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PART 1/2

COMMISSION STAFF WORKING DOCUMENT
EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the document

**Proposal for a Directive of the European Parliament and of the Council on the
promotion of the use of energy from renewable sources (recast)**

{COM(2016) 767 final}
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Executive Summary Sheet

Impact Assessment on the Proposal for a Directive of the European Parliament and of the Council amending 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

A. Need for action

What is the problem and why is it a problem at EU level?

Directive 2009/28/EC (the "**RES Directive**") establishes a European framework for the promotion of Renewable Energy (RE), with national mandatory targets for the share of RE in gross final energy consumption for each Member State in 2020. In October 2014, the European Council agreed on a binding EU-level target of at least a 27% share of RE consumed in the EU in 2030, to be achieved without national mandatory targets. The combination of long-lasting effects of current policies, improved cost-competitiveness associated with technological progress, the initiatives on the Emissions Trading System (ETS) and non-ETS sectors, Electricity Market Design, Governance and Energy Efficiency, are projected to deliver an increase in renewables share. However, in the absence of additional EU policies, this increase is not cost-efficient and still short of the agreed share of renewables at EU-level.

What should be achieved?

In the context of the Energy Union Strategy, the review of the RES Directive has four main objectives: (i) Contribute to limiting global average temperature increase to not more than 2°C, in view of achieving 1.5°C in line with the EU's commitment towards Paris COP 21 objectives; (ii) achieve in a cost effective way a share of at least 27% of RE in the EU by 2030; (iii) make the EU economy more energy secure by reducing its import dependence; (iv) contribute to becoming the world leader in RE and a global hub for developing advanced and competitive RE technologies.

What is the value added of action at the EU level (subsidiarity)?

Due to the existence of specific market failures and barriers, EU level policies are needed to ensure that the at least 27% EU-level binding RE target is **collectively** met by Member States, and is met in the most cost-effective and least distortive manner. EU action will deliver investors certainty in an EU-wide regulatory framework, a consistent and cost-efficient deployment of RE across the EU and an efficient operation of the internal energy market whilst respecting the potential of Member States to produce different forms of RE according to the energy mix of their choice.

B. Solutions

What are the various options to achieve the objectives? Is there a preferred option or not? If not, why?

Legislative and non-legislative policy options to promote the deployment of RE have been considered. The Impact Assessment (IA) carried out a detailed analysis of each policy option with a gradual approach from a baseline scenario (Op. 0) to more EU-comprehensive measures. No preferred options were chosen, in order to preserve the political discretion of the Commission to decide among options across the following five areas:

(i) Options to increase RE in the electricity sector (RES-E)

Common European framework for support schemes: 1 sole use of market mechanisms; 2

clarification of the rules through a toolkit; 3 mandatory move towards investments aid.

More coordinated regional approach: 1 mandatory regional support; 2 mandatory partial opening of support schemes to cross-border participation.

Renewable-focused financial instrument: 1 EU-level financial instrument with wide eligibility criteria; 2 EU-level financial instrument in support of higher-risk RES projects.

Administrative simplification: 1 reinforced provisions with "one-stop-shop", time ranges and facilitated procedures for repowering; 2 permitting procedures would be time limited, through automatic approval and simple notification for small projects.

(ii) Options to increase RE in the heating and cooling sector (RES-H&C):

Mainstream renewables in the heating and cooling supply: 1 RES H&C obligation on fossil fuel suppliers; 2 same obligation but for all fuel suppliers.

Facilitate the uptake of RE and waste heat in DHC systems: 1 best practice sharing; 2 energy performance certificates and creating access to local H&C; 3 measures under 2 + an additional reinforced consumer rights framework.

