

# The state of implementation of electricity disclosure and Guarantees of Origin across Europe

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For 29 European countries, i.e. 27 Member States (MS), Norway and Switzerland, the current situation and level of implementation was analysed with regard to tracking related policies, i.e. disclosure, Guarantees of Origin for Renewable Energy (RE-GO) and Guarantees of Origin for High-Efficient Cogeneration (CHP-GO). Based on the data from the inventory a cross-cutting analysis of the situation in the given countries was carried out, i.e. the countries were categorised based on progress made, putting best practices against common problems. The analysis shows that a significant number of MS fail to properly implement the regulations on electricity disclosure. Similarly, many MS did not yet implement appropriate national regulations on RE-GO and CHP-GO. On the other hand, there is a number of European countries which have chosen an advanced implementation of GO and/or disclosure, which exceeds the requirements of the respective Directives and in most cases contains significant elements of the E-TRACK standard recommendation of August 2007. Tailored recommendations were formulated to improve the systems in place, both at national and cross-border level.

The full report “*The state of implementation of electricity disclosure and Guarantees of Origin across Europe*” and its Annex “*Country Monitoring Reports*” will be presented at the project conference in Brussels on 26<sup>th</sup> June 2009. More info on [www.e-track-project.org](http://www.e-track-project.org).

**Index Terms**— Electricity disclosure, Guarantees of Origin (GO), Market transparency, tracking policies

## I. BACKGROUND

THE E-TRACK I project has investigated the feasibility of a harmonised standard for tracking of electricity generation attributes in Europe. Tracking is a general term for the accounting of electricity generation attributes. It usually implies an allocation of attributes from generators of electricity to consumers (or their suppliers). Such tracking is required by electricity disclosure (also called labelling) and can also be used for support schemes and for accounting for the targets of Member States (MS) for electricity from renewable energy sources (RES-E).

The widely varying initiatives among EU MS to implement legislation on Guarantees of Origin (GO) and disclosure greatly complicate cross-border transfers of generation attributes. Also the varying degree of market opening matters, because the usefulness of disclosure is lower in a market where a customer cannot switch among suppliers.

There are currently no minimum standards or requirements for national disclosure systems to comply with, leading to several problems in the field, e.g. when UK Climate Change Levy exemption certificates (LECs) are issued for green energy production in Norway, but the same volumes may be accounted for disclosure in Norway; or Nordic countries who exported large volumes of Guarantees of Origin for Renewable Energy (RE-GO), but did not always reflect them in their domestic disclosure system. In addition there is little or no coordination between national tracking policies leading to inconsistent use of default data for disclosure (e.g. some Nordic countries use the Nordel production statistics for

disclosure, but Denmark uses national production) or regional imbalances between attributes and physical energy (e.g. Austria, Denmark and the Netherlands have imported large volumes of RES-E certificates, but it is not clear how to deal with their surplus of attributes).

The E-TRACK I project developed a standard offering a pragmatic and flexible solution to address those issues, at the same time providing accurate results (e.g. avoid multiple counting), provide meaningful information to the users (e.g. enable consumer choice based on disclosure) at reasonable cost, and being compatible with the existing economic, regulatory and legislative framework.

The key concepts of tracking uses and the recommendations of the E-TRACK standard are briefly described below. Three potential “uses” of tracking can generally be distinguished:

- Disclosure of information towards final consumers, i.e. use for *disclosure* purposes;
- Proof of public support for RES-E and CHP (e.g. feed-in or quota obligations), i.e. for *support* purposes;
- Proof of compliance with quantitative targets, e.g. indicative targets for RES-E for 2010 or 2020 or national targets, i.e. for *target* purposes;

The different uses of these tracking requirements obviously interact and must be carefully coordinated in order to avoid counteractive policies and a potential loss of accuracy and reliability in the tracking systems. The following elements represent the core of the E-TRACK standard:

- *Certificate systems*: The explicit tracking attributes are recorded as transferable electronic certificates only.

