Governance of Renewable Energies in the EU

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Abstract: *For European Union the promotion of energy from renewable sources is an essential part of its energy policy, which contributes largely to the implementation of the Strategic framework of Energy Union. The new regulatory framework after 2020, which was proposed by the European Commission as a part of the "Clean Energy for All Europeans" package is based on the experience gained under the existing Renewable Energy Directive. The new regulations package aims to further strengthen the renewable energy resources policy and to maximise the use of these resources in buildings, transport and industrial sectors. The article presents the governance of renewable energies in the European Union, with a focus on 2009/28/EC Directive and its revision. Also, for each EU Member State it is analyzed the share of energy from renewable sources in the final energy consumption. In the final part of the article, the regulation of the European Parliament and the Council on the governance of the Energy Union and the progress report in the area of renewable energies are being exhibited.*

Keywords: *renewable energy sources, energy efficiency, policies, greenhouse gases emissions.*

JEL classification: *Q20, Q28, Q42, Q47*

1. Considerations regarding the current legislative framework

1.1 Introduction

The objective of the Renewable Energy Directive (Directive 2009/28/EC) is to achieve a gross final consumption of 20% from renewable sources in the EU by 2020, and for this objective there have been established compulsory national targets for each Member State, which had to be achieved by the end of the year 2020, while additional intermediate targets were to be met along the way. The Directive provided the task for the Member States to adopt mandatory global national targets consistent with a 20% renewable energy target in the EU's gross final consumption in 2020. The gross final energy consumption from renewable sources expresses the total share of energy actually consumed by each Member State in different sectors, for example: heating/cooling, electricity, and biofuels/bioliquids.

In addition to the national targets, each Member State had to elaborate a National Action Plan on Renewable Energy, which shows the way in which national compulsory targets are to be achieved. This includes the presentation of the share of renewable energy sources from different sectors (e.g. transport, electricity and heating/cooling), as well as establishing the targets for each sector. National general targets have been calculated and listed for each Member State in Annex I to the Directive, together with an indicative trajectory in relation to which each Member State must measure its progress in different periods of time. The Renewable Energy Directive does not recognize the different starting points and individual potential of the EU Member States, so the Directive allocates different targets for renewable energy for the Member States. In addition, the action plans of the Member States allow a certain degree of flexibility in selecting approaches and areas of interest to facilitate the valorisation and development of the strengths.

According to Table no. 1 the largest share of renewable energy sources was recorded in 2015 in Sweden and the lowest in Luxembourg, Malta and the Netherlands. It is noticed that starting with the year 2004, the share of renewable sources in the gross final consumption of energy has increased significantly in 2015 in all Member States (22 of the 28 Member States). With more than half (53.9%) of the energy being produced from renewable sources, Sweden recorded in 2015 the highest share of renewable energy in total energy consumption, followed by Finland (39.3%), Latvia (37.6%), Austria (33.0%) and Denmark (30.8%). At the opposite end, the lowest shares were recorded in Luxembourg and Malta (both 5.0%), Holland (5.8%), Belgium (7.9%) and the United Kingdom (8.2%).

Table no. 1: Share of energy from renewable sources in final energy consumption for the period 2004-2015 (%)

Country	2004	2010	2014	2015	2020 Objective
Belgium	1.9	5.7	8	7.9	13
Bulgaria	9.4	14.1	18	18.2	16
Czech Rep.	6.8	10.5	15.1	15.1	13
Denmark	14.9	22.1	29.3	30.8	30
Germany	5.8	10.5	13.8	14.6	18
Estonia	18.4	24.6	26.3	28.6	25
Ireland	2.4	5.6	8.7	9.2	16
Greece	6.9	9.8	15.3	15.4	18
Spain	8.3	13.8	16.1	16.2	20
France	9.4	12.5	14.7	15.2	23
Croatia	23.5	25.1	27.9	29	20
Italy	6.3	13	17.1	17.5	17
Cyprus	3.1	6	8.9	9.4	13
Latvia	32.8	30.4	38.7	37.6	40
Lithuania	17.2	19.6	23.6	25.8	23
Luxembourg	0.9	2.9	4.5	5	11
Hungary	4.4	12.8	14.6	14.5	13
Malta	0.1	1	4.7	5	10
Holland	2.1	3.9	5.5	5.8	14
Austria	22.6	30.4	32.8	33	34
Poland	6.9	9.3	11.5	11.8	15
Portugal	19.2	24.2	27	28	31
Romania	16.3	23.4	24.8	24.8	24
Slovenia	16.1	20.4	21.5	22	25
Slovakia	6.4	9.1	11.7	12.9	14
Finland	29.2	32.4	38.7	39.3	38
Sweden	38.7	47.2	52.5	53.9	49
United Kingdom	1.1	3.7	7.1	8.2	15

