

Electricity produced from renewable energy sources— What target are we aiming for?

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Abstract

In 2001, the European Commission (hereafter “EC”) formulated an ambitious target of 21% of total community electricity consumption to be generated with renewable energy sources by 2010. Moreover, national indicative targets per Member State were specified. In practice, the latter are implemented in all Member States as national production targets, achievable exclusively through an increase of the domestic production of electricity produced from renewable energy sources (hereafter “RES-E”). However, in this article it will be shown that this is not in line with the EC’s intent. Looking at the legislative process resulting in the Directive on the promotion of RES-E, it is demonstrated that instead the EC aimed for European trade in renewable electricity through national consumption targets.

It is shown that the legislative process has resulted in confusion on both the nature (absolute or proportional figures) and the subject (consumption or production) of the RES-E targets that are being aimed for. Despite the EC’s attempt to clarify this confusion, the reality of national production targets remains, hindering the attainment of the European RES-E target in the most cost-efficient manner.

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1. Introduction

In September 2005, the European Parliament started the debate on post-2010 targets for electricity produced from renewable energy sources (hereafter “RES-E”) by calling for an ambitious mandatory target for RES-E in gross inland electricity consumption of 35% by 2020 (European Parliament, 2005). As input for this debate, this paper discusses how renewable energy source (hereafter “RES”) targets have previously been set and implemented, arguing that lessons should be learned from this past experience. In the light of the conclusions of the Council meeting of 8 and 9 March 2007, which agreed on a “binding” target of 20% share of renewable energies in the overall EU energy consumption by 2020, these lessons could be of importance for the future regulatory framework.

In 2001, a European Directive was adopted to promote RES-E (Directive 2001/77/EC, hereafter “RES-E Directive”). Herein, an ambitious target for RES-E was set for 2010. The aim is to produce 21%¹ of total community electricity consumption with RES by 2010. Moreover, national indicative targets per Member State were specified in the Annex to the RES-E Directive.

In order to attain these targets, the Member States implemented various support schemes. However, despite this multitude of support schemes, the European Commission

¹The initial target defined in the Directive of 22.1% for the EU-15 has become 21% for the enlarged Union (EU-25). National indicative targets for the 10 new Member States are included in the Accession Treaty. See the Act concerning the conditions of accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic and the adjustments to the treaties on which the European Union is founded; the Annex II list referred to in Article 20 of the Act of Accession, 12 Energy, A General, 8, OJ L 236 (23 September 2003).

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(hereafter “EC”) reported already in 2004 that the 2010 RES target would probably not be achieved. Currently implemented policies are expected to result in a percentage between 18 and 19 by 2010, instead of the desired 21% (COM(2004)366, hereafter “the 2004 Communication”). The 2004 Communication blames the disappointing growth of the biomass sector, staying far beneath expectations, as one of the main reasons for this failure. In Rowlands (2005), the development of the RES-E Directive was discussed, illustrating that its coming about was a very difficult political process which only resulted in a Directive after many compromises were agreed upon. In this paper, the authors illustrate that this lack of determined choices has left room for misinterpretation. It will be shown that as a result thereof, the national targets were implemented in a manner that is not in line with the spirit of the RES-E Directive, which hampers their attainment.

These targets are defined in the Annex to the RES-E Directive as national indicative targets for the contribution of electricity produced from RES to gross electricity consumption. Consequently, they are implemented in all Member States as national production targets, achievable exclusively through an increase of the domestic production of RES-E. It will be shown in this article that this is not in line with what the EC intended when drafting the RES-E Directive.

First, the importance of RES-E support is demonstrated by a description of its relevance within the ambitions of the EC in the energy field. A theoretical framework on target definition is presented next. Then, the development of the European RES-E target is discussed in view of this framework. Finally, the spirit of the Directive is discussed.

2. Contribution of RES-E to Europe’s energy ambitions

As will be shown in the final section of this article, developing European and national RES-E targets has been a long and complicated legislative process. The necessity of this process is now discussed by demonstrating the beneficial results of RES-E targets for Europe’s ambitions in the field of energy. First, two requirements imposed by the RES-E Directive to promote RES technologies, namely support schemes and guarantees of origin (hereafter “GoOs”), will be described. Next, the heavily debated harmonisation of RES-E support schemes is situated, followed by a discussion of the European RES-E approach within the three pillars of the European energy approach, namely sustainability, security of supply (hereafter “SoS”) and competitiveness.

2.1. Support schemes and guarantees of origin

To pursue the national indicative targets, the RES-E Directive states that “Member States shall take appropriate steps to encourage greater consumption of RES-E” (although the national indicative targets are in the end

defined in the Annex as production targets, as will be discussed in Section 5). Therefore, four requirements² are laid down in order to contribute to stable investment conditions for RES-E generation. First, Member States are free to implement support schemes by which an RES-E generator receives direct or indirect support, as long as they do not conflict with the state aid principles of the Treaty. Although this requirement is not formulated as an obligation, the legal interpretation can be accordingly. Regarding the choice of support, the EC until now refrained from imposing a harmonised support mechanism. This has resulted in a patchwork of different national support schemes throughout Europe.³

In general, a tendency towards the usage of feed-in tariffs and tradable green certificates (hereafter “TGCs”) can be noted. In the first system, network operators pay guaranteed long-term minimum prices to RES-E generators, often combined with an exemption of balancing costs. In a system of TGCs combined with a minimum quota obligation, end-users⁴ yearly have to hand in sufficient certificates to prove that a certain share (imposed by the quota obligation) of the electrical energy sold was generated using RES. For each missing certificate a fine has to be paid. Supply of certificates is created by issuing them to RES-E generators. Both systems are said to have advantages as well as drawbacks. The discussion on which support system is best is, however, outside the scope of this article.⁵

Secondly, the RES-E Directive requires that by 27 October 2003 at the latest, producers must be enabled to demonstrate the origin of RES-E as such by the issuance of GoOs. These are said to be necessary in order to facilitate exchanges of RES-E and to increase consumer transparency. GoOs must be mutually recognised by the Member States, exclusively as proof of the electrical energy’s origin (RES-E Directive art 5.4). Consequently, it should be noted that their exchange does not necessarily imply a right to benefit from national support mechanisms established in another Member State. The Directive does not require Member States to recognise foreign GoOs (or the corresponding purchase of electrical energy) as a contribution to the fulfilment of a national target, and so GoOs should be clearly distinguished from TGCs. Nevertheless, GoOs could be used for target counting on condition that the exporting country explicitly accepts on the GoO that the

²The two final requirements, namely the removal of administrative barriers on the one hand and guaranteed, possibly even priority, access of RES-E to the transmission and distribution grids on the other hand, are outside the scope of this article.

³An overview of the different schemes used for the promotion of RES-E is, for example, given in Egenhofer and Jansen (2006), Meyer (2003) and Reiche and Bechberger (2004).

⁴For practical reasons this obligation is usually not imposed on consumers but on electricity suppliers or distribution companies.

⁵For a discussion of feed-in tariffs versus tradable green certificates, the authors refer to, for example, Butler and Neuhoff (2005), Midttun and Gaudesen (2006), Lauber (2004), Menanteau et al. (2003), Mitchell et al. (2006) and Ringel (2006), among many others.

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