The ownership of attributes can be tracked and transferred both within a registry and to other registries. Certificates are accounting units which are detached from the physical energy flow and usually also from electricity contracts;

- *Registries for explicit tracking:* Explicit tracking is based on electronic registries, which are operated per domain, and only one authority (usually the government) is in charge of the issuing of certificates per domain. A domain usually equals a country, but it could be smaller (e.g. Flanders and Walloon region in Belgium) or larger (e.g. Nordic region);
- *Residual Mix for implicit tracking:* As a supplement to the explicit tracking of electricity generation attributes based on certificates, the E-TRACK standard also features the calculation of a Residual Mix which is offered to electricity retailers as a default set of attributes for disclosure purposes. The Residual Mix should be used for disclosure of those energy volumes which the retailer does not match with GO. The calculation of the Residual Mix is based on the attributes of total power generation in a geographic region, corrected by all GO which have been used and also by exports and imports of energy and attributes.

The key benefit of the E-TRACK standard is the operation of a coordinated and reliable system for the accounting of electricity attributes across Europe, which supports disclosure, product differentiation (such as green power products), but can also facilitate support schemes and target accounting

## II. SCOPE

Phase II of the E-TRACK project (E-TRACKII) continues the monitoring of tracking systems across Europe, including the Guarantees of Origin for High-Efficient Cogeneration (CHP-GO), with a view to formulate tailored recommendations on an improved (and wherever possible harmonized) implementation of tracking policies across Europe. The key aim of this article is to provide insight in the current situation and level of implementation in 29 European countries (i.e. 27 MS, Norway and Switzerland), highlighting the major issues with regard to tracking related policies, i.e. disclosure, RE-GO and CHP-GO. This article report is a summary of the first report of the E-TRACKII project, i.e. “*The state of implementation of electricity disclosure and Guarantees of Origin across Europe*” and its Annex “*Country Monitoring Reports*”, which is expected to be published on the project website by half March 2009.

## III. LEGAL FRAMEWORK

Three European Directives currently govern policies on disclosure, electricity from renewable energy sources (RES-E) and cogeneration (CHP) including the use of GO, i.e. the Internal Electricity Market Directive 2004/54/EC (further

referred to as the Disclosure Directive), the RES-E Directive 2001/77/EC and the CHP Directive 2004/8/EC respectively.

The Disclosure Directive includes provisions on what MS should do to provide electricity consumers with relevant information on the electricity product they are buying, and had to be implemented by MS into national legislation by July 2003. The RES-E Directive was adopted in 2001 and had to be implemented by October 2003 (by the EU-15 MS). The CHP Directive entered into force in February 2004. It was scheduled that MS had to adopt the directive by 21 February 2006, however due to delays resulting out of the Comitology process the deadline for MS to adopt the first obligations of the directive was moved 6 August 2007. Only a few MS have met this deadline, and the Comitology process is currently still not fully completed. These three Directives form the legal framework by which tracking related policies are currently shaped.

### *Note on the proposal for a new RES-E Directive*

In January 2008 the European Commission (EC) published its proposal for a new RES-E Directive, which is currently (Mar `09) being finalised, i.e. by the European Parliament and the Council, and expected to be published in the coming months. The analysis focused on the directives as they are currently adopted, without looking in detail at how the proposed Directive will impact on RE-GO in particular and tracking related policies in general. This aspect will be taken up in a later stage of the project.

## IV. METHODOLOGY

The tracking systems in place in each of the 29 countries have been assessed against the three European Directives as mentioned above. In order to obtain updated data for each of the 29 countries a detailed questionnaire was developed, focusing on legislation and secondary regulation, plus selected features of the systems in operation for disclosure, RE-GO and CHP-GO respectively. Feedback was obtained through project partners and major national stakeholders (e.g. regulators, governments, market actors...) throughout Europe.

The legal provisions from the respective Directive and the recommendations of the E-TRACK standard have been translated into a number of criteria and/or features against which the systems in place in each of the 29 countries were evaluated. Based on this evaluation three different levels of implementation are distinguished:

- Incomplete level of implementation: the system in place in the MS is not yet fully operational. ☹
- Sufficient level of implementation: the MS has a fully operational system in place. 😊
- Advanced level of implementation: the MS has an advanced system in place. 😊

The application of these criteria to the situation in each of the 29 countries resulted in the outcomes as described in the section below.

A tailored set of criteria and features was developed for each of the three Directives. These criteria are not described in this article but are detailed in the full report. The application of these criteria to the situation in each of the 29 countries resulted in the outcomes as described in the section below.

V. RESULTS

A. Electricity disclosure

Based on the disclosure Directive 2003/54 electricity suppliers in Europe must disclose to their customers the origin of their electricity and related emissions. Disclosure policy is meant to enable informed choices by consumers based on supplier mix information or specific products.