Source: Eurostat, 2017

Each EU Member State has its own objective for the year 2020. National targets take into account the different starting points of the Member States, the potential of renewable energy and the economic performance. Eleven Member States have already reached the level of the national targets necessary to be achieved by 2020: Bulgaria, the Czech Republic, Denmark, Estonia, Croatia, Italy, Lithuania, Hungary, Romania, Finland and Sweden. In addition, Austria and Slovakia are at about 1 percentage point towards the objectives for 2020. At the opposite end, Holland (8.2 percentage points for achievement of the national objective), France (7.8 percentage points), Ireland and the United Kingdom (both 6.8 percentage points) and Luxembourg (6.0 percentage points) are the farthest from reaching the established targets.

1.2 Mechanisms supporting the use of energy from renewable sources

In addition to the compulsory targets for renewable energy and the established trajectories, the directive contained important mechanisms and measures to be implemented at both national and European level, in order to create favourable conditions or eliminate barriers to an increased energy share from renewable sources (According to European regulation (Directive 2009/28/EC). Member States would introduce effective measures

to ensure that the share of energy from renewable sources is equal to or greater than that indicated in the indicative trajectory set out in part B of Annex I of the Directive?. Such requirement demonstrates the obligation for the Member States to ensure favourable conditions for increasing the share of renewable energy by implementing the measures and mechanisms necessary for the achievement of intermediate targets. The action plans and the biannual reports on their implementation may be regarded as key instruments of the governance of renewable resources. Member States shall ensure that the final energy consumption estimated for 2020, together with a breakdown of the estimated share and the targets for the national sectors (electricity, transport, heating/cooling), including the trajectory and the indicative conditions for evaluation, should provide a detailed roadmap on how each Member State would attain the 2020 target of renewable energy sources. The action plans also require to Member States to indicate the measures taken to achieve the targets, which include policies, measures and mechanisms to be implemented. The action plans, together with the reports on their implementation, serve as a central mechanism or a reference point, from which their compliance and progress can be pursued, and which allows corrective actions. The European Commission has drafted a template and a guide to action plans, in order to ensure the harmonisation of their implementation in the 28 Member States, thereby facilitating the monitoring and reporting process.

Member States were obliged to formally present these national action plans by June 2010, and from 2011 once every two years, Member States must submit progress reports for their respective achievements on the promotion and use of renewable energy in accordance with the objectives and target requirements outlined in the action plans. At the same time Member States must provide reports on the implementation of other mechanisms, such as the abolition of administrative barriers to renewable energy use. Therefore, the plans, including reporting on their implementation, must serve as an important central platform, as they guide and monitor the implementation at national level of other mechanisms and measures (including the coordination between Member States).

Mechanisms aimed at flexibility and promoting intra-European coordination are:

1. Statistical transfers
2. Joint projects
3. Administrative procedures, regulations and codes
4. Guarantees of Origin
5. Network access and operation
6. Transparency Platform

The abovementioned mechanisms, including the action plan and the related reporting form, are an essential part of the directive, the simulation of their future implementation was important if the Directive wouldn't have been revised and extended for application after the year 2020. The successful pursuit of these different mechanisms depended on their implementation through the action plans and reporting their implementation by the Member States. The plans were to be carried out only until the end of 2020 and the bi-annual reporting by the Member States on the implementation of the Directive and on the action plans implementation will end in 2021. If the plans do not continue after 2020 it may be possible for the Member States not to comply with the targets to be achieved by 2020.

A continuation of the plans would therefore be necessary in order to cement the Community acquis in the EU renewable Energy Directive. Even in the absence of compulsory national targets after 2020, long-term planning is necessary to ensure the efficient development of renewable energy sources, in particular to reduce the uncertainties of policy in the field and their impact on the financing of this field. Maintaining the action plans in a given consolidated form with national energy efficiency action plans could be considered. A second point of interest is the disappearance of compulsory biannual reporting after 2021. The successful implementation of the mechanisms in the Directive depends, indirectly, on its reporting by the Member States Without access to these reports, the European Commission could no longer refer to their possible non-compliance/implementation by the Member States.

