Last updated: 15/10/2012

1 Implementation of Tracking Systems

1.1 Electricity Disclosure

In Flanders disclosure is implemented through the Energy Decree (Energiedecreet) and the Energy Decision (Energiebesluit). Both the Decree and the Decision are comprehensive texts that wrap up all the existing legislation that existed before without changing the content (apart from some minor changes). The Decree has been voted on May 8, 2009 and entered into force on January 1, 2011.

The correct new references are:

- Art. 7.4.1. of the Decree;
- Art. 6.3.1 – Art. 6.3.5. of the Decision.

The principles of disclosure rely on the text of the Decision regarding the "Public Service Obligations with respect to the rational use of energy", which dates from March 2002. Between 2002 and 2010 the text has been changed a number of times, but without fundamental modifications.

The regulator VREG has been appointed as competent body.

In Flanders the attributes that should be disclosed are:

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

However, in reality only the first item has been under regulatory supervision, since the Decree prescribes that secondary legislation would have to specify the obligation with respect to environmental information, and this legislation has never been published. VREG will propose to complete the legislation.

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, gulf, tidal, hydro, biomass, landfill gas, sewage gas and other biogas. This distinction is not mandatory in the disclosure statement.

For renewable energy, the GO is the only tracking instrument allowed. Electricity can only be sold as green (or a similar branding) if a corresponding number of GO's is cancelled. Cancellation of GO's is also required for the renewable part of the disclosure statement on bills.

The same holds for HE-CHP produced in Flanders.

For all other sources (HE-CHP outside of Flanders, fossil and nuclear), the disclosure is based on production statistics (in which renewable and Flemish HE-CHP have to be filtered out). The methodology is explained in section 1.1.3.

Disclosure is needed both for the product as well as for the company mix and is done annually for the previous calendar year.

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The timing of the current legislation is not very practical. In theory suppliers have to use the new mixes as of March 1st every year. In reality it is some months later. VREG will propose to change the timings.

The suppliers portfolio is determined for Flanders. Some suppliers prefer to have a portfolio for the whole of Belgium. Since the legislation in the other regions is based on the same principles, this can be facilitated by the respective regulators, although the different timings may complicate the disclosure calculations.

1.1.1 Disclosure Figures

Table 1 gives an overview of the RE-part of the disclosure for all suppliers aggregated, highlighting the green-washing effect, that is explained in Section 1.1.4.

Table 1: Aggregate disclosure figures for RE sources

Jaar	MWh	%
2005	2.697.318	6
2006	3.483.621	7
2007	8.180.138	17
2008	10.204.609	22
2009	19.807.229	45
2010	22.763.570	51
2011	23.922.411	54

The disclosure figures for 2011 are shown in Table 2.

Table 1: Disclosure 2011

Supplier	Name product	Share of product in total supply	% RE	% HE-CHP	% fossil	% nuclear	% unknown
Anode BV	Overeenkomst tot inkoop en levering van elektriciteit	100,00%	91,43%	8,57%	0,00%	0,00%	0,00%
	Totaal	100,00%	91,43%	8,57%	0,00%	0,00%	0,00%
Belpower International NV	Belpower uitsluitend groen 1,2 en 3 jaar	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
DB Energie	No commercial name available; Energy procurement	100,00%	0,00%	0,00%	24,97%	72,49%	2,54%
	Totaal	100,00%	0,00%	0,00%	24,97%	72,49%	2,54%
E.On Belgium NV	E.On Standaard	11,72%	74,44%	0,00%	23,14%	0,00%	2,41%
	E.On Groen	88,28%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	97,00%	0,00%	2,71%	0,00%	0,28%
E.ON Energy Trading SE	E.ON Energy Trading	100,00%	0,00%	0,00%	16,70%	23,05%	60,25%
	Totaal	100,00%	0,00%	0,00%	16,70%	23,05%	60,25%
Ebem BVBA	Ebem Groen en vanaf 01/09/2011 Ebem Groen END	83,75%	100,00%	0,00%	0,00%	0,00%	0,00%
	HS-Hoogspanning	16,25%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Ecopower cvba	Ecopower elektriciteit hernieuwbare energie	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%

