Real-case examples and selected options for implementation of "front side" disclosure aspects

Annex II to RE-DISS II Disclosure Guidelines

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Based on the RE-DISS II consultation document dated 8 April 2014 (Annex III to the RE-DISS II Disclosure Guidelines)

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1) SPECIFIC FIELDS OF INTEREST FOR RECOMMENDATIONS ON DISCLOSURE RELATING TO DISCLOSURE OF ADDITIONAL PARAMETERS
1) Disclosure of additional parameters

1.1) Shares of supported electricity: Options for implementation

- Switzerland and Germany disclose shares of pro-rata allocated RES-E deriving from the national support schemes explicitly as "supported RES". Such pro-rata allocation follows the reasoning that those consumers should get the green attributes who pay the major share of it. For the Swiss and German example the distinct disclosure thus shows which RES shares have been assigned due to regulatory provisions in contrast to those RES shares which have been actively produced or purchased by the supplier.

- In principle, it would also be possible to generally differentiate in disclosure between supported and non-supported RES (irrespective of whether this is domestic or imported production and support), as this information has to be included on RES GOs anyway.
  - This would mean that "RES (supported)" would be generally disclosed in another category than "RES (unsupported)"
  - Please note: unlike the first example from DE and CH, this approach would not include an allocation mechanism for supported RES, but only a separate fuel category for disclosure.

- The alternative to this distinction is to disclose supported RES (or also other supported fuels and technologies) within the same fuel category as unsupported shares, like is done in most countries for the time being.

- At least some green power labels clearly exclude supported RES (and corresponding RES GOs, respectively).
1) Disclosure of additional parameters

1.1) Shares of supported electricity: Options for implementation – Examples DE / CH

Renewable Energies, supported by the Renewable Energy Law

Supported electricity: 45% hydro, 7% solar, 20% wind, …
1.2) Distinction of country of origin: Options for implementation

- In some countries, domain of origin is of key interest for end consumers. At least for GO based products, disclosure of countries of origin would be easily possible from a technical point of view.
- The share of imported GOs could be indicated.
- Example Austria: Countries of origin of used GOs have to be indicated together with the respective shares in %.

100 % of GOs originate from Austria.
1.3) Detailed categorisation of fuels and technologies: Options for implementation

- In many countries, only RES, FOS and NUC are distinguished; until now, also the RE-DISS Residual Mix only distinguished those three main categories in residual mix calculation.
- Several other countries already require a distinction on a more detailed level (see the following table, based on RE-DISS country profiles 2012).
- Such distinction introduces more complexity, while it allows for separating e.g. fossil fuels with high CO₂ intensity (coal) from those with low CO₂ intensity (e.g. gas).

<table>
<thead>
<tr>
<th>Energy source</th>
<th>Number of countries</th>
<th>Further details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable</td>
<td>15</td>
<td>general category, includes other renewables</td>
</tr>
<tr>
<td>Hydro</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td>8</td>
<td>includes solid biomass and liquid biomass category</td>
</tr>
<tr>
<td>Wind</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Solar</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Biogas</td>
<td>5</td>
<td>includes landfill gas and sewage gas category</td>
</tr>
<tr>
<td>Geothermal</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>FOS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>13</td>
<td>of which</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hard coal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lignite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fossil</td>
<td>10</td>
<td>of which</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other fossil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Natural gas</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td><strong>NUC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

Source: RE-DISS II
1.3) Detailed categorisation of fuels and technologies: Options for implementation

- In some countries, individual fuel categories are only shown on voluntary basis or in case they are larger than 0%; different examples:
  - UK: Voluntary categorisation of more detailed levels than RES, NUC, FOS (Ofgem FMD Guidelines 2005)
  - CH: some sub-category (e.g. solar or other detailed RES) only listed in case this is larger than zero
  - DE: listing of all mandatory fuel categories (even if they are zero)

- RE-DISS will provide the residual mix as of 2013 data according to the following detailed fuel categories:

<table>
<thead>
<tr>
<th>Renewable</th>
<th>Unspecified &amp; Other</th>
<th>Solar</th>
<th>Wind</th>
<th>Hydro</th>
<th>Geothermal</th>
<th>Biomass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>Unspecified &amp; Other</td>
<td>Hard Coal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td>Unspecified &amp; Other</td>
<td>Lignite (or Brown Coal)</td>
<td>Natural Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4) Provision of further environmental indicators: Options for implementation

- Standard implementation: Obligatory provision of
  - \( \text{CO}_2 \) (or possibly \( \text{CO}_2 \text{eq} \)) and
  - \text{radioactive waste}  
    - Please note: the current RE-DISS project has a specific work package focusing on data quality of the environmental indicators mentioned above, which also works on the questions of 1) best units for these parameters, 2) plant-specific vs. generic figures, 3) direct emissions vs. life-cycle emissions and 4) of \( \text{CO}_2 \) vs. \( \text{CO}_2 \text{eq} \)