1.3 Compliance and control of the implementation

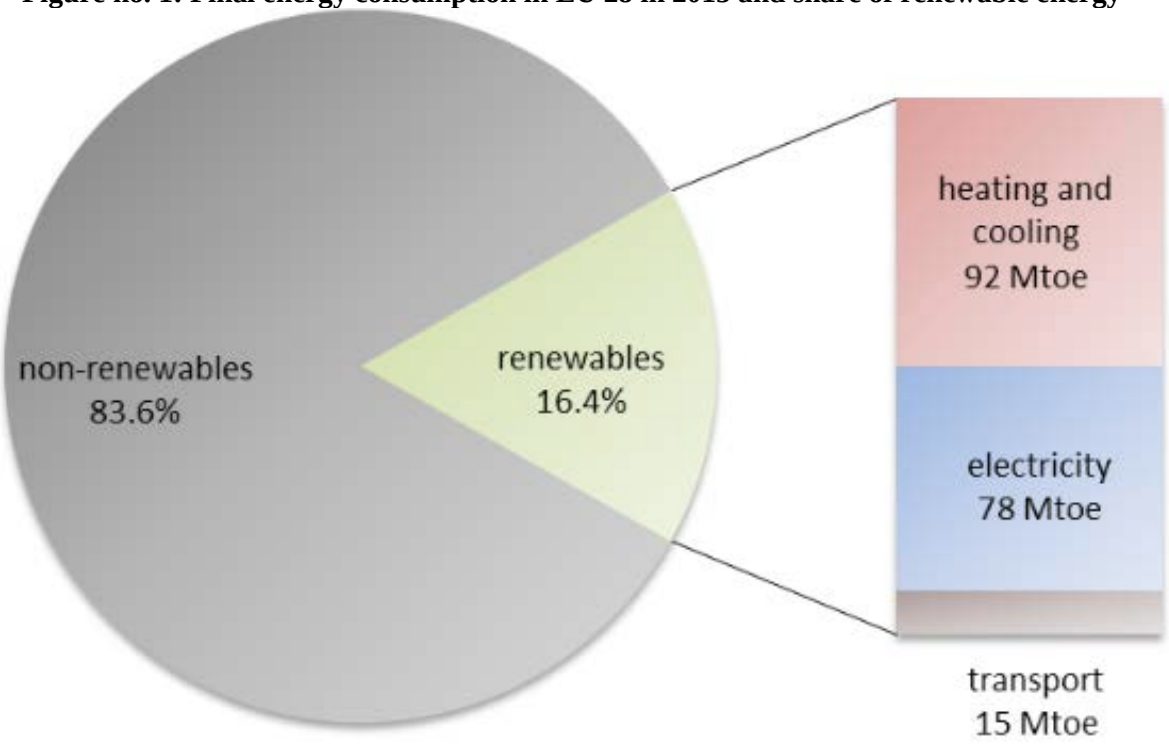
The mechanisms mentioned in the Directive are important tools to achieve the targets set for 2020, creating obligations for the Member States and facilitating the development of renewable energy sources through policies and measures that remove barriers and promote cooperation. Action plans serve as a roadmap to national targets to emphasize national policies and measures necessary to achieve the targets. Progress reports were intended to indicate which Member States are diverting from the established trajectory and to highlight failure in implementing measures.

The Directive did not introduce a strict application or a penalty mechanism that could be exercised directly on the Member States, which could affect the achievement of intermediate and compulsory targets for the year 2020. Therefore, there were limited options for the European Commission to oblige Member States to implement corrective or aid measures.

The conformity procedure stipulates that Member States which are not in a position to fulfil the intermediate objectives relating to their trajectories for renewable energy resources must submit a modified action plan. This new plan must be analyzed by the European Commission that may provide further recommendations for the necessary corrections, while the Member States are not obliged to follow these recommendations. The continued failure by Member States to comply with the obligations of the Directive could lead to infringement proceedings, which begin with the issuing of a reasoned opinion by the European Commission, followed by a referral to the Member State addressed to the European Court of justice (CEJ) and may culminate with the establishment of a lump sum or a periodic penalty payment, but due to the duration of the infringement proceedings, they are not the most effective way of inducing the change of national policy in the short term.