Based on the analysis as described it can be concluded that from the 29 European countries, 12 plus Flanders and Wallonia have fully operational or even advanced disclosure (i.e. ☹ and ☺) systems in place when compared to the requirements of the disclosure Directive. Furthermore the analysis shows that the systems in 16 countries plus Brussels-Capital region are not yet fully in place. Still, it needs to be emphasized that within this group the remaining weaknesses vary significantly, i.e. some countries are only at the start of taking the necessary steps to implement a disclosure system, whereas others have fully operational systems which fail though on one or two remaining criteria. A schematic overview of the current status for the investigated countries is given in Table 1.

Table 1 State of implementation of electricity disclosure across Europe (IT Power, Apr 09)

<b>Disclosure</b>	<b>Not fully operational</b> ☹	<b>Fully operational</b> ☺	<b>Advanced</b> ☺
<b>EU-15</b>	Brussels-Capital FR GR IT LU	Flanders DE DK IE PT SE Wallonia	AT ES FI GB NL
<b>EU-12</b>	BG CY CZ EE HU LT LV MT PL RO SK		SI
<b>CH &amp; NO</b>	(CH)	NO	
	<b>16 + Brussels-Capital</b>	<b>6 + Flanders and Wallonia</b>	<b>6</b>

The countries which do not have a fully operational disclosure system in place yet either did not pass legislation on disclosure yet (EU-12: BG, EE, LV, LT), or the disclosure system is not fully or properly implemented (EU-15: Brussels-Capital region, FR, GR, LU, IT; EU-12: CY, CZ, HU, MT, RO), or have a fully operational disclosure system in place but fail on key criteria, such as the disclosure of the CO<sub>2</sub> emissions and the nuclear waste related to the energy production (CH, PL, SK), as is shown in Table 2. Note that CH is put between brackets in Table 1, as the discussion about remaining issues with Swiss stakeholders is still ongoing.

Table 2 Overview of major weaknesses in the disclosure systems across Europe (IT Power, Apr 09)

	<b>Major weaknesses in the disclosure system</b>	<b>Country</b> ☹
1	No national legislation has yet been passed or proposed for disclosure of generation attributes	BG, CY, LV, LT
2	Primary legislation was passed but no secondary regulation has yet been developed or (fully) implemented	Brussels-Capital, EE, FR, IT, HU, GR, LU, MT
3	The disclosure system is operational but fails on a number of essential elements, e.g.:	
3a	CO <sub>2</sub> and/or nuclear waste are not disclosed	CH, CZ, (IT), PL, RO, SK
3b	Disclosure is not mandatory	CZ
3c	Transfers and exports/imports of GO are not accepted	CZ, RO

The reasons why fully operational systems (i.e.☺) are not evaluated as advanced mainly have to do either with the foreseen use of the GO (e.g. disclosure is not based on GO, GO are used for support purposes only), or there are remaining weaknesses in terms of the accuracy and reliability of the tracking system (e.g. GO import and exports are not tracked or reflected in the Fuel Mix Calculation, no Residual Mix calculation is foreseen). Details per MS are shown in Table 3.

Table 3 Remaining weaknesses in fully operational disclosure systems (IT Power, Apr 09)

	<b>Remaining weaknesses in fully operational disclosure systems</b>	<b>Country</b> ☹
<b>1</b>	<b>Design of the tracking system</b>	
1a	The existing disclosure system is not based on GO	IE, PT
1b	Secondary regulation is voluntary and not uniformly applied by energy industry	DE
<b>2</b>	<b>Accuracy and reliability of the tracking system</b>	
2a	The implicit and explicit tracking schemes are not fully aligned	NO

2b	The explicit and implicit tracking mechanisms in place are not fully reliable and overall (too) complex	DE, PT
2c	No Residual Mix calculation is in place or foreseen	Flanders, Wallonia, DE, DK

None of the systems currently in place in Europe are fully accurate and reliable. Some of the systems are getting close to the highest standard of accuracy and reliability (i.e. ES, FI, NL), implying that the remaining sources of inaccuracy and unreliability in the systems have to do not with the national system, but rather with a lack of a coordinated approach on how cross-border traded attributes (e.g. GO) should be handled in Fuel and Residual Mix calculations in the respective importing and exporting countries. Details per MS are shown in Table 4.

