

Intelligent Energy  **Europe**

Lessons from the project
“A European Tracking System for Electricity”
(E-TRACK)

Christof Timpe (c.timpe@oeko.de)

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Point of departure (1/2)

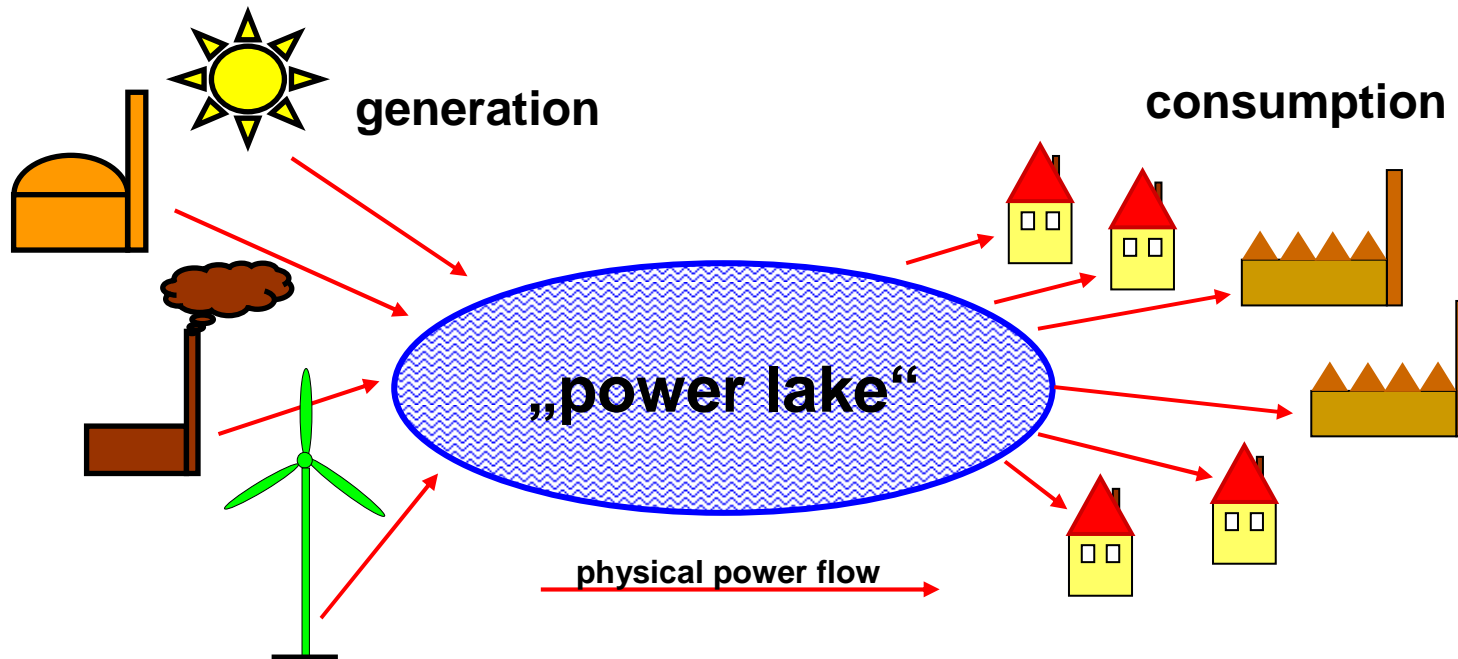
Several EU and MS policies require to account for certain “attributes” of electricity (generation)

- Electricity disclosure / labelling
- EU targets for market shares of certain fuel sources and technologies (e.g. RES-E)
- Public support schemes, e.g. for RES-E and CHP
- Differentiated electricity tax (based on e.g. fuel source)
- Guarantees of Origin (GO) for RES-E and CHP
- Green Power for voluntary demand
- Statistical reporting on power generation and demand

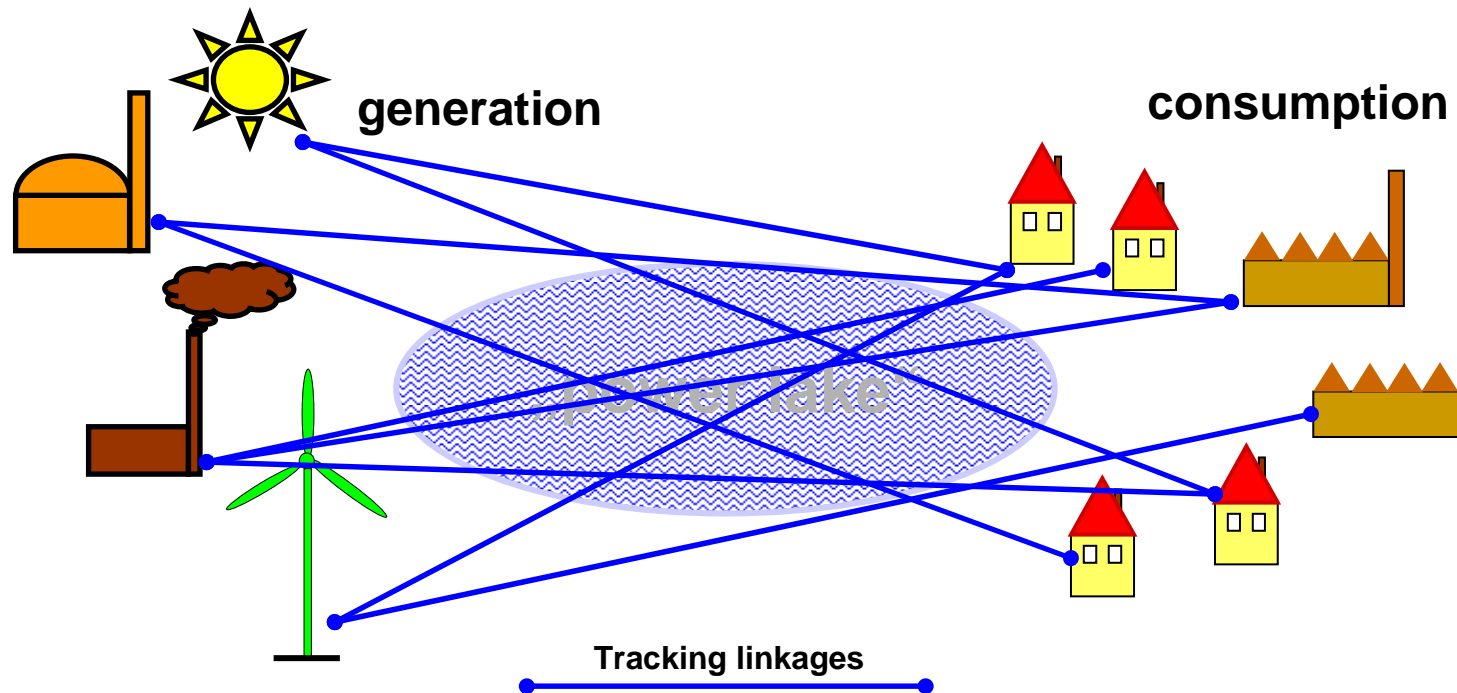
Point of departure (2/2)