(iii) Options to increase RE in the transport sector (RES-T):

Mainstreaming renewables in the transport sector: 1 EU incorporation obligation for advanced renewable fuels; 2 EU incorporation obligation for all renewable fuels consumed in transport plus phase-out of food-based biofuels (sub-options: 2A a partial phase out of food based biofuels by 2030; 2B a total phase out of such biofuels by 2030; 2C a faster phase out of food based biodiesel and higher GHG savings by 2030); 3 Previous options plus specific EU incorporation obligation for renewable fuels consumed in aviation and maritime. 4 GHG emission reduction obligation (FQD) (sub-options: 4B overall fuels and electricity GHG reduction obligation; 4C advanced fuels and electricity GHG reduction obligation; 4D advanced fuels, electricity and lower GHG conventional fuels).

(iv) Options to empower and inform consumers of RE:

Empower consumers to generate self-consume and store renewable electricity: 1 EU guidance on self-consumption; 2 empowering citizens to self-consume and store renewable electricity; 3 distance self-consumption for municipalities.

Disclose information for renewable electricity: 1 strengthening GO system; 2 measures under 1 + GOs mandatory for disclosure; 3 measures under 2 + extension of GOs to all sources of electricity generation.

Trace renewable fuels used in heating and cooling and transport: 1 extended GOs to renewable gaseous fuels; 2 extended GOs to renewable liquid and gaseous fuels; 3 development of alternative tracking system for renewable liquid and gaseous fuels.

(v) Options to ensure the achievement of at least 27% RE in 2030:

2020 national targets: 2020 national targets as basis Vs. baseline.

Trajectory: Linear Vs. Non-linear.

Mechanisms to avoid an ambition gap to the EU RE target: 1 revise ambition of national plans; 2 include a review clause to propose additional EU level delivery mechanisms at a later stage if needed; 3 increase the ambition of EU wide measures; 4 introduce binding national targets.

Avoiding and fill a delivery gap: 1 revise national plans; 2 include a review clause to propose additional EU level delivery mechanisms at a later stage if needed; 3 increase the ambition of EU wide measures; 4 introduce binding national targets.

What are different stakeholders' views? Who supports which option?

An online Public Consultation was run from 18 November 2015 to 10 February 2016. This confirms a broad consensus among Member States, NGOs and think-tanks, investors and

associations on the need for a stable and predictable EU legal framework for renewables, the importance of defining measures in RES-E, RES-H&C, RES-T, enhanced consumers' participation in the internal energy market, removal of administrative barriers and achievement of the at least 27% binding EU target. **All the stakeholders** generally agreed on the need to enhance infrastructure development, especially concerning smart grids and storage systems.

Member states emphasised the commitment to reduce GHG emissions, along with the need to achieve decoupling from economic growth and viability of renewable energies. Some **Member States** underlined the role of renewables vis-à-vis energy security and import dependency. **Industry** emphasised the need for a market fit for renewables, through market integration, reinforced investment protection regime on the long term, requesting a stable regulatory framework to stimulate innovation, ensure economic viability and increase competitiveness at EU level. **NGOs** underlined the importance of establishing citizen rights to increase decentralisation, empowering local communities stimulating public acceptance of future schemes.

C. Impacts of the preferred option

What are the benefits of the preferred option (if any, otherwise of main ones)?

It is not possible to fully quantify the impact at present time, as no preferred options are chosen. The above Options 1 to 4 tackle investor uncertainty, increase cost-effectiveness, intervene against market failures, update the existing regulatory framework and increase citizen buy-in. Implementing the main measures will help the EU reach its greenhouse gas emission reduction objectives (by contributing to the additional 5% reduction in greenhouse gas emissions needed compared to Reference Scenario projections). It can also contribute to reducing the energy import bill (cumulative effects of implementing the 2030 targets would mean a reduction of EUR221 billion over the 2021-2030 period), and generating additional co-benefits, such as contributing to an overall reduction in pollution control costs & health damage costs of 12.3-19.5 €billion/year).

What are the costs of the preferred option (if any, otherwise of main ones)?

The main options which were developed could entail social, economic and environmental impacts both at Member State level. Where possible, such impacts have been quantified.