Table 4 Scope for improvement in advanced disclosure systems (IT Power, Apr 09)

	Scope for improvement in the countries with an “advanced” disclosure system	Country ☺
1	Design of the tracking system	
1a	Other electricity labels than GO are used for disclosure purposes	FI, SE, (SI)
2	Fuel Mix Calculation and cross-border aspects	
2a	It remains unclear if and how exactly GO import and export are reflected in the Fuel Mix calculation	AT, GB, SE
2b	Double counting risks remain in Fuel Mix calculations	GB
2c	Lack of a standardised way to deal with imports and exports of GO in Fuel and Residual Mix calculations	All
2d	Lack of a standardised methodology for Fuel and Residual Mix calculations	All

Based on the shortcomings observed in the disclosure systems currently in place throughout Europe, the according recommendations are summarised in the next table below, differentiated per level of implementation and individual country. In order to make the above more concrete and apprehensible the case of France is briefly presented.

Table 5 Recommendations on the improvement of disclosure systems across Europe (IT Power, Apr 09)

☺	Recommendation	Applicable to
1	Develop or pass primary legislation on disclosure	BG, CY, LV, LT,
2	Develop and/or adopt and/or improve secondary legislation to	Brussels-Capital Region, EE, FR,

	effectively put in place a disclosure system (including tracking of GO transfers, imports and exports)	GR, IT, LU, MT, RO
2a	When completing secondary regulation make sure GO transfers are tracked and GO imports and exports are reflected in the Fuel Mix calculation	HU, SK
3	Make the disclosure requirements mandatory; and allow for the import and export of GO	CZ
4	Include CO <sub>2</sub> emissions and nuclear waste as part of the disclosure of the environmental impact of electricity generation	CH, CZ, (IT), PL, RO
☺	<b>Recommendation</b>	<b>Applicable to</b>
1	Complete and/or improve the implementation of secondary regulation	HU
2	Use GO as the basis of the disclosure system	HU, IE, PT
3	Make sure GO transfers are tracked and GO imports and exports are reflected in the Fuel Mix calculation	HU, SK
4	Align and improve the implicit and explicit tracking systems in place	DE, NO, PT
5	Introduce the use (and publication) of a Residual Mix at national/regional level	Flanders, Wallonia, DE, DK
☺	<b>Recommendation</b>	<b>Applicable to</b>
1	GO should ideally be the only label for disclosure	FI, SE, (SI)
2	Clarify and/or improve how exactly GO imports and exports are reflected in the Fuel Mix calculation	AT, GB, SE
3	Exclude remaining double counting risks	GB
4	Introduce a standardised way to deal with imports and exports of GO in Fuel and Residual Mix calculations (at EU level)	All
5	Introduce a standardised methodology for Fuel and Residual Mix calculations (at EU level)	All

☺ France

The disclosure obligation was transposed in national legislation and suppliers have to disclose information with regard to their electricity generation since the 1st July 2004. This implies suppliers have to indicate on their bill, or an attached document, the share of different primary energy sources they have used in order to produce the electricity sold

during the preceding year. Still, no detailed further regulation is foreseen, and the implementation of disclosure in practice is carried out by each supplier according to its own rules. There is no national residual mix calculated by the regulator or the TSO. Powernext, the electricity exchange, does not have a specific mix because they do not receive this information from sellers.

The above implies that the current disclosure system in France is not properly implemented nor sufficiently reliable, mainly due to the following reasons:

- No secondary regulation is in place which streamlines the current inconsistent implementation of the primary legislation by different suppliers;
- Double counting is not excluded as the transfer of GO (in pdf form) cannot be tracked;
- No implicit tracking mechanism in place. This implies that the Residual Mix is not properly calculated, and thus disclosure statements are not fully reliable. In addition imports and exports of GO are not reflected in the Fuel Mix and Residual Mix calculations.

Furthermore, when comparing the system against the requirements of the “advanced” level of implementation, the following shortcomings are identified:

- GO are not a mandatory tool for disclosure (i.e. contracts, UCTE mix etc. are used);
- As redemption is not mandatory there is no proof that the same GO is not used several times.

The French disclosure system could relatively easy be upgraded to an improved or even advanced level if the following changes were carried out:

- GO should be issued and tracked in electronic registries;
- A Residual Mix Calculation should be introduced which excludes GO (and RECS certificates);
- GO imports and exports should be tracked and reflected in the Residual Mix Calculation;
- There should be an official clarification on where the green attribute of electricity supported by the feed-in tariff should go when it is not embodied by a GO.