Supplier	Name product	Share of product in total supply	% RE	% HE-CHP	% fossil	% nuclear	% unknown
	Luminus Groene producten : Actief Groen - Groen - Groen Pro - Optimum Groen - Fix Groen - Market Watcher Groen - Endex Comfort Groen - Endex Mix Groen - Endex Click Groen - Price Protection Groen - Endex Flex Groen - OPT1	37,78%	100,00%	0,00%	0,00%	0,00%	0,00%
	Overige Producten : Luminus Standaard (Pro) - Actief (Pro) - euNeed-It (Pro) - Vast (Pro) - Click (Pro) - Actief Connect (Pro) - Actief Basic (Pro) - Sociaal Tarief - Optimum - Fix - Market Watcher - Endex Comfort - Endex Mix - Endex Click - Price Protection - Endex Flex	62,22%	86,23%	13,77%	0,00%	0,00%	0,00%
EDF Luminus NV	Totaal	100,00%	91,43%	8,57%	0,00%	0,00%	0,00%
	AlpEnergie/European Garanty of Origin	47,49%	100,00%	0,00%	0,00%	0,00%	0,00%
	Electrabel	52,51%	0,00%	5,20%	23,67%	68,72%	2,41%
Electrabel NV	Totaal	100,00%	47,49%	2,73%	12,43%	36,09%	1,26%
Electrabel Customer Solutions NV	Electrabel GroenPlus/Electrabel Professional Groen/Electrabel Direct Groen/Electrabel Impact Groen/AlpEnergie/European Garanty of Origin	39,60%	100,00%	0,00%	0,00%	0,00%	0,00%

Supplier	Name product	Share of product in total supply	% RE	% HE-CHP	% fossil	% nuclear	% unknown
	Electrabel Basisaanbod/Electrabel EnergyPlus/Electrabel OptiBudget/Electrabel FixPlus/Electrabel ServicePlus/Electrabel sociaal tarief/Electrabel Professional/Electrabel Direct/Electrabel Impact/Electrabel Leegstand	60,40%	0,00%	5,20%	23,67%	68,72%	2,41%
	Totaal	100,00%	39,60%	3,14%	14,30%	41,51%	1,45%
Electrawinds Distributie NV	/ Nog niet commercieel	100,00%	0,00%	0,00%	64,14%	35,85%	0,00%
	Totaal	100,00%	0,00%	0,00%	64,14%	35,85%	0,00%
Elegant BVBA	Lokale groene stroom	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Elexys NV	Elexys	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Eneco België BV	Eneco Vast Elektriciteit, Eneco Vast Elektriciteit Pro	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Enovos Luxembourg SA	100% GREEN	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Essent Belgium NV	Essent Groen	56,58%	100,00%	0,00%	0,00%	0,00%	0,00%
	Essent Grijs	43,42%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
LAMPIRIS N.V.	100% groen	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%

