

EFET

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Sharing the burden of an EU target of 20% renewable power production by 2020

Ideas for the reform and harmonisation of renewable energy support schemes in EU States

The European Council on 9 March 2007 reached an apparently historic agreement to set a binding 2020 target relating to the generation of electricity from renewable sources. The minimum percentage of renewable generation by that year, taken across the European Union, is set at 20%. The ambitious step of making the target binding, while at the same time leaving scope for differential means for achieving it among the 27 Member States, poses a clear challenge to the European Commission. In addition to the task of finding the modalities for sharing the 20% total burden, there is a pressing need for the Commission to bring forward proposals better to approximate renewable energy support mechanisms to the internal electricity market framework. (Some key energy regulators and energy ministries in Europe, including those in Germany, are already starting to evaluate reform measures with this latter purpose in mind.)

This paper attempts a first outline of ideas for how to facilitate burden sharing. The ideas are founded on principles, adherence to which participants in the wholesale power markets see as essential in a viable future process of reform and harmonisation. It also begins to examine the European-wide application of market mechanisms founded on those principles.

Before even describing our ideas, we state the objectives, which we assume should stand behind a renewable electricity legislative reform initiative at the European (or indeed EU Member State national) level.

Objectives

- Continuing to promote the generation of electricity by the use of renewable sources, so that an overall 20% target may be met across the EU by 2020
- Finding means which permit Member States to share the burden of meeting the overall EU target
- Bringing the physical sale and purchase of electricity produced from renewable sources into the mainstream of European power market liquidity at the wholesale level
- Minimising additional disruption to the management and operation of transmission grids from the arrangements for dispatching unpredictable power output from some sources of renewable energy

- Applying, at least in respect of new projects, market based mechanisms to the provision of financial support for renewable energy production
- In the meantime causing least disruption to the financing arrangements for already existing renewable energy projects, at least until they achieve pay-out to investors
- Harmonizing and later merging national schemes for the issuance and redemption of renewable energy related certificates, whether based on voluntary underwriting and purchase of guarantees of origin or on obligatory certificated supply quotas

Ideas for reform

- **Introduction of market mechanisms:**
This will be the most economically efficient way to reach sustainable levels of renewable energy supply and production across Europe. Modes of financial support linked to market appetite are already implemented in some Member States (e.g. Sweden, Italy, the Netherlands and the UK) today. Provided market mechanisms are properly applied, they will not only support investors' interests, but also encourage technological innovation. That in turn will lead to more efficient overall market pricing, improved choices for consumers and a superior potential for equitable burden sharing.
- **The preferred market mechanism - renewable obligation, or "green", certificates:**
The potential transfer of each GHG emission related permit, or eligible reduction credit, in the EU Emissions Trading Scheme (ETS) leads to a cost-effective reduction of greenhouse gases, because a contributory technical abatement measure may then be taken by the company that can achieve the greatest mitigation effect at least additional cost. The same principle should apply in relation to the lowest cost means of renewable power production.

It is to be emphasized that the subsidy for the energy must in this case be uncoupled from the physical means by which the electricity is distributed. Only a trade in certificates that is separate from physical trading in electricity will develop the requisite flexibility and volume. Normally a minimum renewable quota requirement for all electricity suppliers within one Member State will constitute the means to give the certificates an intrinsic value at national level. (But a carbon reduction component could be attached to each certificate, if this is allowed later under the EU ETS – see below.)

As soon as is politically feasible, and in any case before 2010, each European government will need to legislate for its own quota scheme and for the trading of certificates related to the quota.

- **Creating a European wholesale market for "green" certificates:**
Transfers of renewable production incentives or obligations are unlikely

to be achieved in an ultimately economically efficient manner, unless a “wholesale” marketplace in the appropriate instruments is accessible to all generators and suppliers across the EU. The European Union must thus legislate for mandatory mutual recognition, by 2012 at the latest, of transfers of internationally compatible (even if nationally issued) renewable production certificates.

- **Signalling an expected EU-wide market equivalent level value for national supports for new projects in a transition phase:**
In a phase of transition towards mandatory certificate schemes, it will be desirable for Member States to agree, or for the European Commission to acquire powers to insist, that national levels of new investment or feed-in support are approximated (by 2010 at the latest) to the expected market value of the “green” certificates, which would be issued under a putative harmonized European wide scheme (post 2012, as indicated above). Such approximation, based on advance modelling of the putative European scheme, could help align the level of monetary investment subsidies with the expected price signals, upon which the burden of the EU-wide realisation of the renewable production target for the next phase (2010 - 2020) could be economically shared.
- **Transitional arrangements for existing subsidies:**
In a parallel transition towards market mechanisms it will be desirable to mitigate the market and grid management distorting effects (at least nationally in a first phase) of especially feed-in support (and to a lesser extent other direct investment subsidy) regimes, by replacing current “must take” arrangements with a measure of “take-or-pay” discretion. (We recognize this may require primary legislation in some Member States, as well as the re-writing of procedures for TSOs to absorb and redistribute renewably generated power across their grids.)

Over the same transitional period TSOs will need to start volunteering to regulators and to wholesale power market participants much fuller information about the dispatching of renewable generation sources, especially wind farms, and about resulting network flows. Regulators will need to monitor how any “take-or-pay” discretion on the part of TSOs or of incumbent suppliers is exercised. Market participants must all have access to information about the criteria and timing for dispatch of renewable units in real time, so as to maintain a level playing field. If any high voltage transmission capacity at potentially constrained points on the inter-connected grid is not allocated by a TSO owing to renewable output contingencies, all market participants, regulators and other TSOs will need clear and timely information as to how and why the reservation of capacity is claimed.

In the meantime both renewable power generators and TSOs need to be encouraged to help each other, themselves and the whole market, by making greater use of smart technology to accommodate unusual

surges or drops in output. Examples of potentially useful technologies for this purpose are remote meters, AC/DC converters, and turbine operational flexibility (to permit faster ramp rates or frequency changes).