### B. RE-GO

The RES-E Directive was adopted in 2001 and had to be implemented by October 2003 by the EU-15 MS. The analysis shows that from the 29 countries, 17 have fully operational or even advanced RE-GO (i.e. ☹ and ☺) systems in place. Furthermore the analysis shows that the systems in 12 countries are not yet fully operational. A schematic overview of the level of implementation for the investigated countries is given in Table 6.

Still, and similar to the analysis on disclosure, it needs to be emphasized that within this group the remaining weaknesses vary significantly, i.e. some countries are only at the start of taking the necessary steps to implement a disclosure system, whereas others have fully operational systems that fail though on one or two essential criteria.

The countries which do not have a fully operational system in place either did not pass legislation on RE-GO yet (EU-15: GR, LU, PT), either the RE-GO system is not properly implemented yet (EU-15: IE; EU-12: BG, CY, CZ, HU, LV, MT, RO). Finally also PL has a RE-GO system in place, which from a tracking perspective can be deemed in line or even advanced, but which fails on one aspect, i.e. it does not recognize imported RE-GO from other countries. Further details on the shortcomings and remaining weaknesses are in Table 7 and Table 8.

Table 6 State of implementation of RE-GO across Europe (IT Power, Apr 09)

RE-GO	Not fully operational ☹	Fully operational ☺	Advanced ☺
EU-15	GR (IE) LU PT	DE FR GB IT SE	AT, Brussels-Capital DK, ES FI, Flanders NL, Wallonia
EU-12	BG, CY CZ, HU LV, MT PL, RO	LT SK EE	SI
CH & NO			CH, NO
	12	8	9

Table 7 Overview of major weaknesses in RE-GO systems across Europe (IT Power, Apr 09)

	Major weaknesses in RE-GO systems	Country ☹
1	No national legislation has yet been passed or proposed on RE-GO	GR, PT
2	No (sufficient) secondary regulation has been developed or passed with regard to the RE-GO system	BG, CY, CZ, HU, (IE), LU, LV, MT, RO
3	RE-GO transfers and imports are not accepted or recognized	PL

Table 8 Overview of remaining weaknesses in RE-GO systems (IT Power, Apr 09)

	Remaining weaknesses in RE-GO systems	Country ☹
1	With regard to the design of the RE-GO system	
1a	The use of RE-GO for disclosure and support (and target) is not (fully) defined and regulated	EE, LT, SE
2	On accuracy and reliability of the	



	RE-GO system	
2a	RE-GO transfers, imports and/or exports are not (sufficiently) tracked	DE, FR, GB, IT, LT,
2b	Double counting is not (sufficiently) excluded	DE, FR, GB, IT,
2c	An electronic RE-GO registry is in place but RE-GO can be transferred only in paper form	FR, IT, LT
3	Transfer, import or export of RE-GO is not foreseen or conditional	LT, SK

RE-GO are primarily used for disclosure purposes. Often there is a link with the national support scheme, either through the indication on the RE-GO of support received (e.g. DE, UK), either through a linked (and clearly regulated) use of the RE-GO and the support/quota certificate (e.g. Flanders, Wallonia, Brussels-Capital Region). HU seems to plan to use the RE-GO only for support purposes (i.e. to verify the eligibility for the feed-in tariff), and not for disclosure. The RE-GO systems in a number of countries, in principle, are technically capable of allowing for (cross border) target accounting. Still, RE-GO as such have not been directly used as an instrument for target compliance (with EU indicative targets).

Based on the shortcomings observed in the RE-GO systems currently in place throughout Europe, the major recommendations are summarised in Table 9, differentiated per level of implementation and individual country. A clear definition and a (more) standardised use of RE-GO above national state level are highly recommended, especially with regard to cross-border aspects. On the uses of RE-GO the following can be put forward:

- Disclosure should be the default and minimal use for RE-GO;
- If there is a link with support this needs to be clarified and clearly regulated at national level; rules need to be agreed above national level on cross-border trade;
- The use for target accounting remains a (technically feasible) option, and can be relevant, especially with regard to the cooperation mechanisms as described in the new RES-E Directive.

