electricity markets without revealing commercially sensitive information concerning their purchasing, sales, production, or other trading or contracting strategies. Concerns could arise where firms' trading intentions are broadcast in illiquid markets where there are only a limited number of options or trading partners available.

Therefore, due regard needs to be paid to ensuring that the arrangements proposed for market transparency do not:

- undermine or distort competition;
- reveal commercially confidential data;
- place undue burdens on market participants;
- incur excessive cost relative to the benefits.

In order to create a level playing field in a regional, and ultimately a pan-European market for all market participants, market data needs to meet the following requirements:

- The data should be made available under similar conditions to all market participants. In particular, they should be authoritative, issued at the same time and be easily accessible;
- The data should as far as possible use standardised definitions and formats to facilitate processing and analysis by market participants and allow harmonisation across national borders;
- The data should enable market participants to operate with a sufficient degree of confidence.

In their capacity as information providers, TSOs, generators and customers should make their best efforts to issue accurate data and forecasts since the publication of these data will influence market results and prices by aligning expectations. However, in the event that information proves incorrect or that actual data deviates from forecasts, these providers cannot be regarded liable as long as they have made in good faith the best estimates from the data available to them. It is therefore important to build, calibrate and continuously improve forecasting models based on historical data to finally increase the quality and reliability of the information provided.

#### **4. Market Transparency as part of the EURELECTRIC road map**

This paper does not intend to look into market transparency in isolation from further market development. The development of common rules on market transparency should be put in a dynamic perspective and be duly accompanied by a process of further developing wholesale markets, as set out in the EURELECTRIC road map towards a pan-European electricity market.

This EURELECTRIC vision envisages stepwise integration of electricity markets through the establishment of regional markets and the expansion of wholesale markets. This process should result in as large price areas as possible and ultimately – if possible – in one single pan-European price area. This means that in addition to improved transparency, additional measures should be taken to establish liquid day-ahead and forward markets and open intra-day and balancing markets where they do not already exist. Furthermore, efforts should be maintained to develop coordinated market-based mechanisms for congestion management and interconnection capacity in order to reduce structural bottlenecks, when economically reasonable. This approach will increase further liquidity, facilitate new entry and increase the number of market participants in each regional market and thus alleviate concerns over market concentration. Ultimately, it will reinforce trust in price formation and in the ability of the markets to deliver. However, in order to succeed, integration of wholesale markets requires a strong commitment from all stakeholders and close co-operation between the various market participants, including electricity companies, TSOs, power exchanges, customers and others, plus the Commission, regulators and governments.

## **5. Implementation**

There are essentially two routes for implementing market transparency arrangements each with its own merits and de-merits:

- Implement via Europe-wide regulation, or
- Implement via regional cooperation between the various stakeholders (regulators, power exchanges, TSOs, market participants) and, only if necessary, use national regulatory powers co-ordinated on a regional basis (regional markets approach).

Briefly, European wide regulation has the advantage of being a tried and tested route with clear and well understood governance arrangements. It would avoid the potential for competitive distortions by legislating against differential requirements. The disadvantage with this route is the timescales involved. A key risk with adopting a single uniform requirement is that, given the disparate state of market development across the EU, the slowest/least developed market could end up setting the pace.

A regional markets approach has the advantage of tailoring the transparency requirements and determining appropriate priorities in light of current practices. The disadvantage is that this is as yet an untried approach on European scale with unclear governance arrangements. Although care must be taken that this approach does not distort trade between regional markets, EURELECTRIC is convinced that all involved parties (regulators, exchanges, TSOs and market participants) are able to co-ordinate their activities sufficiently to deliver the required changes in a timely fashion.

EURELECTRIC believes that, on balance, the regional route should be pursued for implementing market transparency arrangements. If regional markets are to genuinely develop, the necessary regional governance arrangements will need to be established and the above questions will need to be tackled. Provided that all categories of market players are properly represented, the regional mini-fora would be the natural vehicle for developing the regional markets agenda and putting in place regional governance mechanisms.