What are the impacts on SMEs and competitiveness?

The IA includes specific exceptions for SMEs to ensure that the measures to achieve the EU-level renewables target for 2030 promote their competitiveness (e.g. administrative simplification, specific provisions on public support, broader self-consumption measures).

Will there be significant impacts on national budgets and administrations?

Member States will be asked to contribute to the common effort to achieve the agreed 2030 EU-level renewables target via a set of measures potentially having an impact on national budgets and administrations.

D. Follow up

When will the policy be reviewed?

Some provisions of the RES Directive effectively end in December 2020, notably on national binding targets. The IA aims to address the measures to be included in the RES Directive post-

2020. Some options develop the need to ensure that review clauses are set out in the revised RES Directive to ensure that the shift from national binding targets to an EU-level target for 2030 is properly monitored and implemented.



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PART 2/2

COMMISSION STAFF WORKING DOCUMENT
EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Sustainability of Bioenergy

Accompanying the document

**Proposal for a Directive of the European Parliament and of the Council on the
promotion of the use of energy from renewable sources (recast)**

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Executive Summary Sheet

Impact assessment on the sustainability of bioenergy

A. Need for action

Why? What is the problem being addressed?

While increased production of bioenergy plays a key role towards meeting the climate and energy objectives of the EU, there are a number of problems and potential risks linked to its increasing use in the heat and power sector. The public consultation has also illustrated that the public opinion about benefits and risks of bioenergy is mixed, which can undermine investments in this sector, notably in the absence of a sound public policy framework.

On the basis of stakeholder inputs, studies and other scientific evidence, the Commission services have identified three key problems or potential risks linked to using solid biomass for heat and power: **i)** The climate performance of bioenergy. **ii)** Environmental impacts on biodiversity, soil and air quality. **iii)** Increasing combustion of large volumes of biomass in low-efficient installations.

This Impact Assessment provides a complementary analysis to the Impact Assessment supporting the proposed revision of the Renewable Energy Directive, which looks at specific issues related to biofuels use in transport, in particular emissions from indirect land use change and the development of advanced biofuels.

What is this initiative expected to achieve?

The main purpose of the initiative is to ensure the sustainability of bioenergy production and use for heat and power. To this end, it is essential to address the above mentioned problems and risks through a clear policy framework, where any new actions efficiently complement the already existing policies and measures both at the EU and national levels.

The initiative aims to deliver benefits in terms of climate action, environmental protection, resource efficiency and functioning of the internal market, while keeping the action proportionate to the size of the problems and risks. The initiative should also deliver on overarching objectives of the Commission, notably through promoting i) growth, jobs and investments and ii) the EU leadership in renewable energies.

What is the value added of action at the EU level?

The targets on climate mitigation and renewable energy targets are set at the EU level, and in particular the renewable energy target has driven the increase in biomass consumption for energy in the EU over the past decade. It is therefore necessary to ensure at the EU level that the use of bioenergy to fulfil renewable energy targets is supporting the overall climate objective as well. Some of the sustainability risks linked to the development of bioenergy have a cross border dimension and hence can be more efficiently addressed at EU level. This is in particular the case for environmental impacts such as climate change, biodiversity or air pollution. Market-mediated effects can also occur across borders, as is the case for example for competition issues for biomass feedstocks.

B. Solutions

What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why?

The following dilemma arose in the course of the consultation process and examination of evidence :

- On the one hand, many stakeholders consider that the future development of bioenergy, important for replacing fossil fuels, is hampered by public doubts about environmental benefits of certain biomass uses for energy;
- At the same time, it is clear from the scientific evidence that the overall impacts of using biomass for energy on greenhouse gas emissions and biodiversity are based on too many variables and cannot be assessed or ensured with general prescriptions, but rather should be examined on a case by case and site-specific basis.

