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1 Implementation of Tracking Systems

1.1 Electricity Disclosure

In Slovenia disclosure is implemented through the Energy Act of the Official Gazette of the Republic of Slovenia n°. 27/07 (Energetski), with the amendments imposed by the Decree-Law n. 70/08 of 7th of July, the Decree-Law n.22/2010 of 8 of March and the Decree-Law n.10/2012 of 11 February, and by the act regarding the mode of determining the shares of individual electricity production sources, and the mode of their disclosure stated in the Official Gazette of the Republic of Slovenia n. 47/05 updated by the Act 38/07.

The correct new references in respect to disclosure are:

- Art. 19. of the Energy Act n.27/07 with the amendments imposed by the Decree-Law n.70/08, Decree-Law n.22/2010 of 8 of March and the Decree-Law n.10/2012 of 11 February;
- Act 47/05 and Act 38/07 of the Decision.

The current Energy Act determines the principles of energy policy, the rules for the energy market, the manner and form of the implementation of commercial public services in the area of energy, the principle of reliable supply and efficient use of energy, the conditions for the operation of energy facilities, the conditions for the performance of energy-related activities, the issuing of licences and permits, and the bodies performing administrative tasks under this Act. In terms of disclosure the Energy Act appoints AGEN-RS as the competent body for disclosure. The last amendment to the Energy Act modifies it, so that it directly transposes the Directive 2009/28/EC.

The principles of disclosure rely on secondary legislation enacted through the Act regarding the “Mode of determining the shares of individual electricity production sources”, which dates from May 2005, with the alterations imposed by Act 38 of April 2007. The alterations imposed by the Act 38/07 are an addition on how the information should be disclosed. It imposes that besides the table showing the share of the energy sources of electricity (Annex I of the Act 47/05) that information on the energy sources must be published in the form of a pie chart, in which the shares of following energy sources should be depicted: coal and lignite, natural gas, petroleum products, nuclear fuel and renewable.

The regulator AGEN-RS (Energy Agency of the Republic of Slovenia) has been appointed as competent body.

In Slovenia the attributes that should be disclosed are:

- the energy source in the fuel mix (as a share);
- information on environmental consequences of electricity production, at least covering CO₂-emissions and radioactive waste.

Within the disclosure statement the following energy sources have to be distinguished:

- renewable
- high-efficiency combined heat and power (strictly spoken, this is not a source but a technology);
- fossil;
- nuclear;
- unknown origin

The renewable sources include wind, solar, geothermal, hydro, biomass, landfill gas, sewage gas and other biogas. This distinction is mandatory in the disclosure statement.

For renewable energy, the GO is not the only tracking instrument allowed. Electricity can be tracked using GOs (national and EECS-GOs) or RECs certificates. If national GOs are issued for support in the national registry, EECS GOs cannot be issued for the same unit of electrical energy, and vice versa.

All transactions and statistics on national GOs and EECS GOs are registered in the Registration Database with a clear distinction between national GOs and EECS GOs. If the producer requests RECS certificates for units of electrical energy for which EECS GOs have already been issued, then these EECS GOs have to be transferred to a special account in the Registration Database. They are redeemed by AGEN-RS before issuing of RECS certificates in RECS CMO database. These GOs are not included in the EECS GO statistics. This prevents the possibility of double issuing. Any further conversion between EECS GOs, national GOs and RECS certificates is not possible.

The imports, from other Member States of the European Union and third countries which are issued in accordance with the provisions of Directive 2009/28/EC, can be used in the Republic of Slovenia for the disclosure statement.

Disclosure is based on the supplier mix and is carried out annually for the previous calendar year. Green electricity products, although rare in Slovenia, are included in the total suppliers mix, there is no separate disclosure of green offers. The timing of the current legislation is that information from the previous year is disclosed not later than the 1st of June. Suppliers calculate their own mix; AGEN RS has the responsibility to verify them.

With the amendments introduced to the Energy Act by the Decree-Law n.10/2012 of 6 February, AGEN-RS intends to revise the laws on disclosure including the definition of procedures to calculate residual mix figures, however this has not been done up until this point.

1.1.1 Disclosure Figures

The following table shows the national disclosure figures for Slovenia in 2009 and 2010

Figure 1: Disclosure figures for 2009, 2010 and 2011

	Unit	2009 ¹	2010 ²	2011 ³
Renewable	TWh	4.27	4.25	4.14
Nuclear	TWh	5.46	5.38	5.90
Fossil	TWh	4.70	4.79	4.84
Total	TWh	14.43	14.42	14.88

The disclosure figures are published on the Reports of the Energy Sector in Slovenia, which are issued every year.