The onus should clearly be placed on those markets within each region to ‘level up’ to the benchmark best practice transparency arrangements in existence in their respective regions. Correcting informational asymmetries within regions should be prioritised to lay the foundations for regionally based wholesale markets. The regions should then benchmark their best practices against the requirements laid out in this document (see Appendix) in order to harmonise transparency requirements between the regions. This regional approach should not be considered as a means to delay implementation, but rather as a means to prioritise and make progress in areas which are important for delivering regional and, further on, European integration.

We would like to highlight that if too wide a range of detailed and precise information is made available, market players may be perceived as behaving strategically in a similar way. This raises the risk of their being accused of acting in a collusive and anti-competitive fashion even if this is not the case. Therefore, the implementation of market transparency rules should also involve the relevant competition authorities as part of the dialogue with all relevant stakeholders. In addition, further legal investigation may be needed to ensure that an information provider does not run the risk of being accused of manipulation even if best efforts were made to communicate the information in question.

## **6. Conclusion**

In accordance with EURELECTRIC’s Roadmap, we therefore propose the following approach for market transparency:

- firstly, harmonise transparency requirements within regions;
- secondly, progress towards harmonisation between regions.

As markets are developing, it will be necessary to revise the current position and add further issues, where necessary. Therefore, this position should not be seen as a static picture but should be the basis of further discussions and developments in the future. The implementation in all Member States of the transparency levels proposed in the Appendix would be a step forward for market transparency on the overall European electricity market. However, those markets which already publish more information due to their trading arrangements should not lower their transparency standards but on the contrary create momentum for further transparency in less advanced markets. Furthermore, care should also be taken to ensure that transparency arrangements move at a similar pace in closely connected regional markets.

EURELECTRIC would like to invite all relevant stakeholders to enter into an extensive dialogue on the issues and to discuss how to implement the current proposal on market transparency in the day-to-day-business of the involved market participants. In particular, EURELECTRIC would like to initiate a dialogue with power exchanges and TSOs about their role as publishers of market information. We would be happy to participate actively in any discussion in order to develop guidelines for market transparency.

## Appendix: Detailed list of relevant information

### 1. Transmission and Access to Interconnectors

Type of information	Publication timeframe	Aggregation area
Day-ahead forecast of available commercial capacity on borders between price areas	Ex ante, day ahead (D-1 for D) for each market time unit, at the latest at the moment of the start of the daily capacity allocation	Per border between price areas
Week-ahead forecast of available commercial capacity (peak/off-peak) on borders between price areas <sup>3</sup>	Ex ante, week ahead (W-1 for each D of week W)	Per border between price areas
Month-ahead forecast of available commercial capacity (peak/off-peak) on borders between price areas <sup>3</sup>	Ex ante, month ahead (M-1 for each W of month M)	Per border between price areas
Year-ahead forecast of available commercial capacity on borders between price areas <sup>3</sup>	Ex ante, year ahead (Y-1 for each M of year Y with a rolling update each month for the next 365 days (year))	Per border between price areas
Planned maintenance of a borderline and impact on the day-, week- and month-ahead available commercial capacity on this border and other relevant borders	Ex ante, year ahead (updated when relevant during the year)	Per border between price areas
Unplanned line outages and impact on the day-, week- and month-ahead available commercial capacity on this border and other relevant borders	Ex post, at least H+1 for H, or shorter depending on the mechanism of the balancing market	Per border between price areas
Details of volumes and capacity reserved for legacy contracts between price areas or balancing markets, including the daily values of the total capacity taken by them as well as its provisional evolution in the coming years	Ex ante, week- and year-ahead; expected evolution until the end of the contract	Per contract
Total nominated capacity of the legacy contracts and long-term (i.e. yearly, quarterly, monthly, weekly) contracts per border	Ex ante, as soon as possible on D-1 after achievement of these nominations; at the latest before the daily allocation procedure starts	Per border between price areas
Total nominated capacity of the legacy contracts and long-term (i.e. yearly, quarterly, monthly, weekly) contracts and the daily contracts per border	Ex ante, as soon as possible on D-1 after achievement of these nominations and validations between TSOs	Per border between price areas

<sup>3</sup> Week-, Month- and Year-ahead forecasts of available commercial capacity per border between price areas might not be very exact in markets with large amounts of wind power.

