

Special Report

## Renewable energy for sustainable rural development: significant potential synergies, but mostly unrealised

(pursuant to Article 287(4), second subparagraph, TFEU)



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## **GLOSSARY AND ABBREVIATIONS**

<b>AEBIOM</b>	European Biomass Association
<b>Anaerobic digestion</b>	The process by which organic matter such as animal or food waste is broken down to produce biogas and biofertiliser.
<b>Bioeconomy</b>	Those parts of the economy that use renewable biological resources from land and sea – such as crops, forests, fish, animals and micro-organisms – to produce food, materials and energy.
<b>Bioenergy</b>	Energy produced from biomass.
<b>Biomass</b>	The biodegradable fraction of products, waste and residues from biological origin from agriculture, including vegetal and animal substances, forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin.
<b>CAP ‘Health Check’</b>	In 2009, the various components of the CAP were examined and adjusted in order to direct the CAP towards balanced and environmentally friendly development. This adjustment is known as the ‘Health Check’.
<b>Carbon footprint</b>	The quantity of greenhouse gases emitted into the atmosphere during the life cycle of any product or activity and is expressed in terms of carbon dioxide equivalents (CO <sub>2</sub> e).
<b>Common Agricultural Policy (CAP)</b>	The set of legislation and practices adopted by the European Union to provide a common, unified policy on agriculture and rural development.
<b>Common Monitoring and Evaluation Framework (CMEF)</b>	EU-wide monitoring and evaluation framework for rural development in the 2007-2013 programming period. For the 2014-2020 programming period it covers both CAP pillars (EAFRD and EAGF).
<b>Common Monitoring and Evaluation System (CMES)</b>	A part of the CMEF – the rules and procedures which relate to rural development (CAP Pillar II).
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>DG</b>	European Commission’s departments and services known as directorates-general (DGs).

<b>DG AGRI</b>	European Commission's Directorate-General for Agriculture and Rural Development
<b>DG CLIMA</b>	European Commission's Directorate-General for Climate Action
<b>DG ENER</b>	European Commission's Directorate-General for Energy
<b>DG ENV</b>	European Commission's Directorate-General for the Environment
<b>District heating or District cooling</b>	The distribution of thermal energy in the form of steam, hot water or chilled liquids, from a central source of production through a network to multiple buildings or sites, for the use of space or process heating or cooling.
<b>EEG</b>	DE: <i>Erneuerbare-Energien-Gesetz</i> (Renewable Energy Sources Act)
<b>European Agricultural Fund for Rural Development (EAFRD)</b>	The European Agricultural Fund for Rural Development is aimed to help the rural areas of the EU to meet a wide range of economic, environmental and social challenges.
<b>European Economic and Social Committee (EESC)</b>	A consultative body that gives representatives of Europe's socio-occupational interest groups and others a formal platform to express their points of view on EU issues.
<b>European Regional Development Fund (ERDF)</b>	The European Regional Development Fund is aimed at reinforcing economic and social cohesion within the European Union by redressing the main regional imbalances. This is achieved through financial support for the creation of infrastructure and productive job-creating investment, mainly for businesses.
<b>European Structural and Investment Funds (ESIF)</b>	The European Structural and Investment Funds is a group of five separate funds that aim to reduce regional imbalances across the EU, with policy frameworks set for the 7-year multiannual financial framework budgetary period. The five funds are: the European Regional Development Fund (ERDF); the European Social Fund (ESF); the Cohesion Fund (CF); the European Agricultural Fund for Rural Development (EAFRD); and the European Maritime and Fisheries Fund (EMFF).
<b>Feed-in premiums (FIP)</b>	A support scheme under which electricity from renewable energy sources is typically sold on the electricity market and producers receive a premium on top of the market price of their electricity production. FIP can either be fixed (i.e. at a constant level independent of market prices) or sliding (i.e. with variable levels depending on the evolution of market prices).

