



E-Track Project

Purposes, key elements, cost evaluation

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INDEX



- **Project purpose**
- **Key elements**
- **Cost evaluation**

Project purpose



- ◆ E-Track project aims at drafting a European standard for tracking relevant information related to electricity production (**attributes**: sources of energy, production technologies; **environment indicators**: CO₂ emissions, nuclear waste ...).
- ◆ Such a standard is intended for:
 1. increasing **market transparency**, reducing transaction costs and risks of multiple counting of attributes;
 2. supporting electricity information to final users (art. 3.6 Directive 2003/54/CE) or facilitating the introduction of new “energy policies”, such as:
 - disclosure;
 - incentives for specific energy sources;
 - reaching national target in renewable energy use.
- ◆ First results: overview and analysis of legislation of European countries concerning Guarantee of Origin (GO) and disclosure (WP1 e WP2 – <http://www.e-track-project.org>).

- 3 -

Key elements



- ◆ E-Track standard defines a set of basic requisites and a minimum quality level, delegating each single country to develop and implement a national detailed tracking system, compliant with the standard itself.
- ◆ The standard is based on two basic mechanisms, which requires the presence of national independent bodies: **explicit tracking and implicit tracking**.
 - ✓ **explicit tracking**: based on **Registries (Data Bases)** which track attributes related to certificates and/or contracts. Information **delivery** among registries (domains) is performed through a **centralised hub**. GO (issued in case of electricity from renewable sources or in case of CHP production) *must be integrated* in the tracking mechanism. Only one register is in place for each E-Track domain.
 - ✓ **implicit mechanism**: based on **Residual Mix** which, as a first approach, can be regarded as a proper correction of attributes reported in Statistics about electricity production (correction made with reference to attributes already tracked).
- ◆ At the moment, only “disclosure policy” requires to track the whole energy on the market. In such a context, **implicit tracking** is useful for reducing the impact of a wide use of **explicit tracking** mechanism.

- 4 -

Cost evaluation



- ◆ Evaluation of a **range of costs** has been carried out, considering a tracking system based on E-Track standard.
- ◆ **Main cost drivers:**
 - **Development and implementation** of the system: requirements, SW development, registry interfaces,...
 - **Operating and maintenance:** SW, HW,...
 - All aspects concerning **certificate issuing**

- 5 -

Cost evaluation



Cost analysis of comparable tracking mechanisms (based on registries) already in place

- ◆ **Costs of tracking systems in 7 countries** (Austria, Belgium, Netherlands, Sweden, Finland, Norway and Swiss)
- ◆ **Main results:**
 - range of development and implementation costs:
200.000 € - 1.000.000 €
 - range of operating costs:
100.000 €/year - 600.000 €/year.

- 6 -

Cost evaluation



- ◆ **Costs taken into account:** local registries connected to one centralised hub.
- ◆ **EU 25 + Norway and Swiss = 27 registries** connected to a central hub.
- ◆ **Cost evaluation scenarios:**
 - **Minimum** (minimum integrations to be made = most of the necessary infrastructures and procedures are already in place)
 - **Advanced**
 - **Upper** (many integrations to be made)

- 7 -

Cost evaluation



- ◆ **Range of costs (€) per each country for operating a registry:**
 - **Development and Implementation: 210.000 – 650.000 – 1.490.000**
 - **Operating: 195.000 – 400.000 – 660.000**
- ◆ **HUB Cost (€):**
 - Development: 2.000.000**
 - Operating: 800.000**
- ◆ **Qualification/Auditing** (limited impact on costs): from 300 to 2.500 € per power plant (about 2.000 power plants to be audited in a year).

- 8 -

Cost evaluation



Hp.: similar implementations in all countries (adjustments for bigger countries).

◆ **Total Implementation cost (1 Hub + 27 registries):**

from 7,3 mln€ to 39,6 mln€, mainly due to cost for creating proper infrastructures.

◆ **Total operating cost, included annualised costs for development:**

from 12,5 mln€/year to 71 mln€/year

- 9 -

Cost evaluation



European Tracking System: costs for final users

Specific cost:

System Total Cost / Electricity Consumption (EU 25 + 2 = 2.770 TWh in 2003): 4,5 €/GWh – 25,7€/GWh

Hp.: consumption per final user = 5.000 kWh/year

Additional costs for final users = 2,3 c€/year – 12,8 c€/year

- 10 -