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1 Implementation of Tracking Systems

1.1 Electricity Disclosure

Legislation for disclosure is complete. A decree-law (n°29/2006 of 15th February) first transposed the obligation of disclosing the electricity mix on electricity suppliers (art 45). The requirement deals with origin of electricity for the year past and the environmental impacts in the form of CO2 emissions. If suppliers buy their electricity from an organised market or a company outside the EU, they can use the statistics of this market or company for the past year.

A further text from ERSE, the “Regulation of commercial relationships” (June 2007) sets several additional requirements. Environmental impacts include production of radioactive waste, SO2 and nitrogen oxides. CO2 has to be expressed in g/kWh and radioactive waste in µg/kWh. Sources used for the data have to be disclosed to ERSE.

Then the secondary legislation, Law 51/2008, makes this information mandatory on the bills sent to the consumers from end of 2008 onwards.

The calculation method to obtain the disclosed mix is described in a document, “Electricity Disclosure, Principles and Best Practices”, which was published by ERSE in March 2008 and then modified in January 2009 and in December 2011. Sources to be disclosed are the following :

- Hydro,
- Wind power,
- Cogeneration from renewable energy sources,
- Geothermal energy
- Other Renewables
- Municipal Solide Waste
- Cogeneration from fossil fuel
- Natural Gas
- Oil
- Coal
- Nuclear
- Diesel (diesel generator sets that operate on diesel or fuel oil.)

The suppliers have to calculate their own supply mix based on the following information: PRE share, electricity bought on the market (MIBEL), electricity bought in bilateral contracts with Spain or in Portugal. For the two first elements, they need information provided by ERSE on its website. On the invoices, suppliers disclose the last calendar year. But on the internet, the calculations have to deal with a 12-month rolling period (supply mix related to the 12 months prior to the invoice with 2 months delay to enable calculation to be done) and so need to be done on a monthly basis.

Suppliers have to calculate product mix, default product mix and total supply mix.

Best Practices are of voluntary implementation, however, it is specified that if suppliers do not follow them, they have to justify to ERSE by what means they have achieved to obtain the information supplied.

1.1.1 Disclosure Figures

ERSE presents on its website a page (<http://www.erse.pt/pt/desempenhoambiental/rotulagemenergetica/comparacaoentrecomercializadores/Paginas/default.aspx>) where the mix of all electricity suppliers can be compared. There is a monthly mix presented for each supplier. Below the values for September 2012.

Table 1 : Comparison of suppliers' mixes for September 2012



There is presentation of calendar year values or monthly values.

1.1.2 Environmental Information

Each supplier must provide information on the specific emissions of CO2, SO2, nitrogen oxides (NOx) and radioactive waste on the mix of electricity it sells. Each supplier will indicate their specific emissions, which depend on the energy sources used. In addition, each supplier must also provide each customer the total CO2 emissions corresponding to the consumption of each invoice.

1.1.3 Suppliers Fuel-Mix Calculations

The calculation method to obtain the disclosed mix is described at length in the guidelines (pp 5-10) "Recommendation n°2/2011 Electricity Disclosure", which was published by ERSE in January 2012. The calculation should be done on a monthly basis. It is considered that a supplier can obtain electricity from the following sources : Feed-in contracts, purchase from MIBEL (joint market with Spain), bilateral contracts from Portugal and bilateral contracts from Spain, energy covered by GOs or another certification system.

To calculate its mix, the supplier calculates the contribution in volume of each source in each category of the 4 possible mentioned sourcings.

Total Portuguese Feed-in production is attributed in volume according to the supplier's low voltage consumers' weigh in the Portuguese overall low voltage consumption (this is done for each of hydro, wind, CHP, other categories of feed in production). The volume per technology is then weighted according to the importance of Feed-in production attributed to the supplier in volume in the total of its sourcings (markets, bilaterals and feed-in).

For GOs and other certification systems (including RECS), the supplier needs to first cancel GOs and other certificates. In order to avoid double counting, when GOs are coming from abroad, the supplier should be able to prove that they have effectively been exported from the mix of the exporting country.

After the accounting of Feed in production and certification systems, the market mix is applied to the volume of electricity bought on the market. These data are supplied by ERSE on its website. The same is

done for bilateral contracts, but the data is not supplied by ERSE. Bilateral contracts mention a technology or a mix of technologies, which is what should be used by the supplier.

There should be monthly statistics for the purchase on MIBEL that have to be applied to the share that MIBEL holds in the supplier's sourcing. A distinction is made for the purchases when MIBEL operates on a binational basis and the moments when it operates as a national market.

Once a year, in April, the supplier has to send, with the invoice to the final consumer, information on the past calendar year. These data have to be sent to ERSE before 31st April. There is no required format, apart from the fact that all sources have to be listed and that their contribution should be presented as a share. On the internet however, they have to provide the mix of the 12 latest months.

1.2 Guarantees of Origin for Electricity from Renewable Energy Sources and High-Efficient Cogeneration

Legislation for guarantees of origin from RES electricity and CHP have been passed.

1.2.1 RE-GO System

Guarantees of origin for RES electricity according to Directive 2009/28 were introduced by Decree-Law 141/2010 from 31st December 2010. All subsidised production is excluded (e.g. all electricity supported by Special regime, PRE, is excluded). This Decree Law appointed as issuing body LNEG, the National Laboratory of Energy and Geology. The system of RES GOs should have come into operation on the 1st January 2011, but the system is not operational yet. No registry has been created.