<b>Feed-in tariffs (FIT)</b>	A support scheme under which fixed electricity prices that are paid to renewable energy producers for each unit of energy produced and injected into the electricity grid. The payment of the FIT is guaranteed for a certain period of time that is often related to the economic lifetime of the respective renewable energy project (usually between 10-25 years).
<b>Focus areas</b>	The European Union has identified six priorities for Rural Development. These are broken down into 18 'focus areas' in order to better detail the aims of each priority and to facilitate programming.
<b>Focus area 5C</b>	'Renewable energy' focus area – covers a wide range of objectives which include the facilitating the supply and use of renewable sources of energy, of by-products, wastes and residues and other non-food raw materials for the purpose of the bio-economy.
<b>Green certificate</b>	A tradable commodity proving that certain energy is generated using renewable energy sources.
<b>Greenhouse gases (GHG)</b>	Gases acting as a blanket in the Earth's atmosphere, trapping heat and warming the Earth's surface through what is known as the 'greenhouse effect'. The main greenhouse gases are carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O) and fluorinated gases (HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub> ).
<b>Horizon 2020</b>	EU's research and innovation programme for 2014-2020.
<b>Indirect land-use changes (ILUC)</b>	Land conversion caused by the displacement of agricultural production, i.e. when existing agricultural land is turned over to the production of energy crops, such as maize, elephant grass or willow, and the food and feed production expands to previously non-agricultural land, e.g. to forests, grasslands, peat lands, wetlands, and other carbon rich ecosystems. By converting these land types to cropland, CO <sub>2</sub> emissions may increase.
<b>Land use, land use change and forestry (LULUCF)</b>	Greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities. Similar to other economic sectors, land use, land use change and forestry has impacts on the global carbon cycle. The activities included in land use, land use change and forestry can add or remove greenhouse gases from the atmosphere, affecting climate change in either a negative (e.g. deforestation) activities or positive way (e.g. afforestation and reforestation).

<b>LEADER</b>	A community-led local development method for mobilising and developing rural communities through local public-private partnerships (local action groups). The term is a French acronym meaning <i>Liaison Entre Actions de Développement de l'Economie Rurale</i> (EN: 'Links between actions for the development of the rural economy').
<b>LIFE</b>	FR: <i>L'Instrument Financier pour l'Environnement</i> The EU's financial instrument supporting environmental, nature conservation and climate action projects throughout the EU.
<b>Life-cycle analysis (LCA)</b>	A multi-step procedure for calculating the lifetime environmental impact of a product or service.
<b>Measurement units of energy</b>	<ul style="list-style-type: none"> <li>• toe – tonne of oil equivalent is the amount of energy released by burning one tonne of crude oil, approximately 42 GJ.</li> <li>   ktoe – one kilo (thousand) tonnes of oil equivalent</li> <li>   Mtoe – million tonnes of oil equivalent</li> <li>• kW – kilo watt</li> <li>• MWh/kWh – Mega/Kilo watt hour</li> </ul>
<b>Multiannual Financial Framework (MFF)</b>	The EU's multiannual spending plan that translates the its policy priorities into financial terms. It applies for a period of seven years.
<b>NREAP</b>	National Renewable Energy Action Plans, in accordance with Article 4 of the RED.
<b>Quota obligations</b>	Minimum shares of renewable energy sources in the energy mix of power utilities, electricity suppliers or sometimes also large electricity consumers, defined by national, regional or local governments.
<b>Partnership Agreement</b>	A document prepared by a Member State with the involvement of partners, which sets out the Member State's strategy, priorities and arrangements for using the European structural and investment funds in an effective and efficient way. It is approved by the Commission following an assessment and dialogue with the Member State.
<b>PV</b>	Photovoltaic
<b>Programming period</b>	A period for implementing rural development policy coinciding with the EU's Multiannual Financial Framework. The current programming period is 2014-2020 and follows the 2007-2013 programming period.