1.1.2 Environmental Information

The environmental information that should be disclosed includes at least: CO₂-emissions and radioactive waste.

1.1.3 Suppliers Fuel-Mix Calculations

The disclosure system in Slovenia:

- Is in principle based on contracts (ex-post)
- Suppliers should use GO for disclosure, but not necessarily.

¹ AGEN-RS, Report on the Energy Sector in Slovenia 2009, extracted at: http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/National%20Reporting%202010/NR_En/E10_NR_Slovenia-EN.pdf

² AGEN-RS, Report on the Energy Sector in Slovenia 2010, extracted at http://www.agen-rs.si/dokumenti/36/2/2011/JARSE_ENERGETIKA_2010_ANG_1602.pdf

³ AGEN-RS, Report on the Energy Sector in Slovenia 2009, extracted at: http://www.agen-rs.si/dokumenti/36/2/2012/Letno_porocilo_JARSE_ENERGETIKA_ANG_za_2011_1762.pdf

- The quantities of RES-E generated for which GO or certificates have been issued may be disclosed as RES-E only if these GO or certificates have been cancelled by the supplier.
- Electricity of unknown sources is attributed UCTE mix for Slovenia;
- In the case of imports, disclosure is done or by (i) using information available on the attributes of source of the imports; (ii) or by using power exchange information or (iii) UCTE mix. In the majority of the cases UCTE mix is the one used.
- Green electricity products, although rare in the Slovenian market, are included in the total suppliers mix;
- CHP electricity is not disclosed separately – e.g. electricity from coal fired CHP plant is disclosed to the customers only in the category “coal”.

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

1.2.1 RES-GO and CHP-GO System

The Ordinance No. 121/05 of the Official Gazette of the Republic of Slovenia⁴ lays down the general content and manner of issuing RES-GO produced from renewable energy sources or cogeneration, in accordance with Directive 2001/77/EC of the European Parliament and the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market (OJ L no. 283 of the 27th the 10th 2001) and Directive 2004/8/EC of the European Parliament and the Council of 11 February 2004 on the promotion of cogeneration based on useful heat demand in the internal energy market and amending Directive 92/42/EEC (OJ L no. 52 of 21 second in 2004). Further guidance on the issuance of certificates of origin is provided by the Ordinance No. 33/09 of the Official Gazette with the amendments imposed by the Ordinance N0.08/2009 and the Ordinance No.45/2012. The amendment introduced by the Ordinance No. 45/2012, in force since the 16th June 2012, reflect the changes introduced by the transposition of the RES Directive 2009/28 to the national law.

With the transposition of the RES Directive 2009/28, the Ordinance No.121/05 has been reviewed to reflect the changes that the transposition introduced to the Energy Act on the issuance of GOs and these changes are contemplated in the Ordinance 45/2012 .

The regulator AGEN-RG has been appointed as competent body for both systems as well.

Before the amendments to the secondary legislation on the issuance of GOs this year, the legislation on GOs was outdated and not fully in line with the RES directive 2009/28 (GOs were issued for kWh instead of MWh and had 5 years lifetime instead of 1 year). Now with the amendments introduced by the Ordinance No. 45/2012 the legislation is in-line with the RES Directive and GOs are now issued for each MWh of electricity produced and have 12 months of lifetime.

The system has been fully operational since January 2006; it is coupled to a support system based on tradable certificates.

Three types of certificate systems are in place in Slovenia:

- National GOs - used by all green producers. They are required for support, for both RES and CHP
- EECS GO – are used for foreign markets
- EECS RECS for the voluntary market

When the producer applies for a certificate he shall specify what type of certificate he is applying for.

For RES and CHP producers to be able to ask for the certificates they need to apply first for a Producer Declaration (and for that need to enter all necessary information for the application according to the

⁴ Ordinance No. 121/05 of the Official Gazette of the Republic of Slovenia extracted at: <http://www.uradni-list.si/1/objava.jsp?urlid=2005121&objava=5543>

Gazette of the Republic of Slovenia, No. 8/09 with the amendments introduced by the Gazette of the Republic of Slovenia, No. 45/12) and AGEN-RS checks the information (necessary data and meter configuration). One registration goes for all 3 types of certificates. After the data has been checked and validated, AGEN-RS issues the producer a declaration providing them the right to ask for GOs.

In 2010 a total of 839 producer declarations were valid, of which the majority were from hydro and PV power producers. The following figures show the number of valid declaration and capacity installed in 2010 per technology type.