Supplier	Name product	Share of product in total supply	% RE	% HE-CHP	% fossil	% nuclear	% unknown
	B2C (Elec Soc Fix + Leegstand Elec + Nuon Budget + Nuon Budget 3 + Nuon Weekend Plus + Nuon Flex) + B2B (Commodity, Peak/Off Peak, Indexed)	22,26%	0,00%	0,00%	85,90%	8,49%	5,61%
	B2C (Nuon Comfort + Nuon Comfort 3)	28,99%	50,00%	2,51%	40,80%	4,03%	2,66%
	B2C (Comfort, Comfort <30kVA, Comfort Personnel)	0,01%	60,29%	0,00%	34,11%	3,37%	2,23%
	B2C Groen (Nuon Nature + Nuon Nature 3) + B2B Groen (Nuon Nature + Nuon Nature +)	48,74%	100,00%	0,00%	0,00%	0,00%	0,00%
Nuon Belgium NV	Totaal	100,00%	63,24%	0,73%	30,95%	3,06%	2,02%
	OCTA+ Vast	48,70%	100,00%	0,00%	0,00%	0,00%	0,00%
	OCTA+ Variabel	51,30%	100,00%	0,00%	0,00%	0,00%	0,00%
OCTA+ Energie	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
RWE Supply & Trading GmbH	Electrical Energy	100,00%	0,00%	0,00%	63,87%	35,70%	0,43%
	Totaal	100,00%	0,00%	0,00%	63,87%	35,70%	0,43%
	Belpex/Endex, Belpex gewogen, 100% Belpex Ongewogen, 100% Endex	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Scholt Energy Control België NV	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Groene energie van hier	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Trevion NV	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
	Wase Windstroom	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%
Wase wind CVBA	Totaal	100,00%	100,00%	0,00%	0,00%	0,00%	0,00%

1.1.2 Environmental Information

Environmental information will be specified in secondary legislation and as mentioned earlier, specifications have not yet been defined.

1.1.3 Suppliers Fuel-Mix Calculations

Calculations are done on an annual basis by the regulator VREG. VREG uses a standard questionnaire to be filled out by all suppliers (shown in Table 2).

The share 'H' of electricity from renewable sources is determined based upon the number of cancelled RE-GO's. In the same way, the share 'W' of electricity from HE-CHP in the Flemish region is determined based upon the number of cancelled CHP-GO's.

For the determination of the share of electricity which is NOT derived from renewable sources or HE-CHP in Flanders, declarations have to be used for the production park of all producers that have contractual relations with the supplier. This figure has to be corrected for the renewable sources and the Flemish HE-CHP. This is done as shown in the formulae:

Share of electricity which is NOT derived from renewable sources or HE-CHP in Flanders in the production park (uncorrected) =

$$NH_p = \sum_i (A_i \times C_{1i} + A_i \times C_{2i} + A_i \times C_{3i} + A_i \times C_{4i}) \qquad \text{(cfr. Table 2)}$$

Share of electricity from renewable sources = H

Share of electricity from Flemish HE-CHP = W

Corrected share of electricity which is NOT derived from renewable sources or HE-CHP in Flanders, to be used for disclosure =

$$NH_f = 1 - H - W$$

Share of electricity from fossil sources to be used for disclosure =

$$\%Fossil = [\sum_i (A_i \times C_{2i})] \times (NH_f/NH_p)$$

Share of electricity from nuclear sources to be used for disclosure =

$$\%Nuclear = [\sum_i (A_i \times C_{3i})] \times (NH_f/NH_p)$$

Share of electricity from unknown sources to be used for disclosure =

$$\%Unknown = [\sum_i (A_i \times C_{4i})] \times (NH_f/NH_p)$$

Share of electricity from HE-CHP outside of Flanders =

$$\%HE\text{-}CHP\ outside\ Flanders = [\sum_i (A_i \times C_{1i})] \times (NH_f/NH_p)$$

Share of electricity from HE-CHP to be used for disclosure =

$$\%HE\text{-}CHP\ outside\ Flanders + W$$

Table 2: Suppliers questionnaire

Producers (1 to i)	% share of this producer (Ai)	% RES (Hi)	% HE-CHP in Flanders, excl.RES (Wi)	% HE-CHP outside Flanders (C1i)	% Fossil (C2i)	% Nuclear (C3i)	% Unknown (C4i)
a							
b							
…							
i							

1.1.4 RE-GO and CHP-GO System

Legislation of RE-GO's and CHP-GO's are now included in the same Energy Decree and Energy Decision, that was mentioned in previous section for disclosure. As the Energy Decision is quite comprehensive, no further regulation on both RE-GO's and CHP-GO's is needed.