<b>Renewable energy (RE)</b>	Energy collected from renewable resources, which are naturally replenished in a human lifetime, such as sunlight, wind, biomass and geothermal heat.
<b>Renewable Energy Directive (RED)</b>	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 and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5.6.2009, p. 16).
<b>RED II proposal</b>	The European Commission's proposal of 30.11.2016 for a Renewable Energy Directive in the 2021-2030 period.
<b>Renewable energy communities</b>	An SME or a not-for-profit organisation, the shareholders or members of which cooperate in the generation, distribution, storage or supply of energy from renewable sources.
<b>Rural development programme (RDP)</b>	A document prepared by a Member State or region, and approved by the Commission, to plan and monitor the implementation of the rural development policy at regional or national level.
<b>Rural proofing</b>	Rural proofing aims to understand the impacts of government policy intervention and to ensure fair and equitable policy outcomes for rural areas. It is about finding the best ways to deliver policies in rural areas.
<b>Self-consumer (Renewable self-consumer)</b>	An active customer who consumes and may store and sell renewable electricity which is generated within his or its premises, including a multi-apartment block, a commercial or shared services site or a closed distribution system, provided that, for non-household renewable self-consumers, those activities do not constitute their primary commercial or professional activity.
<b>SME</b>	Small and medium-sized enterprises
<b>State aid</b>	Aid provided by the Member States by which beneficiaries receive an economic advantage. This may consist of a straightforward financial aid or indirect support such as tax advantages, better conditions for the purchase or lease of land, giving a loan or a guarantee for taking out a loan from a bank at better conditions than normal market rates, etc.

<b>Sustainability criteria</b>	A set of criteria for biofuels, bioliquids and biomass fuels defined by the RED and the RED II proposal, related to land use and forest management practices, greenhouse gas emission saving and efficiency of energy conversion, with the purpose of ensuring environmental sustainability of bioenergy.
<b>SWOT analysis</b>	A method to identify the strengths, weaknesses, opportunities, and threats of an organization or region, used in the RDP.
<b>Trilogue</b>	Tripartite meetings on legislative proposals between representatives of the Parliament, the Council and the Commission. The purpose of these contacts is to reach agreement on a package of amendments acceptable to both the Council and the Parliament. The Commission acts as a mediator with a view to facilitating an agreement between the co-legislators.

## **EXECUTIVE SUMMARY**

I. Renewable energy is energy generated from renewable, non-fossil based energy sources which are replenished in a human lifetime. Both production and consumption of renewable energy in the EU have been increasing, but further efforts are still needed if the EU's renewable energy targets of 20 % final energy consumption from renewable sources by 2020, rising to at least 27 % by 2030, are to be met. Using more renewable energy is crucial if the EU is to reduce its greenhouse gas emissions in order to comply with the 2015 Paris Agreement on Climate Change. Increasing the use of renewable energy could also reduce the EU's dependence on fossil fuels and imported energy, thus contributing to the security of its energy supply. Several EU and national funding programmes are available to incentivise the production and use of renewable energy, one source of the EU funds being the European Agricultural Fund for Rural Development (EAFRD).

II. Our audit examined the link between renewable energy and rural development. We examined the EU policy framework for renewable energy as a whole and how it has integrated specific rural development aspects. We assessed whether the framework used to spend funds earmarked for rural development had been designed and implemented in a way that facilitated both renewable energy deployment and sustainable rural development.

III. From our audit work we conclude that there are potential synergies between renewable energy policy and EAFRD with a view to facilitate sustainable rural development but, as yet, these synergies remain mostly unrealised.

IV. Whilst several studies recommended a pro-active approach to unlock the potential synergies, we found that the EU's renewable energy policy could be more explicit in establishing the conditions for successfully linking renewable energy to rural development. We acknowledge that certain instruments in the proposed renewable energy policy framework have the potential to improve this situation. Neither the current nor the proposed sustainability framework for bioenergy (referring to the production and use of biomass) provide an adequate basis for protecting rural areas sufficiently against identified environmental and socio-economic risks nor for maximising their potential for further sustainable development.

V. The specific funding available for rural development can play a role in achieving the EU and national renewable energy targets, but this should be complementary to the sustainable development of the EU's rural areas. However, the Commission has not provided sufficient clarification or guidance in this regard, nor how the EAFRD should complement the existing EU and national funding schemes. As a result, most of the Member States' visited did not prioritise those renewable energy projects that could make a contribution to sustainable rural development.

VI. Furthermore, the Commission has no comprehensive information on the EAFRD expenditure for renewable energy in the 2007-2013 rural programming period, and how it fits into the overall EU spend on renewable energy. There is also limited information on what has been achieved with the funds spent. Despite certain improvements in the 2014-2020 programming period, weaknesses in the monitoring system persist, mainly because of complications in the programming exercise and the restricted scope of the main indicators.