Despite delays in the transposition and implementation of the Directive, the EU Member States have seen significant progresses in the area of renewable energy, as the Commission's assessments have shown. However, the slow implementation of the Directive's mechanisms to facilitate increased use of renewable energy is a serious concern. The European Commission has noticed a slower pace than has been foreseen in specific areas, such as administrative procedures, improved network access and more favourable national support schemes. In general, progress reports after 2011 indicate that more effort needs to be made, particularly in promoting the measures and mechanisms necessary for the successful development of renewable energy and in order to strengthen the achievement of the EU objective for the year 2020. The 2017 report shows that the EU as a whole has reached a 16% share of renewable energy in 2014 and a quota of 16.4% estimated for 2015 (see Figure no. 1.). The vast majority of EU countries are on the verge of achieving their binding targets for renewable energy for the year 2020.

Figure no. 1: Final energy consumption in EU 28 in 2015 and share of renewable energy



Source: Öko-Institut (European Commission, Renewable Energy Progress Report, COM(2017) 57 final).

2 Revision of Directive 2009/28/EC

In November 2016 the European Commission adopted a revision of Renewable Energy Directive. The provisions are adapting the framework for renewable energy development to the 2030 perspective, provide

certainty and predictability to investors and address the potential of renewable energy in a number of sectors. The proposal identifies six key areas for action:

- Creating an enabling framework for further deployment of renewable in the Electricity Sector;
- Prioritizing renewable in the Heating and Cooling Sector;
- Decarbonising and diversifying the Transport Sector;
- Empowering and informing consumers;
- Strengthening the EU sustainability criteria for bioenergy;
- Making sure the EU level binding target is achieved on time and in a cost effective way.

3. The role of renewable energies in the transition strategy to a clean energy

The preparation of the revision of Renewable Energy Directive has been carried out in close coordination and complementary to other related initiatives of the Commission. This includes proposals on market design and the governance of the Energy Union, but also the revision of energy efficiency directives and the energy performance of buildings, the Emissions Trading System (ETS) and the regulation on the sharing effort, the LULUCF regulation and the bioenergy sustainability policy. These legislative acts complement each other with the revised Directive and will help the EU reaching, collectively and with effective costs, a share of at least 27% of renewables in final energy consumption by 2030, in order to achieve the EU's political priority to become the world's number one in renewable energies.

The market design initiative will facilitate the development of an adequate electricity market for renewable energies, where short-term markets are fully developed and integrated, and flexibility plays a key role in increasing the market value of renewable energies. This improved design of the electricity market, together with the strengthening of ETS, will be an essential foundation of framework 2030 for energy and will ensure that renewable energy-based generators can get a greater share of their revenue on energy markets. The revision of the Renewable Energy Directive will be based on this approach and will supplement it by introducing the various measures aimed at attracting the necessary cost effective and timely investments.

The governance of the Energy Union involves the integrated national energy and climate plans, which set out national contributions to the EU-wide binding target for RES. The governance of the Energy Union provides a cooperation between the Commission and the Member States to ensure ambitious and reliable national plans, including in the field of renewable energy, and also proposes different options for concrete measures aimed at reducing potential gap in the area of renewable energies in the EU. At the same time, the governance regulation simplifies and integrates the existing planning, reporting and monitoring obligations of the energy acquis, including that for renewable energy after 2020.

The Energy Efficiency Directive and the Energy Performance Directive for buildings aim both to facilitate the achievement of the energy efficiency target and to increase the energy performance of buildings. The provisions of the heating/cooling section are consistent and they complement the measures in both directives, in particular by addressing existing buildings, the tertiary sector and industry, and by including specific requirements for renewable energies.

The EU Emissions Trading Scheme (ETS) will be reformed for the period after 2020. Existing legislation includes the Market Stability Reserve to address the current surplus of quotas and to improve resistance to major ETS shocks by adjusting the quota offer to be auctioned. The consolidated Emissions Trading System (ETS) will play an increasingly important role in boosting investment in low-carbon technologies, including renewable resources, and will ensure that synergies between renewable energies and climate policies to be better exploited. In addition, *the Effort Sharing Regulation* makes proposals for the establishment of mandatory national targets to reduce greenhouse gas emissions for non-ETS and land use sectors, change of use of Land and Forestry (LULUCF). ***The LULUCF Regulation*** aims to integrate carbon and forestry credits and flows from agriculture and energy into the EU's energy and climate objectives for 2030. Reinforced, EU sustainability criteria will provide additional insurance that the bio energy used in the EU continues to contribute to climate change mitigation, while minimising the risk of unintended impacts on biodiversity caused by biomass.

