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Competitiveness of corporate sourcing of renewable energy

Stakeholder workshop, 29 January 2019



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Outline of the presentation

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Introduction



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Options for corporate sourcing of renewable electricity

- **Self-generation** of renewable electricity via e.g. solar photovoltaic or wind turbine.
- **Renewable power purchase agreements (RE PPAs)**, i.e. contracts under which a legal or natural person agrees to purchase renewable electricity directly from an energy generator.
- **Unbundled guarantees of origin (GOs)**, i.e. purchasing GOs (from e.g. a renewable energy generator or a third-party broker) certifying the renewable attributes of electricity without acquiring the electricity for which the GOs were issued.
- **Renewable energy offers from utilities or electricity suppliers**; such suppliers provide green grid electricity by either direct sourcing from independent renewable energy generators or by bundling electricity with GOs (to prove that their electricity is green).

Consultation activities (May-December 2018)

- **Online survey:** 68 companies operating in the EU
- **Interviews:** 19 interviews with representatives of 14 different EU stakeholders' groups
- **Country factsheets:** 8 country-level analyses, based on 16 interviews (two per Member States) and desk research
- **Case studies:** 5 cases on corporate sourcing of renewables (Alcoa/Norsk Hydro, Altair Chimica, Google, Metro, WWRD)

Corporate sourcing of renewable electricity: drivers



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Main drivers: renewable electricity

- **Corporate social responsibility (CSR) strategy and differentiation**
 - Increased demand for products/services: but limited willingness to pay
 - More value to (institutional) shareholders
- **Participation in green supply chains**
 - Large companies affecting the behaviour of their suppliers (often SMEs)
 - Green public procurement
- **Cost leadership**
 - Lower electricity costs ('deal maker/breaker' for most companies)

Specific drivers: self-generation

- Corporate social responsibility
 - Visible link between the company's premises and the renewable power plant
 - **Additionality**
- Cost leadership
 - **Generation costs** lower than grid electricity price
 - **Savings on taxes** and other non-energy components of the electricity price
- Resilience
 - **Stability of electricity costs** (at least for part of the total electricity demand)

Specific drivers: RE PPA

- Corporate social responsibility
 - **Additionality** (new installations that are not subsidised)
 - **GOs** important for companies focusing on CSR
- Cost leadership
 - **Electricity prices lower than grid electricity prices**
 - Generators may accept relatively lower prices in exchange for long-term revenue streams
 - Electricity from large-scale (cost-effective) renewable projects (multiple buyers are allowed)
 - **No up-front investments costs**
 - **Limited investment risk**
- Resilience
 - **Stability of electricity prices** (but balancing required)
 - Meeting a large share of the off-taker's electricity demand

Specific drivers: Unbundled GOs and green energy offers

- Corporate social responsibility
 - **Premium green energy offers**
 - Trust in the supplier (to avoid 'greenwashing' and ensure the continuity of supply)
 - GOs contain plenty of information on the underlying renewable electricity
- Cost leadership
 - **Short-term commitment**
 - **No up-front investments costs and no investment risk**
 - Compatibility with large renewable projects with economies of scale
 - **Flexible and easy to source** (but brokers may be required for unbundled GOs)

Corporate sourcing of renewable electricity: main barriers



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Main barriers: renewable electricity

- Policy uncertainty
 - **Changes in regulated components** of the electricity price
- Regulatory barriers
 - Rules change too fast and are quite different across Member States
 - **Compensation for indirect EU ETS costs** in Germany
- **Perceived barriers** (mostly by companies that are currently not sourcing renewable electricity)
 - Electricity costs/prices higher than grid electricity prices
 - Fluctuating nature of renewable electricity (e.g. wind and solar)
- **Cultural barriers**
 - Company preferring investments with higher returns
 - Limited awareness about available options and impacts on competitiveness