VII. Our sample of projects audited included both investments that had supplied third parties with energy from renewable sources and others that had generated the energy for the project owners' own use. We considered most of the projects visited successful, because of their positive economic and environmental impact on rural development. However, weaknesses in the Member States' selection procedures also resulted in the funding of projects that had an economic benefit for the project owners, but had little further impact on rural areas.

VIII. On the basis of these findings, we make the following recommendations:

- When designing their future renewable energy policy, the Commission and the Member States should take into account the circumstances and needs of rural areas, in particular when setting up the integrated national energy and climate plans.
- The Commission, together with the co-legislators, should design the future policy framework for bioenergy in a way that provides for better safeguards against the unsustainable sourcing of biomass for energy.







- The Commission should specify the purpose and role of EAFRD support for investments in renewable energy.
- With regard to EAFRD support for renewable energy, the Commission should require the Member States to provide pertinent information on programme achievements of renewable energy projects in their enhanced annual implementation reports of 2019.
- The Commission should reinforce with the Member States the need to apply relevant selection procedures, in order to give support only to viable renewable energy projects with a clear benefit for sustainable rural development.

## INTRODUCTION

### ***Renewable energy in the EU***

1. Renewable energy is energy generated from renewable, non-fossil based energy sources which are replenished in a human lifetime. Renewable energy sources include solar and wind energy, marine energy and hydropower, geothermal energy and bioenergy<sup>1, 2</sup>. The main types of renewable energy, relevant technologies and typical applications are shown in ***Figure 1***.

**Figure 1 – Renewable energy sources, technologies and applications**

<p><b>Solar energy</b></p>  <p>Source: <b>Sun</b></p> <p>Technologies: <b>Photovoltaics, Solar thermal</b></p> <p>Applications: <b>Electricity, Heating and Cooling</b></p>	<p><b>Wind energy</b></p>  <p>Source: <b>Wind</b></p> <p>Technologies: <b>Wind turbines</b></p> <p>Applications: <b>Electricity</b></p>	<p><b>Marine energy</b></p>  <p>Source: <b>Waves, tides</b></p> <p>Technologies: <b>Dams, tidal barrages</b></p> <p>Applications: <b>Electricity</b></p>	<p><b>Hydropower</b></p>  <p>Source: <b>Water</b></p> <p>Technologies: <b>Hydropower plant</b></p> <p>Applications: <b>Electricity</b></p>	<p><b>Geothermal energy</b></p>  <p>Source: <b>Earth</b></p> <p>Technologies: <b>Geothermal and heat pumps</b></p> <p>Applications: <b>Electricity, Heating and Cooling</b></p>	<p><b>Bioenergy</b></p>  <p>Source: <b>Biomass, waste</b></p> <p>Technologies: <b>Biomass combustion, biogas plants, biofuels</b></p> <p>Applications: <b>Electricity, Heating and Cooling, Transport</b></p>
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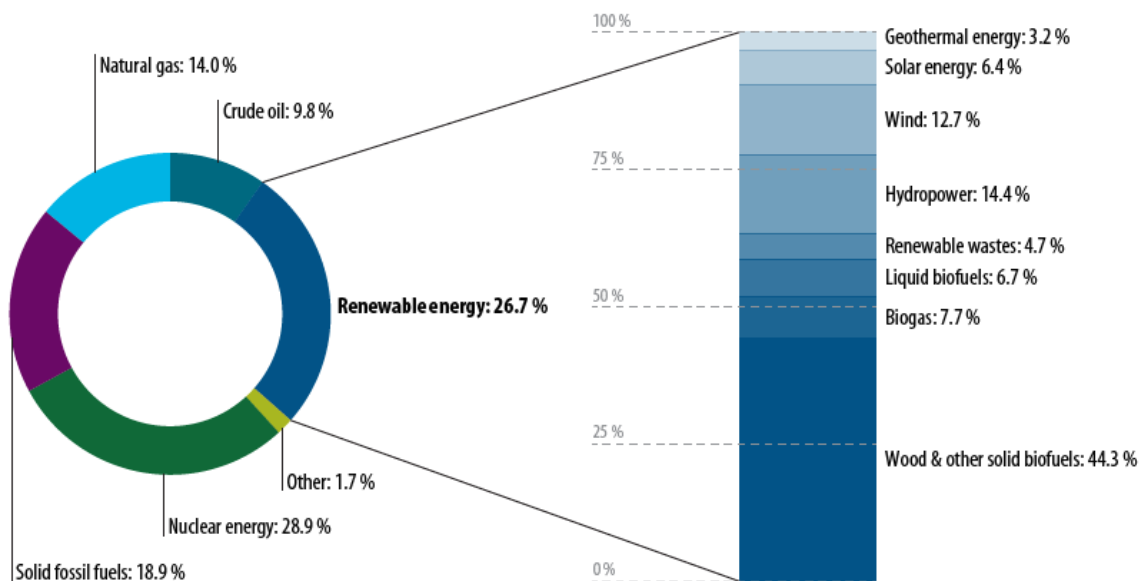
Source: ECA.

