

# EU policy for renewable sources of energy – implications for producers and basic industries

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## *Summary*

The objective here is to explain, at least tentatively, the EU policy outcome for renewable energy in terms of level of “differentiated treatment of actors,” notably producers and basic industry consumers. To what extent is there differentiated treatment and how can it be explained? There are three important dimensions under this overarching point of departure and hence dependent variable. Is the “differentiated treatment of actors” mirrored in the subordinate dimensions “differentiated treatment” of *energy carriers*, *renewable energy sources*, and *member states*, respectively? A multi-level analysis approach will be used, focusing on the EU-level but including sub-levels, mainly the national level, as well as the EU-external level. For example, it is likely that producers as well as consumers have resisted RES-E policy at the EU level for fear of unwanted competition and higher prices, respectively. To what extent were they able to influence the policy outcome relative to other actors? Tentatively, “differentiated treatment” is likely to be more explicit at the national level but yet visible at the EU-level.

## *Background issues*

In March 2007 the European Council decided on an overall binding 20% renewable energy target for the EU by 2020. A framework Directive on Renewables is now being negotiated which will contain national targets and oblige Member States to implement sectoral targets for the electricity, heating/cooling and the biofuel sector.

As there is no legal basis for energy in European treaties, policy for renewable sources of energy (RES-policy) has been driven by other EU competencies such as environmental policy and competition policy. The key document and a landmark shaping current RES-policies is the 1997 White Paper for a Community Strategy and Action Plan (EC COM(97)599).

Although the White Paper contained little concrete policy it preceded and laid the foundation for the Directive on renewable electricity (2001/77/EC) and the Directive on biofuels (2003/30/EC). There is also policy interplay between RES-policy and European innovation, agriculture, waste, environmental and climate policy as well as internal energy market policy.

For the purpose of CANES WP1 which focus on the EU policy outcome based on the period 2002-2007 it may be useful to reflect briefly on renewable sources of energy (RES) in a Nordic context. The importance ascribed to different renewable sources of energy depends on geographical location and time perspective (where solar power and hydrogen is central in the long term and at lower latitudes). Important renewable energy sources in a Nordic medium-term context include wind, biomass, hydro, and solar/geothermal energy. Wave energy is also potentially important. Solar energy for active heat and electricity production is less relevant in

a Nordic context but the use of ground source heat pumps for upgrading solar and geothermal energy is an exception. The operation and expansion of hydro power, also considering adaptation to more precipitation and warmer winters, appears to be governed mainly by national regulation and permitting procedures and is generally not included in policies targeting *new* renewable energy sources. However, integration of intermittent wind power may have considerable implications for the operation of hydro power systems and makes it important to consider also large hydro.

*It seems appropriate, in the context of CANES, to focus the analysis mostly on wind, biomass, hydro and heat pumps.*

Harmonisation of policy for electricity from renewable sources (RES-E) has become important through the development of the internal electricity market. The market for heat (and cooling) from renewable sources (RES-H/C) is much more local although the development of international trade in pellets and other biomass fuels will result in increasing spill-over of the effects of policy between member states. Increasing demand for transport biofuels has implications mainly for agriculture in a 10-20 year time frame. Policy stimulating demand for methane from renewable sources should not be ruled out (biogas and synthetic natural gas (SNG) from thermal gasification, hereafter called RES-G. This may include RES hydrogen and hythane).

*It seems appropriate that we focus mainly on electricity and heat/CHP, and to some extent gas*

*It seems appropriate that we focus mainly on the demand and competition for forestry resources (although recognising that biofuels policy may reduce the availability of biomass from agriculture)?*

*It seems appropriate to consider also biofuels to the extent that it is relevant for electricity, heat/CHP and gas through resource competition and, or, synergies (N.B. also that natural gas was an important option in the process leading to the biofuels directive)?*

We have not found any comprehensive in-depth analyses of how current EU RES-policy was shaped and influenced by stakeholders and member states through our initial literature searches. An overview of the policy context and the formulation of the directives on electricity and biofuels is presented by Jansen and Uytterlinde (2004). There is, on the other hand, a relatively extensive literature on the efficiency and effectiveness of RES-policy instruments (i.e., quota based, feed-in, and auctioning systems) and some analyses of RES-policy formulation at the member state level.

### ***Differentiated treatment of actors***

For the overall objective of the CANES project to *improve our understanding of how investment patterns in Nordic energy systems are and will be affected by political change aimed at mitigation of and adaptation to climate change* it is suitable to focus the WP1 analysis of the EU-level policy outcome (our dependent variable) on the differentiated treatment of actors, namely power producers, industry and network operators. However, the complexity of renewable energy in terms of energy carriers, renewable source geographical distribution of resources and the interconnectedness and interplay between them makes it useful to structure the analysis also along three other dimensions of differentiated treatment:

- Is there differentiated treatment of energy carriers (electricity, heat, transport fuels, gas)?
- Is there differentiated treatment of renewable energy sources (hydro, biomass, wind, geothermal, solar, etc.)?
- Is there differentiated treatment of member states (due to availability of resources and current use)?