Figure 2: Number of producers declarations valid in 2010 (Source: AGEN-RS)

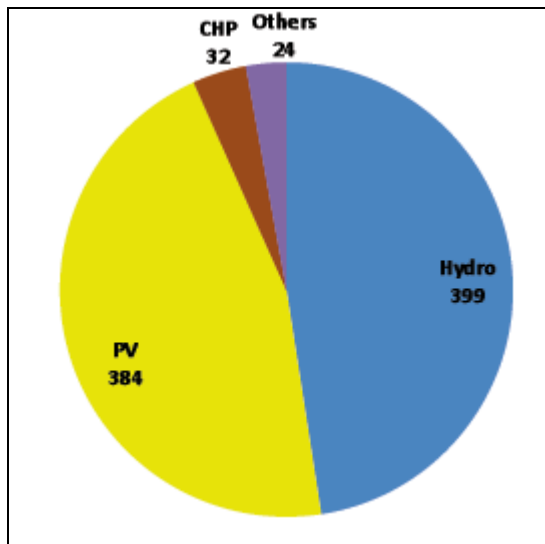
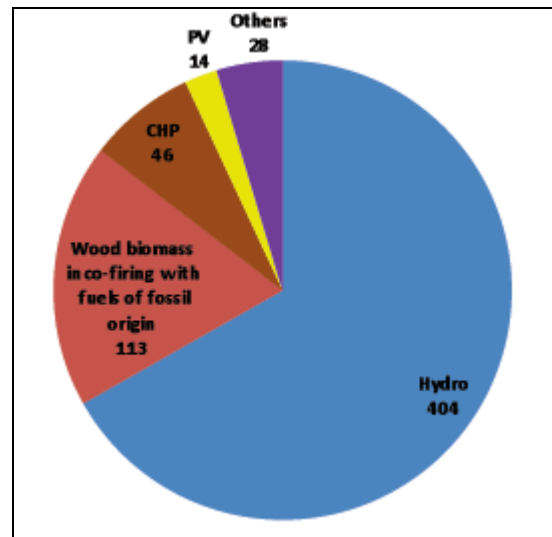


Figure 3: Installed Capacity of Power Producers in 2010 (MW) (Source: AGEN-RS)



National GOs are issued for net production except for CHP. For PV they neglect meter consumption. For other technologies metering of consumption of auxiliary equipment is deducted.

The GOs are then provided to the market operator Borzen (<http://poi.brozen.si>), who is responsible for the registry and for providing the support.

The National GOs can be used for: (1) support; (2) green products (3) disclosure

- (1) National GOs in the support scheme: the GOs are issued for the producer and delivered to the support centre (Borzen) which pays them in return the feed in tariff. Currently in the legislation there is no reference on what to do with those GOs in terms of disclosure, and thus these GOs are lost (8-10% of Slovenia production ~ 1TWh).

In the new legislation only facilities below 1 MW will be able to receive support, if they don't belong to large suppliers (definition based on a value of the HHI index of concentration).

National GOs can also be used in the Slovenian Market, when electricity is sold to the market. In this case the producer receives only a premium on top of the market price, plus what he can negotiate for the GOs.

- (2) Green products: there are no rules, but green products are rare; they should be reliable based products. The most important green offer is Blue energy by HSE and is based on RECS (30 GWh/year). They are thinking on moving from RECS to GOs. Disclosure does not say anything about the products.
- (3) Disclosure: obligatory since 2006; covers fuel mix of the preceding year and is displayed on bills and on the supplier web pages.

The RES-GO system is EECS-compliant. AGEN-RS is involved in the European Energy Certification System (EECS), in the Renewable Energy Certification System and the Renewable Energy Certification System - Guarantees of the Origin.

There is a central record for RES-GO available at: <https://poi.borzen.si/>.

GOs can be freely transferred, including imports and exports; Cancellation is done according to EECS rules.

With the transposition of the Directive 2009/28/EC there will be some minor changes envisaged for the GO system in the short term: the lifetime of a GO will be shortened to 1 year instead of 5 years and the information on it will be completed. These changes are already being adopted by AGEN-RS when they issue GOs in the current year 2011. Other changes (such as the decoupling of the support and the GO parts of the certificate) are envisaged for the near future.

1.2.2 GO Statistics

For the purpose of proving the origin of electricity, the Energy Agency was issuing guarantees of the origin of electricity in line with the valid legislation. In 2011, a total for almost 2,948 GWh of national guarantees of origin were issued.