The purpose of the GO is disclosure : to prove the origin of electricity to the final consumer. GOs can be traded.

1.2.2 CHP-GO System

Guarantees of origin for CHP were introduced by Decree-Law 23/2010 from 25th March 2010. REN has been designated as the issuing body. It can issue CHP GOs for electricity from high efficiency cogeneration. It can also issue certificates of origin for electricity produced under efficient cogeneration.

The purpose of CHP GOs is to certify the origin of electricity, to certify primary energy savings. Feed in Tariff is only paid after delivery of the GO or the certificate of origin to the CUR, the last resort supplier, responsible for purchasing of Feed in electricity.

The system should have come into operation after the approval of a Procedures Manual by DGEG – General department of Energy and Geology, which was due in July 2010.

1.2.3 EECS

The EECS system exists in Portugal. REN is the issuing body for EECS RECS certificates. REN is a founding member of the Association of Issuing bodies. In the past years the RECS activity has taken on more importance. Portugal is becoming active in the international market (it exported 25,000 certificates in 2010, and 519 390 in 2011, 412 865 in the first semester of 2012). Cancellations for national market only amounted to around 8 000 MWh in 2010 and to 24 488 MWh in 2011 and 20 038 by the end of June 2012.

1.2.4 GO Statistics

Not relevant as the GO registry is not operational yet.

1.3 Other RES-E Relevant Support Schemes

Supported RES-E electricity cannot receive GOs.

2 Proposals for Improvement of the Tracking System

2.1 Proposals regarding general regulation on tracking systems

2.2 Proposals regarding Disclosure

1. A residual mix should be introduced in order to account for untracked consumption and it should be calculated according to the RE-DISS methodology, following the RE-DISS schedule for RM calculations. (BPR [25-28]).
2. Cancellations of GO relating to production periods in a given year X which take place until 31 March of year X+1 should count for disclosure in year X. Later cancellations should count for disclosure in year X+1. This would also require revision of the timeline which currently applies within the country (BPR [31-33]). The same allocation rule should apply to expired GOs (BPR [6]).
3. In the medium to longer term, GO should be the only “tracking certificate” used. Any other tracking systems of a similar purpose and function as GO should be closely coordinated with GO and eventually converted to GO (BPR [15]).
4. (Other) Reliable Tracking Systems (RTS) should be defined where appropriate based on criteria of added value, reliability and transparency (BPR [23,24]). RECS should not be allowed anymore.
5. There should be clear rules for the claims which suppliers of e.g. green power can make towards their consumers. There should be rules how the “additionality” of such products can be measured (the effect which the product has on actually reducing the environmental impact of power generation), and suppliers should be required to provide to consumers the rating of each product based on these rules. (BPR [40]).
6. Claims made by suppliers and consumers of green or other low-carbon energy relating to carbon emissions or carbon reductions should also be regulated clearly. These regulations should avoid double counting of low-carbon energy in such claims. A decision needs to be taken whether such claims should adequately reflect whether the energy purchased was “additional” or not (BPR 41)).

2.3 Proposals regarding GO

7. The metered production periods for purposes of issuing GO should not be longer than a calendar month. Longer intervals up to one year are acceptable only for very small plants. If possible, issuing should be done without delay after the end of each production period (BPR [1, 2]).
8. Expiration date should be implemented 12 months after the end of the production period (BPR [3]).
9. An extension to this lifetime can be granted if a GO could not be issued for more than [six] months after the end of the production period for reasons which were not fully under the control of the plant operator. In this case, the lifetime of the GO might be extended to [six] months after issuing of the GO. (BPR [4]).
10. The implementation of GO in all countries in Europe should be based on the European Energy Certificate System (EECS) operated by the Association of Issuing Bodies (AIB). In case that national GO systems are established outside of EECS, then EECS should at least be used for transfers between registries. (BPR [7]). Reliable linkages should be established with countries which are not EECS members. (BPR [8]).
11. So-called ex-domain cancellations of GO, where a GO is cancelled in one registry and a proof of cancellation is then transferred to another country in order to be used there for disclosure purposes, should only be used if there is no possibility for a secure electronic transfer and if there is an agreement on such ex-domain cancellations between the competent bodies involved. Statistical information on all ex-domain cancellations should be made available in order to support Residual Mix calculations. (BPR [9]).
12. The GO system should be extended beyond RES & cogeneration to all types of electricity generation, which should all be handled in one registry. (BPR [11]).

13. Besides GO, only Reliable Tracking Systems (which may include contract based tracking) and the Residual Mix should be available for usage for disclosure. No other tracking mechanisms should be accepted. (BPR [17]).
14. Within the rules set by the respective Directives, Member States should consider to reject the recognition of GO from other countries for disclosure in case that these countries have not implemented adequate measures which avoid double counting, e.g. a proper determination of a Residual Mix for disclosure(BPR [21]).

2.4 Matrix of disclosure related problems and country-specific proposals

Problem	Country-specific proposal
Possible double counting in different explicit tracking instruments	2, 3, 4, 9, 11, 12, 13
Double counting of attributes in explicit and implicit tracking mechanisms	1, 2, 4, 11, 14
Double counting within individual supplier's portfolio	
Loss of disclosure information / Intransparency for consumers	4, 5, 6, 12
Leakage of attributes and/or arbitrage	1, 2, 7, 8, 9, 10, 11, 14
Unintended market barriers	10, 11