A first analytical step is to establish the “facts” in terms of how the Directives and associated documents suggest, or allow for, differentiated treatment, or by their very existence lead to differentiated treatment (as is clearly the case for energy carriers). Is the differentiation intended or unintended? This analysis will concentrate on examining the intervention theory underlying the policies and its supporting argumentation in the official policy documents.

### ***Multi-level analytical approach***

Although focusing our analysis on the differential treatment of actors there is also a subordinate three-dimensional outcome variable as suggested above – this disaggregation is important because different energy carriers and energy sources are connected to different actors and different member states. Because this broadens and complicates the study we will therefore probably have to play down the explanatory ambitions somewhat. Nonetheless, to the extent that there is differentiated treatment of actors we will explore along the lines suggested for the other policy areas (i.e., European Trading Scheme, state aid, and infrastructure policy) whether there were powerful coalitions in the Council, the role of the Commission and the EP, the role of interest groups, etc and to what extent we can make use of different explanatory frameworks surrounding the importance of both ideas-based and interest-based politics in terms of how industries are influencing and shaping the policy agenda. Our primary focus is on the EU-level but a multi-level approach, including explanatory factors at lower (e.g., national) and higher (e.g., global) levels will be applied. This analysis will rely primarily on the study of official policy documents, interest group publications, and informant interviews among different stakeholders. These explanations are likely to be tentative or indicative rather than conclusive.

### ***A few observations on differentiated treatment of actors***

For producers we can distinguish between incumbents (mainly large power and gas companies) and new (or semi-new) actors such as cooperatives and developers (for wind), industry (e.g, the Statkraft-SCA wind project as well as cogeneration in industrial plants), small energy companies (cogeneration and wind), etc. In most (all?) countries, basic industries have been exempt from paying for more costly green electricity. Was increased cost for industry a concern when formulating the policy or is it a result of subsequent processes at the member state level? It is reasonable to hypothesize that the RES-E Directive was seen as a threat or problem by both producers and large industrial consumers. One effect of RES-policy is the competition for resources, notably biomass. It is interesting to note how rapidly the biofuels directive got entangled in agricultural policy and concern for food prices. In contrast, was the voice of the forestry industry, which is a relatively small branch in Europe, raised at all on the issue of wood prices and was it listened to? Integration of intermittent sources has effects on the operation of other power plants as well as the development and operation of the grid. Wind energy on Jutland with HVDC connections to Norway is a case in point.

### ***A few observations on differentiated treatment of markets for energy carriers***

Different energy carriers certainly get differentiated treatment in the RES-policy thus far. The directives have targeted green electricity and biofuels for transport whereas gas and heat are not yet included (although the Buildings and CHP Directives may have some bearing on RES-H/C). Methane can be produced through anaerobic digestion as well as thermochemical conversion of organic material. Yet, there is little, if any, trace of concern for developing green gas policies. RES-H appears to be more prevalent in the Brussels policy debate but is not yet targeted by EU policy. Explaining the current differentiation between energy carriers may be important for understanding the prospects for different future RES-policy developments.

### ***A few observations on differentiated treatment of renewable energy sources***

It seems that renewable energy sources in the context of RES policy are taken to mean mainly wind power, biomass, solar PV and solar thermal power. Heat pumps are seen as a problem in many countries (leading to increased electricity demand) and a solution in some countries (leading to lower electricity demand). There has been a lively debate on the classification of biomass and waste. To what extent is the differentiated treatment intended or not, and what influenced the differentiation? The European Commission seems sympathetic to ostensibly technology neutral policies such as quota based systems whereas some countries favour and defend the use of feed-in tariffs with clearly intended differentiation of renewable energy sources.

### ***Differentiated treatment of member states***

One additional issue is the differentiated treatment among member states. This is particularly accentuated in the burden sharing under the Kyoto Protocol where the Triptych approach was used to as a basis for allocating emission reductions among the member states, resulting in targets that range from considerable increases in emissions (e.g., Greece) and considerable decreases (e.g., UK and Denmark). On the other hand, the Biofuels Directive sets the same target for all member states (5.75% for 2010) and so does the Energy Services Directive (ESD) which has an indicative target of 9% savings by 2016 (N.B. that ESD allows member states to take credit for savings that result from policies that date back before the directive – effectively a form of differentiation). The RES-E Directive also differentiates between member states (and Sweden resisted the indicative target originally assigned). To what extent does the outcome in this case reflect the position of the actors?

### **References:**

Jansen J.C. and Uytterlinde M., 2004, “A fragmented market on the way to harmonisation? EU policy-making on renewable energy production,” *Energy for Sustainable Development*, Vol. VIII, No. 1.

### **Notes:**

Interview the former Dane in the commission on RES-policy and biofuels (Jorgen Henningsen, retired).

Sven Olov Ericson (Ministry of Industry, formerly Vattenfall), Björn Telenius (SEA) were both involved in the biomass action plan.

Interviews in Brussels to be coordinated with other WP1 papers; EC DG TREN; DG ENV, Eurelectric, European Parliament, etc.