The Energy Agency is involved in the European Energy Certification System (EECS). It issues EECS _GOs and EECS RECS. In 2011 the Energy Agency issued for a total amount of 425 thousand⁵ RECS certificates

Table 4 provides an overview of EECS-GO activities in Slovenia in the period 2004-2011*(until the 4th quarter of 2011).

Table 1: EECS RES-GO statistics⁶

	TOTAL				
	Issued	Transferred			Cancelled
		Internal	Export	Import	
2004	3,600,714		468,003		
2005	167,396			17,016	1,769,182
2006	31,653				23,462
2007	31,570				31,653
2008	135,681				31,570
2009	35,652				35,681
2010			100,000		35,652
2011*			100,000	100,001	
Total	4,002,666		668,003	117,017	1,927,200

*AIB statistics until the 4th quarter 2011

1.3 Other RES-E Relevant Support Schemes

The support system implemented in Slovenia for producers of energy from renewable energy sources (RES) and high-efficiency combined heat and power (CHP) is a feed-in tariff with premium. The government annually defines both the price for electricity from eligible power plants and the premium. The producer can sign the contract with the state-owned buyer (Power Purchase Agreement) for the unified

⁵ AGEN-RS, Report on the Energy Sector in Slovenia 2010, extracted at: http://www.agen-rs.si/dokumenti/36/2/2012/Letno_porocilo_JARSE_ENERGETIKA_ANG_za_2011_1762.pdf

⁶ AIB Statistic, consulted at: http://www.aib-net.org/portal/page/portal/AIB_HOME/AIB_OPE/MARKET_INFORMATION/MARKET_ACTIVITY

price, in which the premium is already calculated. The producer can choose to sell his electricity on the open market. In that case he, if eligible, still receives the premium. The premium is by the definition of the new Energy Act (EZ-C) named "support".

With the Energy Act in place now in Slovenia, RES under 125MW and high-efficiency CHP under 200MW and younger than 15 years (RES) or 10 years (CHP) are eligible for the support. The producers can get the support when their electricity production costs, including normal profit, are higher than the electricity market price.

The support is carried out in two forms:

1. As a power purchase guarantee for RES and CHP power plants under 5MW, where price is defined by the government (feed-in) and
2. Financial aid for current operation for other producers.

The Feed-in-tariff system is designed as follows: (i). The Support Centre (Borzen d.o.o) has to purchase all energy produced by RES-CHP producers by the price defined by the government; (ii). if RES-CHP producer sells his electricity on the market, the Support Centre pays him only the support (premium), otherwise already included in government's price.

Has already referred the RES-CHP producer has to be eligible for the support by obtaining guaranties of origin (GO's) for his electricity on the base of "declaration of the power plant". The declaration is an order, issued by the Energy Agency that confirms that the RES or CHP power plant is complying with the rules, prescribed for such power plants. In any case of selling, either to the Support Centre or individually, GO's has to be transferred to the Support Centre in order to get the support (premium).

Eligibility is also checked by the principle of production costs. If the production costs, including normal market profitability, are higher than the market price, RES-CHP producer is eligible for the support.

With the revision of the Energy Act only facilities below 1 MW will be able to receive support, if they don't belong to large suppliers (definition based on a value of the HHI index of concentration).

2 Proposals for Improvement of the Tracking System

2.1 Proposals regarding general regulation on tracking systems

As from the opening of the market the tracking of green electricity has been based on the use of the GO, and is under the control of the AGEN-RS. This has the advantage that the disclosure system is reliable, but it still is incomplete, as it should be harmonised with other competent bodies across Europe. Suggestions for improvement of the tracking system and the information towards consumers are listed up in the next two sections.

2.2 Proposals regarding Disclosure

The general principle of disclosure, as set forth in the Energy Act and in secondary legislation with the recent amendments introduced, is in line with the prescriptions of the RES Directive 28/2009.