Table 9 Recommendations on the improvement of RE-GO systems across Europe (Source: IT Power, Apr09)

⊗	Recommendation on RE-GO	Applicable to
1	Develop or pass primary legislation on RE-GO	GR, PT
2	Develop and/or adopt secondary legislation to effectively put in place an accurate and reliable RE-GO system (including tracking of GO transfers, imports and exports)	BG, CY, CZ, HU, (IE), LU, LV, MT, RO
3	Allow for RE-GO transfers and recognize RE-GO imports	PL, RO
☺	Recommendation	Applicable to
1	Define and/or clearly regulate the	EE, LT, SE

	use of RE-GO for disclosure and support (and target)	
2	Improve the accuracy of the tracking system, especially with regard to transfers, imports and/or exports of RE-GO	
2a	Introduce RE-GO as electronically transferable certificates	EE, FR, LT
2b	Make sure remaining double-counting risks are excluded	EE, DE, FR, GB, IT
3	Allow for RE-GO transfers and exports, and simplify RE-GO imports	EE, LT, SK
☺	Recommendation	Applicable to
1	A standardised use of RE-GO and agreed rules on its use for disclosure, support (and target) purposes above national state level	All

☺ Belgium

The disclosure mechanisms in Flanders and Wallonia are entirely based on GO in an integrated manner with the green (support) certificates. The same is true for CHP. A snapshot of the tracking systems in place in the three regions is presented in Table 10.

Import and export of GO from and into Flanders and Wallonia is possible, but clearly regulated to avoid double-counting or misuse. In the Brussels-Capital Region national legislation has been passed and systems have been implemented with regard to the use of RE-GO and CHP-GO. Still, there are currently no provisions for disclosure of generation attributes.

Overall it can be concluded the tracking systems in Flanders and Wallonia are fully operational and implemented up to an (almost) advanced level. A remaining weakness is the not fully operational disclosure system in Brussels-Capital. Still, as the framework (e.g. in terms of GO for RE and CHP) is largely in place it seems relatively easy to improve the system up to the minimally required or even advanced level. Although consumer demand is not (yet) very strong in Belgium this seems to be changing, triggering further discussions with regard to GO import and additionality. The lack of a Residual Mix calculation remains the major weakness, especially relevant for Flanders and Wallonia. The use of a Residual Mix based on a mutually (or EU wide) agreed methodology proves particularly important in the case of Belgium, e.g. for Flanders and Wallonia cases were reported in which the exporting MS did not accept the deduction of the exported GO in their (national) fuel mix calculation, thus creating double counting issues.

Table 10 Overview of tracking schemes in place in the 3 Belgian regions (Source: IT Power, Apr09)

	Brussels-Capital	Flanders	Wallonia
Disclosure	Not fully in place; to be based on GO	Based on GO for RE and CHP	Based on GO for RE and CHP
Support	Quota scheme with certificates (~CO <sub>2</sub> ) for RE and CHP	Quota scheme with certificates (~MWh) for RE and CHP	Quota scheme with certificates (~CO <sub>2</sub> ) for RE and CHP
RE-GO and CHP-GO	Systems fully operational	Systems fully operational	System fully operational
Use of GO and GC	Separate but linked; clearly regulated; import from Wallonia possible	Separate but linked; clearly regulated	Separate but linked; clearly regulated
RE-based CHP	"GO is both a RE-GO and CHP-GO"	One GO covering both	"GO is both a RE-GO and CHP-GO"
Registries	BRUGEL	VREG	CWAPE

### C. CHP-GO

Similarly to the analysis on Disclosure the situation in the 29 countries has been assessed with regard to the level of implementation of the CHP-GO systems in place, looking at institutional, managerial and operational aspects of CHP-GO. Again three different levels are distinguished, based on roughly the same criteria as used for RE-GO. The analysis shows that the systems in 16 countries plus Brussels-Capital are not yet fully operational, due to different reasons:

- No legislation on CHP-GO has been passed yet (EU-15: FI, GR, (IE unclear), PT; also CH did not pass legislation on CHP-GO);
- Legislation on CHP-GO has passed, but the according regulation has not yet been passed or fully or properly implemented (EU-15: DE, LU, SE, plus Brussels-Capital; EU-12: BG, CY, HU, LV, MT, (RO unclear), SK; also the system in NO is not fully implemented).