- In Denmark (having a national generation mix which is dominated by fossil combustion) also further environmental indicators are provided:
  - emissions of \( \text{CO}_2 \) and \text{radioactive waste}  
  - furthermore emissions of \( \text{CO}_2 \text{eq}, \text{CH}_4, \text{N}_2\text{O}, \text{SO}_2, \text{NO}_x, \text{CO}, \text{NMVOC} \) (non-methane volatile organic compounds) and \text{particles}  
  - residual products: \text{coal ash, coal slag, desulphurization products, waste slag, waste incineration residues and bio ashes}  

- With a view on major renewable generation shares at least in individual countries possibly further environmental indicators like \text{environmental LCA, landscape conservation} or \text{consumption of natural resources} can be considered.
  - This is currently done in a project charged by the Swiss Federal Office of Energy SFOE for assessing options for further development of electricity disclosure in Switzerland.
1.5) Communication of additionality aspects: Options for implementation

- For final consumers in liberalised markets ecological additionality is relevant information when choosing own supply.
  - Typical additionality aspects comprise improvement of ecological quality (particularly with respect to hydropower) or additional RES capacities
  - Usually mandatory electricity disclosure is limited to straightforward accounting of attributes without giving meaningful information about additionality

- Art. 15 (12) RES-Directive 2009/28/EC lines out a possible approach for giving additionality information by highlighting shares of RES deriving from "new" plants with operational date later than 25 June 2009 (after coming into force of the RES Directive)
  - According to RE-DISS assessments, no European country applies this approach for the time being.

- For Portugal and Slovenia, Competent Bodies have indicated towards RE-DISS that suppliers have to inform consumers about further information on environmental impacts of electricity production, e.g. at websites or on further information material.

- In countries with a clearly defined content (and format) of electricity disclosure statements, this might mean that it is not possible even on voluntary basis to disclose additionality or ecological quality aspects (e.g. Austria).
1.5) Communication of additionality aspects: Options for implementation

- Usually, information on additionality is provided by voluntary labelling programmes, independently from legally regulated electricity disclosure.

- In UK and DK competent authorities have actively contributed to development of criteria
  - DK: Energinet.dk has cooperated with branch organisations and NGOs for elaborating a Danish standard for ‘green’ electricity, including requirements in the description of the products and what suppliers can claim in relation to climate effect ([www.elpristavlen.dk](http://www.elpristavlen.dk))
  - UK: Ofgem has established a voluntary green tariff scheme in place with a clear set of rules on additionality levels and communication requirements ([http://www.greenenergyscheme.org/](http://www.greenenergyscheme.org/)).

- In UK, Ofgem has just conducted an open consultation on green and renewable energy offers. In this context, Ofgem has proposed to mandatorily require an explicit statement on the level of additionality for all explicit "green" or "renewable" products. In practice, such a requirement could mean that for renewable products without specific additionality characteristics suppliers would have to state that no additionality/no further increase of RES production is related to consumption of this electricity product.

- In several countries Competent Bodies have indicated towards RE-DISS that there are specific regulations on eligible claims with respect to carbon claims, e.g. UK, Norway and Ireland.
1.6) Distinction of the tracking mechanisms used: Options for implementation

- In order to distinguish between different suppliers, one option to accentuate actual market behaviour would be to distinguish in electricity disclosure of a supplier which part of his fuel share derives from the actual active market behaviour and which part is just passively "inherited" from a residual mix.
- At least in some countries, NGOs have been in favour of tracking along the electricity contracts rather than by using GOs which are not linked to the electricity contract.
- This raises the question about the relevance of disclosing not only the fuel shares, but also indicating the respective means of tracking, e.g.
  - GOs
    - Linked or de-linked with electricity contracts?
    - GOs for own production
  - Residual Mix / Default share
  - Other tracking instruments, if applicable (particularly relevant for supported electricity)
1) Disclosure of additional parameters

1.6) Distinction of the tracking mechanisms used: Options for implementation – examples:

- Switzerland and Germany disclose shares of pro-rata allocated RES-E deriving from the national support schemes (see also Section 1.1).
- Austria indicates on voluntary basis whether GO have been used linked with or delinked from physical electricity contracts from the same production plants in the same period.
- Until introduction of "full" GO system as of disclosure year 2014, Austria also provides the fuel mix of the residual mix separately to other fuel shares.
- Also the German GO registry allows for distinction of linked and de-linked GO use (while it is not regulated how this should be differentiated in disclosure statements).
- Spain discloses the number of GOs that were acquired by the supplier, resulting in X% of supply coming from RES or HE CHP.
1) Disclosure of additional parameters

1.6) Distinction of the tracking mechanisms used: Options for implementation – example Austria

A calculatory assignment is applied for electricity of unknown origin. For these volumes the relative shares of production in the European transmission grid is applied. In 2010, this production had the following fuel mix: fossil 64.5%, nuclear 35.08%, others 0.42%.

Voluntary additional information: 100% of guarantees of origin used for disclosure have been purchased linked with the electrical energy.
2) SPECIFIC FIELDS OF INTEREST FOR RECOMMENDATIONS ON DISCLOSURE RELATING TO PRESENTATION OF INFORMATION
2.1) Standard format for electricity disclosure: Options for implementation

- Following the Directive, it is to the discretion of Member States, which level of specifications is deemed necessary for safeguarding the "comparability on a national level". Different options could be either describing minimum format and display requirements or also provision of a mandatory format template.