4. Council Regulation on the Governance of the Energy Union

On 24 October 2014, the European Council agreed on the Energy and Climate Framework for 2030, on the basis of the European Commission's proposals, in its conclusions it is required to develop reliable and transparent governance in the field of energy. The European Council argued that energy governance should be

based on existing structural elements, such as national climate change programmes and national plans for renewable energy and for energy efficiency, as well as on the need to rationalise and ensure the convergence of separate planning directions at Member States leve.

The Energy Union Strategy launched on 25 February 2015 expanded the scope of energy governance beyond the established energy and climate Framework for 2030, at all five dimensions of the Energy Union: a) energy security, based on solidarity and trust; b) internal energy market; c) moderating demand or energy efficiency; ***d) decarbonisation, including the development of energy from renewable sources;*** e) research, innovation and competitiveness. The analysis of the situation of the Energy Union released on 18 November 2015 and the Commission guidelines for Member States on national energy and climate plans, annexed thereto, provided additional details and specified that governance should be anchored in Community and national legislation.

The conclusions of the Energy Council of 26 November 2015 acknowledged that governance would be an essential tool for the effective and efficient construction of the Energy Union and therefore between the Commission and the Member States there are periodic discussions in the technical working group on national energy and climate plans. On 15 December 2015 the European Parliament's resolution ”Towards a European Energy Union”' requested that the governance of the Energy Union would be ambitious, reliable, transparent and democratic while ensuring the achievement of the 2030 climate and energy objectives.

On this basis, the proposal for a regulation of the governance of the Energy Union aimed at establishing a regulatory framework in this area, with two main pillars: a) rationalisation and integration of existing planning, reporting and energy and climate monitoring, in order to reflect the principles of better regulation; b) defining a robust political process between the Member States and the European Commission, with the close involvement of other EU institutions, in order to achieve the objectives of the Energy Union, in particular its objectives for 2030 on energy and climate.

On 30 November 2016 the European Commission proposed in a Communication a new regulation on the governance of the Energy Union as a component of the "Clean Energy For All Europeans" package. The purpose of this regulation was to integrate and simplify the planning, reporting and monitoring of the obligations of the Member States and the European Commission, to facilitate the monitoring of overall progress and addressing weaknesses in the implementation, in particular the objectives of the Energy Union, EU targets for renewable energies, energy efficiency and greenhouse gas emissions set out in the climate and energy framework for 2030. Apart from national plans on energy and climate change and progress reports, the Commission's reform includes measures for public and regional consultation, the establishment of national and European registers and stocks on greenhouse gas emissions, as means of assessing the progress achieved in fulfilling the objectives of the Paris Agreement. A number of additional measures are also being taken into account, which the Commission may take to ensure that the EU's targets for renewable energies and energy efficiency are met.

In the Second Assessment Report on the state of the Energy Union published on 1 February 2017, the European Commission brings into question the issues of a system of governance for the Energy Union with the major contribution of the integrated national plans on energy and climate of the Member States, the draft of which was to be drawn up by 1 January 2018.

On 5 October 2016 the European Union ratified the Paris Agreement, which entered into force on 4 November 2016. The proposal of the regulation on the governance of the Energy Union which contributes to the implementation of the Paris Agreement, including the review at every five years, ensures that the monitoring, reporting and verification requirements under the UNFCCC and the Paris Agreement are harmoniously integrated into the governance of the Energy Union. The proposal for a regulation was prepared in parallel with the revisions made by the Commission on the Energy Efficiency Directive, the Energy Performance Directive of Buildings, the Renewable Energy Directive, as well as the various legislative acts contained in the market organisation initiative, with the aim of ensuring full coherence between these initiatives. Coherence with other EU legislation in the fields of climate and energy has also been ensured.

The proposal fully integrates the Regulation on the Climate Monitoring Mechanism (CMM), in order to ensure integration between the energy and climate domain. This initiative is also linked to other sectoral policy areas such as transport, the environment, industry, economy, research and competition, but it should be noted that in terms of rationalising and integrating of planning and reporting it focuses on energy and climate areas, while incorporating some specific reporting and planning lines in other areas, obviously to ensure a manageable process focused on the main objectives of the Energy Union. The proposal respects the principles of subsidiarity and proportionality applicable to multilevel governance in the EU. The proposal presents the

results of ex-post evaluations, consultations with stakeholders and impact assessments, as well as budgetary implications.