It is therefore not possible to reliably distinguish, at the EU-wide level, between 'sustainable' and 'unsustainable' sources of bioenergy for the heat and power sectors and set out this distinction in legislation. Instead, one non-regulatory and four regulatory options aim to address the drivers of the problems and risks as identified above. The baseline (option 1) is based on mainstreaming the solutions into other elements of the 2030 climate and energy framework as well as other existing policies. The sizeable effects of these policies without additional specific regulation, would make this option the most efficient approach in terms of balance between results and the administrative burden; but it does not provide any legislative safeguards in case practices that exacerbate the problems would develop more strongly than identified in the modelling work. This is relevant in view of the

level of uncertainty on future biomass development, including trade patterns and feedstock choice. The additional four policy options propose a range of safeguards against the risks identified, although the particular issue of climate impacts of biomass ('biogenic carbon') is particularly difficult to tackle. Against this background, Commission Services were not in the position to identify a policy option that would be clearly preferable over the others.

Who supports which option?

In the stakeholder consultation, 35% of respondents considered that current EU and national policies are sufficient to address the issues at stake, while 59 % called for a new policy instrument is at the EU level. The option 2, which would formalise the sustainability requirements that have currently status of a Commission's recommendation, did not receive any clear sizeable support. Option 3 was supported by a number of bioenergy producers and users and by several Member States Addressing conversion efficiency (option 4) would be welcome by a number of non-energy wood-based industries and civil society organizations. The latter group would also largely support an overall cap on bioenergy.

C. Impacts of the preferred option

What are the benefits of the preferred option (if any, otherwise main ones)?

The analysis suggests that under the conditions projected by the models, the policy options identified would only have a limited – although positive - effects on the problems identified. They would rather act as "safeguards" in case practices that exacerbate the problems develop more strongly than shown in the model projections.

While bioenergy is crucial for attaining the objective of 27% of renewable energy in the EU energy mix by 2030, a marginally higher share of bioenergy versus other renewable sources will result in a marginally lower incentive for emerging technologies. The options that contain constraints for bioenergy use (1, 3, 4 and 5) will therefore indirectly stimulate focus of the energy sector on other renewable energy sources and hence trigger additional investments and jobs in the renewable energy sector. Since all of the options have a rather limited quantified effect on the future amounts of bioenergy, the effects on growth and jobs are also small.

What are the costs of the preferred option (if any, otherwise main ones)?

Additional administrative costs would occur for producers of agricultural biomass, forest owners and the wood value chain, and bioenergy plants as a consequence of new legal requirements in options 2-5. According to the estimates, these would range between 63 and 150 million EUR in one off costs and between 31 and 51 million EUR in recurring annual costs (cumulatively for all operators). This extra cost is likely to be either passed on the final consumer (if there is no public subsidy) or on the wider society (if subsidies are applied) or combination of both. As described above, the options would overall have a small economic benefit linked to the marginal shift to other renewable energy sources.

How will businesses, SMEs and micro-enterprises be affected?

SMEs and micro-enterprises are widely represented in bioenergy production and use chain through, in particular, small forest owners and small bioenergy installations. The latter group, however, would only be affected depending on the minimum size of installations that become subject to sustainability requirement (1-5MW, 5-10MW, 10-20MW or more than 20MW). Small forest owners could be affected by the policy options considered, but less so in the case of a risk-based approach (option 3).

Will there be significant impacts on national budgets and administrations?

There would be only limited administrative costs for national authorities linked to implementation of the legislation and the respective reporting, monitoring and verification tasks. These costs include one-off costs in the range of 60.000 to 200.000 € as well as recurring yearly costs between 400.000 to 1 million EUR.

Will there be other significant impacts?

No.

D. Follow up

When will the policy be reviewed?

The policy will be regularly reviewed in the context of the Energy Union governance framework, where in particular monitoring of the overall quantities of biomass used for energy as well as the type of biomass, type of feedstock, its geographical origin and final use will be important to assess the development of problems and risks identified in the Impact Assessment. No particular review clause is foreseen