Remaining available commercial capacity for day-ahead allocations	Ex ante, after the moment that the D-1 long term and legacy nominations are done, and before the day ahead allocation takes place	Per border between price areas
Remaining available commercial capacity for intra-day allocations	Ex ante, after the moment that the D-1 nominations are available, and updated as soon as possible each time TSOs have another assessment and the capacity has been changed due to intra-day allocations, with at least available data H-1 for hour H	Per border between price areas
Intra-day cross-border available capacity	Ex ante, hour H for remaining hours of the day D	Per border between price areas
Volumes used in the intra-day allocation	Ex post, H+1 for H	Per border between price areas
Total nominated capacity per hour, i.e. the total nominated capacity including long-term (i.e. yearly, quarterly, monthly, weekly), day-ahead and intra-day nominations	Ex post, at least H+1 for H	Per border between price areas
Realised physical flows on borders per hour <sup>4</sup>	Ex post, as soon as possible after real-time	Per border between price areas
Long-term evolution forecast of the transmission infrastructure and its impact on future available commercial capacity on borders between price areas	Ex ante, year ahead (updated when relevant during the year)	Per border between price areas
Prices and volumes of explicit transmission capacity auctions	Ex post, close to real time, continuously updated	Per border between price areas
General scheme for calculation of thermal capacity	Ex ante, year ahead; for at least the next 3 years	Per TSO area
General scheme for calculation of the total transfer capacity and of the available transfer capacity, including the requirements for the reservation of capacity for emergency reasons	Ex ante, year ahead; for at least the next 3 years	Per TSO area

<sup>4</sup> This information will be published following the Congestion Management Guidelines despite not being necessary for trading purposes.

## 2. Generation

Type of information	Publication timeframe	Aggregation area
Installed generation capacity by fuel type <sup>5</sup>	Ex ante, Y-1 for each day D, updated on a regular (rolling, at least quarterly) basis when relevant	On national level or by price area if price areas are not identical with Member States
<p><b>Available generation capacity:</b> EURELECTRIC proposes a stepwise approach to create a regional – taking into account differences in market structure and generation mix – and pan-European level playing field for market transparency concerning information on available generation capacity.<sup>6</sup></p> <p><b>Phase 1</b> should be linked to the process “Continued liberalisation of national markets” as proposed in the EURELECTRIC Road Map to a Pan-European Market.</p>		
Day-, Week-, Month- and Year-ahead information of total available generation capacity expressed in MW <sup>7,8</sup>	Ex ante, Y-1 for each day D, updated on a daily (rolling) basis	On national level or by price area if price areas are not identical with Member States
<p><b>Phase 2</b> builds on the information already made available in phase 1 and should be linked to the process “Development within regions” as proposed in the EURELECTRIC Road Map to a Pan-European Market.</p>		
Day-, Week-, Month- and Year-ahead information on available generation capacity expressed in MW by fuel type <sup>5</sup>	Ex ante, Y-1 for each day D, updated on a daily (rolling) basis	On a regional level or by price area
Actual hourly aggregated generation (in MWh) by fuel type, including actual hourly injections (in MWh) of wind power	Ex post, at the latest D+1 for H <sup>9, 10</sup> ; published information to remain available for at least 7 years	On national level or by price area if price areas are not identical with Member States

<sup>5</sup> This information should be split into the following fuel types: nuclear, hydro, gas, coal, oil (including open cycled gas turbines - OCGT, as they are closer to oil in the merit order than to gas), wind, and other renewables.

<sup>6</sup> As a general point, it has to be ensured that generation information published ex ante does not expose the commercial position of individual companies concerning their actual generation schedules. The ex ante publication of actual production schedules would actually be against competition law. The publication of this data should be coordinated with the information about unplanned loss of generation capacity.

<sup>7</sup> Unless the Congestion management Guidelines, which are to be adopted based on the Cross-border Regulation 1228/2003, require ex ante information on total available generation capacity, information on total available generation capacity expressed in MW should be published ex post on a daily basis, i.e. D+1 for D, on national level or by price area as a minimum requirement.