5. Progress report in the field of renewable energies

This report provides a comprehensive overview of the development of renewable energy in the EU in line with the requirements set out in the Renewable Energy Directive. It includes an assessment of administrative barriers, as well as the sustainability of biofuels. Overall progress is assessed compared to the trajectories set out in Annex I to the Renewable Energy Directive, while sectoral and technology-specific assessments are carried out compared to the trajectories of national plans of the Member States, on renewable energy sources.

The projections for 2020 are based on the PRIMES Ref2016 scenario. This scenario assumes that the EU as a whole and most Member States will take sufficient measures by 2020 to reach their targets. Member States which currently do not have favourable projections to achieve national binding targets for 2020 will be able to use the cooperation mechanisms. At the 2015 level states such as: Austria, Denmark, Estonia, Latvia, Finland, Sweden, Romania, Portugal, Croatia exceeded the threshold of 20%, while Germany, France, Britain had shares below 15%.

6. Conclusions

Promoting energy from renewable sources is an essential part of the EU's energy policy, as recognised in the Article 194 of TFEU, and contributes largely to the implementation of the Energy Union framework strategy. The new regulatory framework for the period after 2020 proposed by the Commission as part of the "Clean Energy for All Europeans" package of November 2016 is based on experience gained under the existing Renewable Energy Directive. It aims to further Europeanization the policy of renewable energy resources and maximise their use in buildings, transport and industrial sectors. The Commission has proposed reinforced provisions to establish the right conditions for investment, including the progressive cross-border opening of support, the principle of non-retroactivity, accelerated administrative procedures, and empowering consumers. Electricity, transport and heating/cooling are the sectors concerned with a number of concrete measures, while it is proposed the use of national targets for 2020 as a basis for further progress of Member States after 2020. In the field of bioenergy the Commission has proposed strengthening the EU's sustainability framework by extending it to also cover biomass and biogas used for heat and energy in large energy installations.

With a 16% share in the final energy consumption in 2014, the EU and the vast majority of Member States are on the right track with regard to the development of renewable energy. However, for 2015 show that Member States will have to continue their efforts to achieve their compulsory targets for the year 2020, as the trajectory becomes steeper. This is especially true for France, Luxembourg and Holland, which had to substantially increase their quotas in order to keep on track with their respective trajectories. From another perspective, the forecasts show that the EU as a whole would reach the 20% target by 2020. However, some Member States, such as Ireland, Luxembourg, Holland and the United Kingdom, should strengthen their cooperation with other Member States by using cooperation mechanisms such as statistical transfers to achieve timely mandatory national targets.

Representing around half of the final energy consumption at EU level, heating/cooling remains the largest consumer sector from the energy point of view. It is also the biggest contributor to the target for renewable energy, with half of renewable energy consumption, even if the growth rate was slower than in the electricity sector. In 2015, about 18.1% of the EU's heating and cooling needs were ensured by renewables, with biomass bringing its greatest contribution. The electricity sector has recorded the fastest increase in the share of renewable resources, which currently reaches 28.3% of total electricity production.

In 2015, the largest contributor to electricity from renewable sources remained hydroelectric power. The strongest performer in terms of increasing production is the wind energy on land. The development of photovoltaic solar panels/cells was uneven, with a peak of growth in 2011 and 2012, but with lower rates of growth every year since then. Together, renewables account for 12% of the EU's gross electricity production. Transport is the sector that continues to show the slowest increase in the share of renewables, with 0.5 percentage points on average per year between 2005 and 2014 and a marked slowdown after 2011, the proportion of energy from renewable sources was 5.9% in 2014 (and estimated at only 6.0% in 2015) from a sector-specific target of 10% for 2020. This slow progress is due to various difficulties, including regulatory uncertainty and a delayed penetration of advanced biofuels.

With regard to administrative barriers, Member States have made progress on their elimination, but this progress has not been uniform in the EU, and there are still many possibilities for improvement, especially for the automatic granting of the permit by the deadline of the administrative procedure and the establishment of a single guide.

With regard to the sustainability of biofuels, the majority of those consumed in the EU were produced within the EU from internal raw materials. No significant direct negative effects on biodiversity, soil and water, food security or developing countries have been identified. However, it remains the risks of changing land use, and modelling analysis identified the risks of indirect change in land use (ILAC) resulting from food-based biofuels. That is why, with the adoption of the ILAC Directive, the EU has limited the contribution of these biofuels to the target of 10% renewable energy in transports. In addition, the Commission has recently made proposals to gradually reduce the share of biofuels on the basis of foodstuffs after 2020, through progressive replacement with advanced biofuels and electricity based on renewable resources.

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