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THE FUTURE OF SUPPORT POLICIES FOR RENEWABLE ELECTRICITY – QUO VADIS, EUROPE?

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It is the European Union's objective to increase the share of electricity produced from renewable energy sources to 21 % in the EU-25 (22% in the EU-15) by 2010. This is the core element of Directive 2001/77/EC, which requires the Member States of the EU to apply appropriate instruments in order to achieve the national targets for RES in the electricity sector. The choice of instrument is left largely up to the Member States themselves. However, Articles 3 and 4 of the Directive provide for a monitoring system which observes the development in the individual Member States. If it can be anticipated that national targets will not be reached, it is then possible for the Commissions to request a Community framework for regulations promoting electricity from renewable energy sources (see Article 4 § 2 2001/77/EC). As provided for in the Communication of the EU Commission COM(2004) 366 and asked for by the Council (Energy) in its conclusions of 29 November 2004, further targets are then to be set in 2007 for the year 2020.

There are two main future policy options with respect to RES-E support in Europe: continuous *improvement of existing national policies* and *EU-wide harmonisation of national support schemes*. An intermediate step between optimised national policies and EU-wide harmonised RES-E support are *multi-nationally coordinated policies*. The major question arising is whether it is more adequate to rapidly harmonise the existing schemes EU-wide or whether a more gradual process passing through optimised national policies and possibly regionally coordinated policies is more suitable for the promotion of renewables.

Harmonisation of RES-E policies offers significant opportunities for cost reduction. These cost reduction potentials - typically derived from the RES-E market analysis based on techno-economic models - is mainly caused by two distinct effects:

- reduction of existing inefficiencies of national policies by replacing these national policies by one single harmonised policy which shows better intrinsic design properties than the individual national policies that existed originally.
- optimisation of resource allocation among different nations.

National optimisation of policies occurs through the removal of national barriers and optimised promotion schemes which are better adapted to the individual renewable energy source. Examples for the possible optimisation of the design of existing policies are the restriction of the duration of support, the distinction between new and existing capacities, and band specific stepped support schemes to reduce producer profit.

In this paper we show the results of selected simulation runs based on the computer model *Green-X*. These outcomes are based on recent research activities – namely the European research project “OPTRES - Assessment and optimisation of renewable support schemes in the European electricity market” (with support from the European Commission, DG TREN, CONTRACT N°: EIE/04/073/S07.38567) and the project “Monitoring and evaluation of policy instruments to support renewable electricity in EU Member States” (funded by the German Federal Ministry for the Environment, Funding label: 203 41 112).

The results suggest that the most significant efficiency gains1 can be achieved through an optimisation of national RES-E support measures already. Further efficiency improvements at a considerably lower level are possible by an EU wide harmonisation of support schemes provided that a common European power market exists. On the way to an EU wide harmonisation the regional coordination represents an essential step, half of the additional cost benefits of an EU-wide harmonisation as compared to the nationally optimised schemes can be tapped through a regional coordination already. If a harmonised policy is pursued, a technology specific support is superior to non-technology specific support with respect to cost minimisation. Generally one should also consider that a premature EU-wide harmonisation can hamper the national optimisation process as well as the overcoming of non-economic barriers at Member State level and can lead to significant market distortions if power markets are not fully liberalised. In addition, there is additional benefit from the competition of non-harmonised systems during some time as the promotion schemes can learn mutually from each other.

On the path towards an EU-wide harmonisation the following steps are suggested by the present analysis:

- Diminish the key barriers for RES-E development in each Member State
- Set long term targets on EU level
- Set correct framework conditions for conventional power markets (full liberalisation)
- Set minimum design criteria for support schemes (generic and instrument specific)
- Start regional coordination of RES-E markets, e.g. Nordic TGC market
- Full EU-wide harmonisation

[1] measured in terms of premiums necessary to support renewables