- Germany, Sweden, Spain and Slovenia, Austria e.g. require display in graphical format (or, more specifically, pie charts).
2.1) Standard format for electricity disclosure: Options for implementation

- Denmark, Ireland, Luxembourg and Spain provide standard template with graphical display
- Switzerland provides two alternative standard tables, including minimum size

Source: Ministère de l’Economie Luxembourg

Source: Swiss Energieverordnung 2009
2.2) Provision of comparison values: Options for implementation

- Comparison values are relevant for consumers so that they can evaluate the meaning of their personal supply (and related environmental impacts)
  - Mandatory information due to Directive: supplier mix
  - Additional relevant information for stimulation of markets: product mix
  - Reference value for comparison: national production mix (or possibly national consumption mix?)

- It should be noted that in case that a production mix is provided to some of the customers of a supplier, it should be disclosed to all of them (including the consumers of a "company's residual mix" product) in order to avoid double counting between the customers of different products of individual suppliers.

- With respect to a national comparison value, this should be ideally consistently provided by a central organisation

- Several countries require provision of a national reference, including Germany, Luxembourg, Ireland, UK, Ireland, Italy, Spain or Portugal (here it is available at the competent body's website)
2) Presentation of Information

2.2) Provision of comparison values: Options for implementation – example Luxembourg

Product Mix / Supplier Mix / National Mix

Source: Ministère de l'Economie Luxembourg
2.3) Evaluative presentation: Options for implementation

- Electricity disclosure is usually implemented as "neutral" provision of information rather than as "judgemental"
- To some extent, "implicit" judgemental layout e.g. by "traffic light" color coding of environmental parameters takes place (see Luxembourg example on this page)
- In principle, rating of products can also take place (comparable to EU Efficiency Label) like in Spain (next page); see also section 1.5 on additionality

Source: Ministère de l'Economie Luxembourg
2.3) Evaluative presentation: Options for implementation – Example Spain

The environmental impact of your electricity depends on the energy sources used for its generation. On a scale from A to G where A indicates the smallest environmental impact and G the largest, and where the national average corresponds to level D, the electricity provided by "Supplier A" has the following values:

\[\text{CO}_2 \text{ emissions, Supplier A}\]

\[\text{Radioactive waste, Supplier A}\]

\[\text{National Average}\]
2) Presentation of Information

2.4) Presentation of information on a national platform: Options for implementation

Provision of disclosure information for all different energy offers on one central platform (e.g. website, or in a public report by the competent authority) can be a means for enhancing comparability of electricity disclosure for consumers, thus supporting informed choice of supply in liberalised markets. This is implemented in various European Countries, e.g.:

- PT: the website of ERSE, the Portuguese regulator, contains a comparison tool and also disclosure simulator (http://simuladores.erse.pt/rotulagem)
- CH: fuel mix of all suppliers (on a company level) is provided on www.stromkennzeichnung.ch
- UK: there is no regulated system in place, but there are voluntary websites showing the fuel mixes of GB suppliers (e.g. http://electricityinfo.org/suppliers.php)
- IE: The Regulators publish a report on the Annual Fuel Mix Disclosure on the Allislandproject.org website (for both Ireland and Northern Ireland)
- AT: Regulator E-Control publishes disclosure information of Austrian suppliers in the annual Austrian Disclosure report, including an assessment whether the disclosure statements accord to the legal requirements
- HR: Annual publication is planned for informing the general public (and customers) on disclosure. This annual publication will probably include information regarding active suppliers.
3) SPECIFIC FIELDS OF INTEREST FOR RECOMMENDATIONS ON DISCLOSURE RELATING TO FURTHER ASPECTS
3.1) Regulatory oversight and verification: Options for implementation

Art. 9 of the IEM Directive requires regulatory authority or another competent national authority to "...take the necessary steps to ensure that the information provided by suppliers to their consumers [...] is reliable and is provided, at a national level, in a clearly comparable manner."

In several countries, this is enhanced by special control mechanisms. Some examples:

- **Active calculation of disclosure information by the competent body:**
  - IE: Based on information provided by the individual suppliers, the fuel mix is calculated by the competent body, and approved and published by the regulators
  - ES: regulator calculates all mixes based on information supplied by TSO and on GOs
  - IT: similar calculation by competent body, based on data collected among suppliers

- **Audit by public authority (mandatory or possibly on a random basis):**
  - IE: regulator approves form and detail of disclosure statement prior to its issue to final customers
  - DK: Suppliers must transmit their annual disclosure information to competent body.
  - DE: disclosure information plus absolute supply volumes has to be provided to regulator BNetzA (and can be compared by the GO competent body UBA on consistency with cancellation volumes of RES-GO)
  - IT: disclosure information is collected by GSE (Italian Competent Body)
  - HR: disclosure information has to be provided to regulator, who can audit the data.

- **Independent third party verification takes place e.g. in Norway (by accountant) and in Austria (when supply > 100GWh)**
  - In some countries this is recommended only on voluntary basis, e.g. CH or DE
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