The CHP-GO systems in the other 12 countries plus Flanders and Wallonia overall can be deemed fully operational. Finally, the CHP-GO systems in CZ, DK, ES, Flanders, NL, PL, SI and Wallonia, can be considered as ahead of the others. Still, due to the fairly recent implementation of CHP-GO systems the

experience in any country is still rather limited, e.g. hardly any CHP-GO has been transferred, imported or exported thus far. A number of countries will start their CHP-GO system in 2009 (e.g. DE, HU). This implies that an assessment of the national systems that was done for RE-GO is not yet possible at the same level of detail. The recent history of these systems also makes that none of the systems currently in place is deemed "advanced". Further analysis and recommendations on CHP-GO systems will be carried out in a later stage of the E-TRACKII project (i.e. WP 4), which is specifically dedicated to CHP-GO). A schematic A schematic overview of the level of implementation for the 29 countries is given in Table 11.

Table 11 State of implementation of RE-GO across Europe (IT Power, Apr 09)

CHP-GO	Not fully operational ☹	Fully operational ☺	Advanced ☺
EU-15	Brussels-Capital DE FI GR (IE) LU PT SE	AT Flanders Wallonia DK ES FR GB IT NL	
EU-12	BG CY HU LV MT RO SK	CZ EE LT SI PL	
CH & NO	NO CH		
	16 + Brussels-Capital	12 + Flanders and Wallonia	

### D. Conclusion

The analysis has shown that the disclosure systems in a significant number of MS are not fully in place. Similarly, many MS did not yet implement appropriate national regulations on RE-GO and CHP-GO. On the other hand, there is a number of European countries which have chosen an advanced implementation of GO and/or disclosure, which exceeds the requirements of the respective Directives and in most cases contains significant elements of the E-TRACK standard recommendation of August 2007.

Several New MS show a very slow development of actual competition in the electricity market, associated with the existence of low regulated tariffs. In this framework, electricity disclosure can only have the meaning of consumer education about statistical data on the national electricity supply. Still, many New MS have made good progress in implementing RE-GO (as have some on CHP-GO).

The recommendations for improvement of the systems get more detailed for countries with a more advanced level of implementation. This implies that in principle all recommendations are relevant for the countries at the initial stage of implementation, whereas only the more specific recommendations are applicable for those countries with more advanced tracking systems in place. The resulting set of recommendations thus offers to policy-makers and regulatory authorities a step-wise approach to gradually increase the level of implementation of the tracking schemes in a given MS.

#### APPENDIX

Country codes (following ISO 3166)

<b>AT</b>	Austria	<b>FI</b>	Finland	<b>MT</b>	Malta
<b>BE</b>	Belgium	<b>FR</b>	France	<b>NL</b>	Netherlands
<b>BG</b>	Bulgaria	<b>GB</b>	United Kingdom	<b>NO</b>	Norway
<b>CH</b>	Switzerland	<b>GR</b>	Greece	<b>PL</b>	Poland
<b>CY</b>	Cyprus	<b>HU</b>	Hungary	<b>PT</b>	Portugal
<b>CZ</b>	Czech Republic	<b>IE</b>	Ireland	<b>RO</b>	Romania
<b>DE</b>	Germany	<b>IT</b>	Italy	<b>SK</b>	Slovakia
<b>DK</b>	Denmark	<b>LT</b>	Lithuania	<b>SI</b>	Slovenia
<b>ES</b>	Spain	<b>LU</b>	Luxemburg	<b>SE</b>	Sweden
<b>EE</b>	Estonia	<b>LV</b>	Latvia		

**EU-15:** AT, BE, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, NL, PT, SE

**EU-12:** CY, CZ, EE, HU, LT, LV, MT, PL, SI, SK, and BG and RO, also referred to as New Member States

#### ACKNOWLEDGMENT

It would not have been possible to gather the wide ranging information on tracking related policies to such a high level of detail for 29 countries without the help and support of the E-TRACKII project partners and their contacts throughout Europe. The help of all project partners and national contacts from governments, regulators and utilities throughout Europe is greatly appreciated.

#### DISCLAIMER

All findings, recommendation and interpretations of this project are for the purpose of research only. The E-TRACK II project has no mandate from the European Commission to assess the implementation of tracking-related policies in Member States. Nevertheless the project consortium aims at giving sensible recommendations to the Member States and to the Commission.

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The final E-TRACKII conference will take place in Brussels on 26<sup>th</sup> June 2009. Further details and (free) registration are available on the project website [www.e-track-project.org](http://www.e-track-project.org).