<sup>8</sup> As long as available generation capacity is not published by fuel type, information on the projected hourly injections of wind power should be published day-ahead together with the assumptions on which these forecasts are based (e.g. expected wind force). As there are usually strong deviations of wind power production from forecasts, this information might have a limited value. However, data on wind power injections is already commercially available from a number of competing information providers.

<sup>9</sup> Publication should be per market time unit depending on the mechanism of the balancing market.

<sup>10</sup> In Member States where the generation capacity is widely distributed between many generators with a significant portion of decentralised generation capacity, technical restrictions require a time span to collect, aggregate and publish the data that may last for up to one day. In other Member States this can be done faster. In a next step we will look into ways to reduce the time span necessary for the publication of this data, including an analysis of the additional costs and benefits of faster publication.

<p><b>Ex post information on unplanned loss of generation capacity<sup>11</sup>:</b> EURELECTRIC proposes a stepwise approach in order to create a regional and pan-European level playing field.</p> <p><b>Phase 1</b> should be linked to the process “Continued liberalisation of national markets” as proposed in the EURELECTRIC Road Map to a Pan-European Market.</p>		
Unplanned loss of generation capacity (expected duration <sup>12</sup> + capacity loss)	Ex post, within reasonable time (at the latest D+1 for D) in order to give the generator the possibility to hedge the risks of the unplanned outage	By fuel type on price area level <sup>13</sup>
<p><b>Phase 2</b> should be linked to the process “Development within regions” as proposed in the EURELECTRIC Road Map to a Pan-European Market.</p>		
Unplanned loss of generation capacity (expected duration <sup>14</sup> + capacity loss) <sup>15</sup>	As close to real-time as possible <sup>16</sup>	By fuel type on price area level <sup>13</sup>
Water levels in hydro reservoirs <sup>17</sup>	Ex post, W+1 for week W	On national level or by price area if price areas are not identical with Member States
Aggregated projected, but not committed new-built of generation capacity as soon as a connection agreement with a TSO is in place	Ex ante, year ahead; for at least the next 3 years	On price area
Aggregated projected maintenance <sup>18</sup>	Ex ante, year ahead (updated when relevant during the year)	On national level or by price area if price areas are not identical with Member States
Aggregated projected mothballing of generation capacity <sup>18</sup>	Ex ante, year ahead	On national level or by price area if price areas are not identical with Member States
Aggregated projected dismantling of generation capacity <sup>18</sup>	Ex ante, year ahead; for at least the next 3 years	On national level or by price area if price areas are not identical with Member States

<sup>11</sup> Information on unplanned loss of generation capacity should be published for generation units larger than 100 MW.

<sup>12</sup> Information on the expected duration of an unplanned loss of generation capacity should be published with best efforts and in good faith by generators and should be updated within reasonable time in order to give the generator the opportunity to hedge the risks; this is of particular relevance in illiquid trading markets.

<sup>13</sup> Generators will report unplanned loss of generation capacity on a plant level to the responsible data publisher (e.g. TSO, power exchange or any other information provider) which will aggregate the data for publication by fuel type on price area level.

<sup>14</sup> Information on the expected duration of an unplanned loss of generation capacity should be published with best efforts and in good faith by generators and should be updated as soon as further information becomes available.

<sup>15</sup> It has to be made clear that this phase will be applicable only once market participants can cover their losses on the market without seeing any price impact.

<sup>16</sup> In Phase 2 information on unplanned loss of generation capacity should be published as close to real-time as possible given the technical issues in the generation company of receiving information from its own power plant.

<sup>17</sup> Water levels for pump storage production are excluded; de minimis requirements may apply in markets where hydro has limited influence on price setting.

<sup>18</sup> This information needs to be published as long as no ex ante information on available generation capacity by fuel type is published.