The correct new references are:

- Art. 7.1.5. of the Decree;
- Art. 6.1.17 – Art. 6.1.22. of the Decision.

The regulator VREG has been appointed as competent body for both systems as well.

The system has been fully operational for several years now; it is coupled to a support system based on tradable certificates, but VREG has proposed to decouple both certificates as of the beginning of 2013.

The RE-GO system is EECS-compliant. The CHP-GO system is not fully in line since the CHP-GO's do not carry information on CO_2-emissions, as is required by EECS.

VREG is maintaining the electronic GO-registry, which also covers the coupled support certificates. All producers and suppliers have free access to it. The registry has two underlying databases with a similar structure, one for RE-GO, the other for CHP-GO.

GO's can be freely transferred, including imports and exports.

The imports can be used for the disclosure statement. Since suppliers can take advantage of an exemption of a part of a federal energy levy when they supply electricity from RE sources or HE-CHP, a lot of green-washing occurs, which has been notified to the federal minister by all Belgian regulators.

Exports are possible, but rare, since the support part of the certificate is cancelled at the moment of export (GO part has to be used prior to support part).

Cancellation of the GO part is done according to EECS rules.

With the transposition of the Directive 2009/28/EC some minor changes have been implemented for the GO system: the lifetime of a GO has been shortened to 1 year instead of 5 years and the information on it is be completed. Other changes (such as the decoupling of the support and the GO part of the certificate) are envisaged for the coming year (2013).

Support and disclosure use a different part of the certificate, and supported electricity gets a GO as well. Therefore, there is no allocation rule needed to determine which customers get the supported electricity.

1.1.5 GO Statistics

Table 4 provides an overview of EECS-GO activities in Flanders in the period 2006-2011.

Table 3: EECS RE-GO statistics

Year	Solar	On-shore wind	Hydro	Biomass (agricult. or forestry)	Biomass (res. waste)	Biomass (other waste)	Sewage gas	Other biogas	Biogas (agricult.)	Biogas (compost)	Total
Total 2011	229.910	489.039	2.868	616.363	160.478	839.271	54.992	223.286	23.772	1.549	2.641.528
Total 2010	106.201	340.483	3.099	635.332	151.946	785.475	58.774	259.455	0	0	2.340.765
Total 2009	19.356	330.208	3.086	799.236	145.058	565.039	64.424	303.099	0	0	2.229.506
Total 2008	4.416	288.543	3.217	640.694	125.751	407.582	69.517	141.202	0	0	1.680.922
Total 2007	792	268.652	2.494	398.763	132.794	376.007	70.353	139.771	0	0	1.389.626
Total 2006	12	224.055	1.961	389.883	124.895	345.240	76.835	73.709	0	0	1.236.590
Total	**976.296**	**2.259.112**	**18.143**	**4.214.988**	**918.396**	**3.693.366**	**419.651**	**1.230.415**	**96.104**	**3.050**	**13.829.521**

Note: Total including partial figures for 2012

VREG publishes issued CHP-certificate figures on its website and CHP-GO figures. The former should be considered as support certificates and do not match with the number of issued CHP-GO's. There is no 1-on-1 relation between CHP support certificates and CHP-GO's, because the former is measured in MWh primary energy savings, and the latter in MWh electricity production. The ratio between these figures depends on the CHP technology used and the electrical and thermal efficiency of the installation.

Table 5 provides an overview of CHP-GO activities in Flanders in the period 2007-2011.

