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Title:

Forecast Document on Attaining the Target Share of Renewable Energy Sources in Gross Final Energy Consumption in the Republic of Latvia by 2020, pursuant to Article 4(3) of Directive 2009/28/EC

Riga, 2009

Introduction

Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (RES) and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Directive 2009/28/EC) came into force on 25 June 2009. The Directive aims at establishing a common framework for the promotion of energy from renewable sources by setting mandatory targets for the overall share of energy from renewable sources in gross final consumption of energy and for the share of energy from renewable sources in transport.

Pursuant to Article 4(2) of Directive 2009/28/EC, Latvia must notify its national renewable energy action plan to the Commission by 30 June 2010. In drawing up their national renewable energy action plans, Member States are obliged to use the template prepared and adopted by the Commission.

Pursuant to Article 4(3) of Directive 2009/28/EC, each Member State is to publish and notify to the Commission a forecast document, six months before its national renewable energy action plan is due. The forecast document must include the estimated excess production of energy from renewable sources compared to the indicative trajectory which could be transferred to other Member States as laid down in Article 4(3)(a) and estimated demand for energy from renewable sources to be satisfied by means other than domestic production until 2020, as laid down in Article 4(3)(b).

1. Contribution of Renewable Sources to Energy Consumption in Latvia

RES will have to play an important part in Latvian energy and climate policy by 2020. The task of RES is not only to increase self-sufficiency in energy and thus limit dependence on imported energy, but also to make a significant contribution to reducing greenhouse gas emissions.

The share of RES in Latvia's energy supply has always been important. In 2008, it accounted for **29.9%** of the total final consumption of energy. The rapid increase in final energy consumption and the slow development of new RES projects has reduced the share of RES by 2.6 percentage points in comparison to 2005.

Using the method set in Directive 2009/28/EC for calculating the target share of RES in the final consumption of energy in Latvia in 2008 was made up of **6%** RES-E normalized, **23.9%** RES-H and **0%** RES-F.

RES-E amounted to 36.9% of the of total final power consumption and of this, a crucial proportion (over 97%) was generated by the large hydro plants. The rest came from wind, biogas and small hydropower plants. More than half (68.6%) of RES is provided by RES - H (including RES-DH).

As regards the potential and possible future contribution of specific RES types, the main sources are solid biomass, in particular wood, biogas and hydropower.

2. Forecast of Final Energy Consumption

Rapid growth in the economy between 2005 and 2007 was followed by an increase in energy demand. At the end of 2008, the economy went into downturn and continued declining in 2009, which necessitates corrections in the previous forecasts and makes it difficult to estimate energy demand by 2020.

The forecast of final energy consumption includes estimated benefits derived from energy efficiency and energy savings measures scheduled for implementation in during the period covered by Latvia's First Energy Efficiency Action Plan 2008-2016 (FEAP). The reference scenario takes into account only the energy efficiency and savings measures adopted before 2009. The additional energy efficiency scenario takes into account all measures to be adopted and implemented after 2009.

For all subsequent calculations of the RES target, the additional energy efficiency scenario is used.

Figure 1. Forecast of Final Energy Consumption by 2020 broken down by Sector, PJ (Additional energy efficiency scenario = Reference scenario - energy savings from FEAP. Energy savings after 2016 estimated by linear extrapolation)

Legend:

Savings - interpolation

Savings according to FEAP

Electricity (E)

District Heating (DH)

Other Heat Supply (H)

3. Estimate of Energy from Renewable Sources

The RES targets for 2020 can be attained through alternative scenarios, with different proportions of RES-E, RES-H and RES-F contributing to the overall target. This document presents one of the possible scenarios, which will be developed in more detail in the national RES action plan, indicating the potential costs and benefits.

Figure 2 below illustrates the indicative trajectory (continuous yellow line) of renewable energy output, calculated using the indicative trajectory formula laid down in Annex I of Directive 2009/28/EC.

Figure 2. Indicative Trajectory of Energy from Renewable Sources .

Legend:

RES%, set by the Directive

RES% lin

RES% growth

Trajectory - mathematical estimate

Energy efficiency policy and the implementation of comprehensive measures will have a positive impact on the attainment of the RES targets. According to the analysis (see Fig. 3), the RES indicative trajectory without energy efficiency measures falls short of the target by about 4 percentage points.

Figure 3. Indicative Trajectory of Energy from Renewable Sources in the Reference scenario and the Additional energy efficiency scenario

Legend:

RES%, Additional energy efficiency scenario

RES% Reference scenario

As already described, the RES targets for 2020 can be reached through alternative scenarios with different combinations of contributions from RES-E, RES-H and RES-F to the overall target. Given Latvia's specific circumstances, district heating accounts for a significant proportion of heat supply, therefore the share of RES-DH is indicated separately. Figures 4 and 5 reflect the contribution of each type of RES towards the overall target.

Table 1. Total Final Energy Consumption in 2008 and Forecast for 2020

	2008		2020	
	Total energy, ktoe	RES, ktoe	Total energy, ktoe	RES, ktoe
Electricity	655	259	764	437
Heat	2408	1035	2673	1438
Transport	1268	8	1472	133
Total final energy consumption (EU definition)	4330	1296	4909	1964

Figure 4. Total Renewable Energy Target broken down by Type of RES

Legend:

RES-F

RES-H

RES-DH

RES-E (normalised hydro)

Figure 5. Total Renewable Energy Target broken down by Type of RES, PJ

Legend:

RES-F

RES-H

RES-DH

RES-E (normalised hydro and wind)

The RES target of 40% is unequivocally challenging and will require additional support programmes and financing. The analysis shows that the existing national RES policy in line with the Energy Development Guidelines for 2007-2016 and the Cabinet Regulation on Support for Renewable and CHP Energy Production will not be sufficient to attain the RES target laid down in the Directive (see Fig. 6). Although Latvia has a national legislative framework for the use of renewables in electricity and heat production and implements various energy efficiency activities using resources from the EU Structural Funds, as an EU Member State it has to develop and regularly assess the effectiveness of the national RES policy.

Therefore, an action plan and additional support measures will be needed to promote a more extensive use of RES in the long term.

Figure 6. Road to Attaining the Renewable Energy Target by 2020

x axis: 2008; 2020 under the current policy; 2020 with an additional policy

4. Attaining the Renewable Energy Target in Latvia and the Assessment of Joint Projects from now until 2020

According to the main scenario, Latvia will attain the RES target of 40% in 2020 mainly on the basis of the RES potential available in Latvia, without making use of the additional mechanisms provided for in Directive 2009/28/EC. The scenario does not envisage any excess as compared to the indicative trajectory which could be transferred to other Member States in accordance with Articles 6 to 11 of Directive 2009/28/EC.

Potential joint projects in Latvia could concern power generation from biomass or wind. Since the joint project implementation mechanism and the possible distribution of the benefits among project partners is not yet entirely clear, it is difficult to estimate the size of the potential projects and the technology groups involved. However, Latvia is open to implementation of these projects, unless they hinder attainment of the national RES target or lead to the inefficient use of RES.

Latvia is open to the implementation of joint projects proposed in Directive 2009/28/EC, provided they comply with the following principles:

- only a limited part of the RES target of Latvia can be attained through joint projects, so that they do not reduce the national RES potential in future;
- any statistical transfer of RES must be based on bilateral agreements between the Republic of Latvia and another country;
- the use of flexible mechanisms must offer the opportunity of reducing the total costs of attaining the RES target in Latvia;

- implementation of joint projects must not affect the form and size of the national RES support schemes.

(signed)