Proposals to make disclosure more reliable and harmonised with other competent bodies within Europe:

The system in place can be further improved by adopting the following recommendations proposals:

1. All products with claims regarding the origin of electricity should be based exclusively on cancelled GO (BPR [38]).
2. Slovenia should clarify the relation of their support schemes for RES & CHP and GO and disclosure scheme and if support certificates are used, they should be separated from GO. A clear link between GO and disclosure should be established (BPR [36]).
3. Improve the coordination of tracking at the European level (BPR [5]).
- In terms of timing for disclosure:
 4. The deadline for cancelling GO for purposes of disclosure of a given year should be 31st of March of the following year (BPR [34]);

5. The timing for the calculation of Residual Mixes should be coordinated across Europe (BPR [35]);:
 - By 30 April X+1 all domains should determine their preliminary domestic residual mix and whether they have a surplus or deficit of attributes.
 - By 15 May X+1, the European Attribute Mix should be determined.
 - By 31 May X+1, the final domain residual mixes should be published.
 - As of 1 July X+1 the disclosure figures relating to year X can be published by suppliers.
6. Reliable Tracking Systems (RTS) should be defined where appropriate based on criteria of added value, reliability and transparency (BPR [23-24]).
7. As contract based tracking is used in Slovenia, it should be clearly regulated (BPR [29-32]):
 - The rules of the tracking system should be transparent and comprehensive ;
 - Double counting of attributes should be avoided, also in relation to other tracking systems
 - AGEN RS should centralise information on contract based tracking and use them in the calculation of the preliminary residual mix (cf below)
- Improve the treatment of electricity of unknown origin. Use a proper residual Mix as suggested by the RE-DISS BPRs:
 8. Slovenia should provide a preliminary Residual Mix (for which a methodology should be established) as a default set of data for disclosure of energy volumes for which no attributes are available based on cancelled GO or based on other Reliable Tracking Systems (RTS) (BPR [25]).
 9. The calculation of the Slovenia Residual Mix should follow the methodology and timings developed in the RE-DISS project, in order to adjust national residual mixes in reflection of cross border transfers of physical energy, GO and RTS (BPR [26]).
 10. The calculating body, should then use data provided by RE-DISS for purposes of this cross-border adjustment (BPR [27]).
11. Suppliers offering more than one product should be required to give product-related disclosure information to all their customers (BPR [39])
12. Additionality and carbon claims of green power should be regulated on national / EU / global level (BPR [40]).
13. 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

Thus the following RE-DISS BPR could be taken in the development of the GO system:

14. Metering should be performed on a calendar month basis (or even more often). Longer intervals up to one year are acceptable if they do not run across the start and end dates of the disclosure periods (BPR [1]);
15. Cancellations of GO relating to metering periods in a given year X which take place until 31 March of year X+1 should count towards disclosure in year X. Later cancellations should count towards disclosure in year X+1 (BPR [5]).
16. The same allocation rule applies for collections of expired GO (BPR [6])
17. The implementation of the GO system in Slovenia should be based on EECS operated by AIB. At the moment Slovenia is already one of the 14 EECS members and has been using RECS

certificates. The implementation of a GO system based on EECS will help harmonise the system for European GO transfers, especially between EECS members (BPR [7]).

- Although EU directives require member states to establish GO for electricity from renewable energy sources and from high-efficiency cogeneration, in order to support differentiation also between other forms of electricity generation it is advisable:
 18. to extend the system of GO to other forms of electricity generation (BPR [11]); this is less necessary if a transparent and centralised system for Contract Based Tracking is put in place
 19. Although other tracking mechanisms are being used at the moment, in the medium to longer term, GO should be the only “tracking certificate” used. Any other tracking system of a similar purpose and function as GO should be coordinated with GO and eventually converted to GO (BPR [16])
 20. Besides GO, only Reliable Tracking Systems (which may include contract based tracking), and the Residual Mix should be available for usage for disclosure (BPR [17])
 21. Green power quality labels should use GO as the unique tracking mechanism. The use of GO should be required by all labels (BPR [18])
 22. Slovenia should consider to reject the recognition of GO from other countries for disclosure in case that these countries have not implemented certain minimum standards which avoid double counting, e.g. a proper determination of a residual mix, etc. This is contemplated by the Directive 2009/28/EC and Directive 2004/7/EC (BPR [21]).
 23. Other Reliable Tracking Systems (RTS) should be defined where appropriate based on criteria of added value, reliability and transparency (BPR [23-24])

2.4 Matrix of disclosure related problems and country-specific proposals

Problem	Country-specific proposal
Possible double counting in different explicit tracking instruments	1, 2, 5, 7, 17, 18, 19, 20, 21, 23
Double counting of attributes in explicit and implicit tracking mechanisms	3, 6, 7, 8, 9, 10, 15, 16, 22, 23
Double counting within individual supplier's portfolio	11
Loss of disclosure information	6, 11, 12, 13, 18, 23
Intransparency for consumers	6, 11, 12, 13, 18, 23
Leakage of attributes and/or arbitrage	3, 4, 5, 14, 15, 16, 17, 22
Unintended market barriers	17