Table 5: CHP-GO statistics

Year	CHP-GO
2011	2.986.153
2010	2.890.021
2009	1.956.360
2008	987.677
2007	244.282
Total	**10.639.419**

Note: Total including partial figures for 2012

1.2 Other RES-E Relevant Support Schemes

The support scheme is based on tradable certificates. These certificates are granted to the producers for every MWh of renewable production. Every supplier has a quota obligation, which is proportional to the amount of electricity supplied in the previous calendar year. These quota are determined by the Parliament:

When the obligation is not met, an administrative fine is imposed. This fine is also determined by the Parliament. Actually, it is fixed at 125.00 €/missing certificate. In the coming years, it will gradually be decreased to 100.00 €;

There are two corrections to this mechanism:

- there is a reduction for the electricity supplied to large companies (- 25% between 20 and 100 GWh and – 50% for the share above 100 GWh) and for public transport;
- there is a minimum value of the support certificate determined by technology; if the market value is less than this minimum value, the certificates have to be bought by the grid operator at the mimimum value (this is actually the case for PV-electricity). grid operators sell the certificates back on the market and can recover their costs through their tariffs.

Recently, the system has been changed in such a way that a factor is applied to the number of MWh produced. The number of certificates per MWh will no longer be 1 for all installations. This factor will be determined for every energy source by the and regularly adapted. The goal is to avoid windfall profits.

A similar quota obligation exists for HE-CHP as well. HE-CHP from biomass gets both types of support, but only one GO. The support for HE-CHP is not based on the produced electricity, but on the energy savings through cogeneration.

1.3 Other RES Schemes

Support for RES-Heating will not be based on a certificate scheme, but directly on the basis of the production data. A call will be organised and the installations claiming the lowest production support will get supported.

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 regulator. This has the advantage that the disclosure system is reliable, but it still is incomplete. Suggestions for completion of the tracking system and the information towards consumers are listed up in the next two sections.

For transparency reasons and for increasing market liquidity, it has been proposed that the support certificate and the disclosure certificate should be split up. This will be effective as of January 1, 2013.

2.2 Proposals regarding Disclosure

The general principle of disclosure, as set forth in the Energy decree, is in line with the prescriptions of the Directive 2009/72/EC.

However, the practical procedure described in the Energy decision has to be amended:

1. The suppliers have to know how to apply the information obligation relating to the environmental consequences of electricity production (BPR [22]).
2. The timing of the procedure should be revised in order to give the suppliers the time to collect the information, the regulator to verify these input data and to validate the calculations, and finally for the supplier again to change their bills and promotion material (BPR [35]).
3. The calculation methodology should be adapted: it is based on production statistics and, even when these figures are corrected, the methodology doesn't reflect the suppliers mix in an consistent way (BPR [29, 30, 32]).
4. There is no concept of residual mix, so that ENTSO-E figures have to be used (for instance when a supplier is active on the power exchange) (BPR [17, 25, 26]).
5. Clear rules should be established for claims made by suppliers (BPR [40, 41]).
6. Consistent implementation is needed for suppliers active in several countries (BPR [42]).

VREG will propose to the government a revision of the disclosure system at the end of 2012. For practical reasons these changes could only be discussed after the revision of the support system, including the decoupling of the support certificate and the GO.

The disclosure methodology relates to the electricity which is sold via the electricity grids. An open question is whether or not electricity sold on site should also be accounted for. Production from RE sources or HE-CHP which is not injected into the grid, gets a GO, but this is immediately cancelled and not further used in the calculations.

2.3 Proposals regarding GO

The RE-GO system and the CHP-GO system are quite advanced and can be maintained with the small amendments mentioned before:

7. Clear rules for expired GO's should be implemented (BPR [6].
8. Develop clear guidelines for refusal of GO's (BPR [8, 20]).
9. VREG has started up the discussions with the Flemish government on the extension of the GO-system towards other energy sources, but no clear policy line has been spelled out. This extension would imply that all fossil and nuclear production plants would be registered and that GO's for these plants would also be issued (BPR [11]).

   However, starting from the current system, the implementation of a full GO-system seems feasible with little extra resources and effort.
10. The GO for a renewable CHP-installation should combine all elements of information (BPR [15]).

2.3.1 Proposals regarding the RE-GO System

See above.

2.3.2 Proposals regarding the CHP-GO System

See above.

2.4 Matrix of disclosure related problems and country-specific proposals

Table 3: Disclosure related problems and proposals

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