- Such “attributes”, which need to be accounted for, include
 - Fuel sources
 - Generation technologies (e.g. CHP)
 - CO₂ emissions and radioactive waste production
 - Public support granted for generation
 - Accounting of RES-E generation for the EU target
- Some of these attributes need to be “tracked” from generation to the final supplier or consumer
- The regular electricity market does not support such tracking

Tracking of electricity attributes (1/3)



Tracking of electricity attributes (2/3)



Definition of tracking:

- Create unambiguous links between power plants and electricity sold to final consumers
- Transfer information about power generation attributes to consumers or other parties (e.g. regulators, governments)

Tracking of electricity attributes (3/3)

“Explicit” vs. “implicit” tracking mechanisms:

➤ **Explicit tracking:**

Tracking based on a mechanism, which creates a link between generation and consumption

Options for “explicit” tracking:

- ~~Tracking of physical energy flows~~
- Contract-based tracking
- De-linked tracking (based on transferable certificates)

➤ **Implicit tracking:**

Tracking using statistical data or averages

e.g. UCTE/Nordel generation mix, national generation mix, individual company generation mixes

What is the problem? Some examples

- **Double counting, e.g.**
 - RES-E generation in country A is allocated explicitly to consumers based on “green power” contracts. Other suppliers use national production statistics for disclosure, which are not corrected by the direct green sales.
 - Country B exports most of its RES-E generation to customers in other countries. Other countries import “grey” power from country B, and use the national production statistics as the attributes for this import.
- **Unclear interaction with support systems**
 - Country C uses a feed-in support scheme, but does not specify who owns the “greenness” of supported power.

Project Objectives

Overall goal of the project

- To investigate the feasibility of a harmonised standard for tracking electricity generation attributes in Europe

Additional project objectives

- To cover all tracking requirements which are imposed by European and national policies (disclosure, guarantees of origin, support schemes, Green Power etc.)
- To facilitate cross-border trade of electricity and generation attributes
- To avoid multiple counting of electricity attributes (e.g. from renewable energy sources) and loss of information
- To simplify verification of tracking procedures

Some preliminary findings

- There should be clear rules for the allocation of electricity generation attributes (comprehensive & binding for all actors)
- These rules should be co-ordinated between European countries (at least EU + EEA)
 - More detailed harmonisation should follow the actual integration of electricity markets
- Contract vs. de-linked tracking is not the problem
 - Both types of explicit tracking possible, should be implemented based on a central registry
- Any tracking system should consist of two elements:
 - An explicit mechanism (for optional use)
 - A residual mix for implicit tracking, based on regional generation | ex-/imports | explicit tracking

Example: Feed-in support & tracking

- Feed-in: Obligation on system operators to purchase RES-E and to pay a defined minimum price
- Who owns the greenness?
 - The one who pays in the end (usually ~all final customers)
 - The one who pays first (the system operator)
 - The generator (feed-in becomes a bonus payment)
- How is supported generation tracked to final consumer?
 - Separate allocation mechanism (e.g. EEG: pro-rata)
 - Use of a general explicit tracking mechanism
 - No tracking at all (part of national average)
- Outlook: At the time when RES-E becomes viable in the market, a well-developed tracking system can help generators to obtain fair prices for their green production!

E-TRACK project partners and duration

Project partners

| | |
|---|----|
| Öko-Institut (coordinator) | DE |
| Austrian Energy Agency | AT |
| Energie-Control GmbH | AT |
| Büro für Energiewirtschaft und technische Planung (BET) | DE |
| Ademe | FR |
| Observatoire des énergies renouvelables (ObservER) | FR |
| IT Power | GB |
| Pure Energi | GB |
| Gestore dei Servizi Elettrici (GSE) | IT |
| Lithuanian Energy Institute | LT |
| Energy Research Centre of the Netherlands (ECN) | NL |

Project duration:

Jan 2005 until Jun 2007

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