Specific barriers: self-generation

- **Regulatory barriers**
 - **Member State-specific** (land use and zoning rules, environmental permits, building codes, authorisation process)
- Risks stemming from **regulatory uncertainty**
 - Unclear legal provisions (national rules)
 - Changes in support schemes
 - Changes in taxation on self-consumption
- **Inadequate return on investment** (financial barriers)
 - Long pay-back period and high grid interconnection costs
- **Limited generation capacity** due to limited space available on-site
 - Private wires not allowed, tax on off-site generation
 - Need to rely on grid electricity (higher price due to lower consumption)
- **Variability/fluctuating nature**
 - Need to rely on grid electricity (higher price due to lower consumption)
- **Limited awareness by SMEs**

Specific barriers: RE PPA

- **Regulatory barriers**
 - Barriers to direct contracting between generators and buyers
 - Barriers to sign contracts with more than one generator/supplier
 - Barriers to transfer GOs to off-takers
- **Long contract duration and uncertainty of future electricity price development**
- Creditworthiness standards and/or **bank guarantees** (financial barriers)
- **Generous public support schemes**
- Electricity prices higher than grid electricity prices
 - Barrier mostly perceived by companies that have not signed a RE PPA
 - **Focus on wholesale electricity prices rather than generation costs**
- Variability of renewable electricity and **balancing costs**
 - Lack long-term hedging products required
- **Limited awareness and interest** (especially for SMEs)
 - High transaction costs and small electricity demand

Specific barriers: Unbundled GOs and green energy offers

- Electricity costs higher than 'standard' grid electricity prices
 - GO price on top of electricity price
- No price hedging
 - More variability due to GO price
- Lack of trust (**greenwashing and limited additionality**)
 - GOs from subsidised projects or legacy investments in hydropower
 - No premium offers
- Unbundled GOs
 - **Limits for consumers to buy and cancel GOs**
 - Unbundled GOs are **not so easy to source**
 - OTC, illiquid market
 - Inadequate framework to manage GOs
 - Limited trade for non EECS members

Preliminary policy recommendations



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Fostering corporate investments in RE technologies

- **Investment support** for self-generation/self-consumption in the form of grants, subsidised loans or tax deductions/credits
 - Lower payback period, higher returns
- **Energy taxation supporting self-consumption**
- **One-stop-shop** to authorise renewable installations
 - Lower transaction costs, increase time certainty
- Allowing for **private wires** for near-site renewable installations
- Supporting **research and innovation** projects in RE technologies (less mature technologies)
 - Lower generation costs and investment costs

Fostering corporate demand for green energy

- **Tax credits or exemptions** from (some) energy taxes for purchased renewable electricity
 - Lower green energy costs
- Mitigating price risk and uncertainty about future electricity prices
 - **Long term guidance for regulated components** of the electricity price
 - **Compensation for indirect EU ETS costs and RES levies**
- **Reconsidering the exclusion from ETS compensation schemes** of electricity-intensive companies wishing to source renewable electricity
- Introducing **competitive, market-based auction mechanisms for support schemes**
- Providing public supported guarantees for RE PPAs
 - **Lower costs for long-term bank guarantees** required to sign PPA

Fostering corporate demand for green energy

- **Encouraging cross-border PPAs**
 - Coordinating the development of cross-border transmission infrastructure and opening up existing networks to increased transmission capacity allocation
- Ensuring that **generators and off-takers can contract directly** with each other and that off-takers can have **multiple supply contracts**
- Facilitating the **transfer of GOs to off-takers**
- **Increasing trust in GOs and green energy offers**
- **Removing 'perceived' barriers**
 - Raising awareness of the available options and positive impacts on competitiveness
 - Removing ambiguities in the interpretation of rules affecting corporate sourcing of renewables

Fostering demand for green consumer goods/services

- **Raising awareness among consumers on the societal benefits of green energy**
 - Higher willingness to pay a premium price for green products
 - Creation of new green supply chains
- **Incentivising green consumption** via e.g. support schemes, tax discounts/deductions
- **Fostering green public procurement**



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Thank you for your attention.

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