### 3. Load<sup>19</sup>

Type of information	Publication timeframe	Aggregation area
Day-ahead aggregated forecast of load <sup>20</sup>	Ex ante, day ahead (D-1 for D)	On national level or by price area if price areas are not identical with Member States
Week-ahead aggregated forecast of load (peak load in MW) <sup>21</sup>	Ex ante, week ahead (W-1 for W to W+52)	On national level or by price area if price areas are not identical with Member States
Year-ahead aggregated forecast of load (peak load in MW)	Ex ante, year ahead; for at least the next 5-15 years <sup>22</sup>	On national level or by price area if price areas are not identical with Member States
Actual system load in MW/h <sup>23</sup>	Ex post, at least H+1 for H, or shorter depending on the mechanism of the balancing market; published information to remain available for at least 7 years	By balancing area

### 4. Balancing and reserve power

Type of information	Publication timeframe	Aggregation area
Price and volumes for balancing power	Ex post, at least H+1 for H, or shorter depending on the mechanism of the balancing market	By balancing area
Aggregated capacity margin supply-demand <sup>24</sup>	Ex ante, week ahead (W-1 for W to W+52)	By balancing area
System balancing status <sup>25</sup>	Ex post, at least H+1 for H, or shorter depending on the mechanism of the balancing market	By balancing area
Actual use of secondary and tertiary reserve	Ex post, at least H+1 for H, or shorter depending on the mechanism of the balancing market	By balancing area

<sup>19</sup> Information on the first three issues of the table (day-, week- and year-ahead aggregated forecast of load) is available already from commercial information providers. It should also be mentioned that actual load might deviate from the forecasted load despite the forecast being made with best efforts of all involved parties.

<sup>20</sup> This information is to be published according to TSO's best efforts in good faith.

<sup>21</sup> A rolling forecast of peak load for every week of the next 52 weeks should be published; large customers are required to also give a rolling forecast of planned outages of major loads (>20 MW) to the TSO to be taken into account in the week-ahead aggregated forecast of load.

<sup>22</sup> Following Article 7(1) of the approved Security of Supply Directive the following information has to be provided: "the projected balance of supply and demand for the next five year period" and "the prospects for security of electricity supply for the period between 5 and 15 years from the date of the report".

<sup>23</sup> Information about past load is important for new entrants to see how markets were developing. This issue also has to include information on load of decentralised generation as this information is partly not yet available for TSOs.

<sup>24</sup> This information gives an indication for the intra-day and balancing markets.

<sup>25</sup> This information is necessary in particular until balancing markets have developed further into real-time markets. In addition, this information gives an indication whether the system is short or long.

## 5. Wholesale market<sup>26</sup>

Type of information	Publication timeframe	Aggregation area
Prices and volumes in the day-ahead market on power exchanges or by OTC standard contracts by brokers <sup>27</sup>	Ex post, as soon as the auction is settled	By price area
Prices and volumes in the intra-day market on power exchanges or by OTC standard contracts by brokers <sup>27</sup>	Ex post, close to real time	By price area
Prices and volumes in the forward and derivatives market on power exchanges and the OTC standard contracts through brokers <sup>27</sup>	Ex post, close to real time, continuously updated	By price area

## 6. Definitions

“Price area” is an area where the wholesale exchange based day-ahead prices are always the same and possible congestions within the area are handled by counter-trading.

“Border” means borders between different price areas, i.e. borders on which congestions can exist/

“Borderlines” are (single) lines which cross the borders of price areas.

“Load” is the sum of all off-takes of a certain area (price area, balancing area, Member State), without distinction whether these off-takes are ensured from decentralised generation installations or not, and including grid losses.<sup>28</sup>

“Regional market” is a market comprising one or more Member States which work similar as a national market (e.g. regulatory framework harmonised, prices converging, no structural bottlenecks, etc.); for further reference see “Integrating Electricity Markets through Wholesale Markets: EURELECTRIC Road Map to a Pan-European Market”.

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<sup>26</sup> All information requested above concerning wholesale markets is already available from commercial information providers.

<sup>27</sup> Brokers should publish (on an anonymous basis) the results of concluded deals for standard contracts only.

<sup>28</sup> In some systems, the published load data is not in line with this definition as decentralised generation is netted out.