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- <sup>1</sup> Bioenergy energy produced from biomass. Biomass is the biodegradable fraction of products, waste and residues from biological origin from agriculture, including vegetal and animal substances, forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin.
- <sup>2</sup> The Renewable Energy Directive (RED) defines renewable energy in Article 2(a) as follows: “‘energy from renewable sources’ means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases;”.

2. Using more renewable energy is crucial if the EU is to reduce its greenhouse gas emissions in order to comply with the 2015 Paris Agreement on Climate Change. Increasing the use of renewable energy could also reduce the EU's dependence on fossil fuels and imported energy, thus contributing to the security of its energy supply.

3. In 2015, 26.7 % of the primary energy produced across the EU came from renewable sources (see **Figure 2**). The production of renewable energy grew from around 120 Mtoe in 2005 to 205 Mtoe in 2015 (an increase of 71 %), whereas the production of primary energy from most of the other sources declined in the same period, both in absolute and relative terms<sup>3</sup>.

**Figure 2 – Production of primary energy, EU-28, 2015 (% of total, based on tonnes of oil equivalent)**



*Note:* In the statistical documents, biomass sources include wood and other solid biofuels; biogas, liquid biofuels; and renewable (biodegradable) wastes.

*Source:* Eurostat (nrg\_100a) and (nrg\_107a)

([http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy\\_production\\_and\\_imports](http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports) and [http://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable\\_energy\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics)).

<sup>3</sup> Eurostat, "Simplified energy balances – annual data [nrg\_100a]", last update 8.6.2017 (<http://ec.europa.eu/eurostat/web/energy/data/database>).

4. **Figure 2** also shows that biomass (incl. the biodegradable fraction of waste) is by far the most significant renewable energy source in the EU: it accounts for 63.3 % of all renewable energy production. This makes the agriculture and forestry sectors particularly important to renewable energy production. In 2010, 48.5 % (80.7 Mtoe) of the renewable energy produced across the EU came from forestry biomass, while agricultural biomass accounted for a further 10.6 % (17.6 Mtoe)<sup>4</sup>.

### ***The EU's renewable energy policy framework***

5. The key element of the EU's current renewable energy policy framework is the Renewable Energy Directive. The Directive is an integral part of the EU's 2020 climate and energy package<sup>5</sup>, which sets three EU-wide targets to be achieved by 2020. One of these targets is that 20 % of energy consumed in the EU should be produced using renewable resources<sup>6</sup>. The Directive also establishes national targets for the proportion of energy to be consumed from renewable sources, ranging from 10 % in Malta to 49 % in Sweden<sup>7</sup>. It also stipulates that 10 % of energy used in the transport sector across all Member States should come from renewable sources.

6. The Renewable Energy Directive requires the Member States to adopt national renewable energy action plans (NREAP) and to report to the Commission every two years on their progress towards achieving their renewable energy targets. By using these individual

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<sup>4</sup> Eurostat, "Agri-environmental indicator – renewable energy production". Data from March 2013 (Planned article update: December 2018) ([http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Agri-environmental\\_indicator\\_-\\_renewable\\_energy\\_production](http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Agri-environmental_indicator_-_renewable_energy_production)).

<sup>5</sup> Proposed by the Commission in January 2008 and adopted by the Parliament in December 2008 and by the Council in April 2009; for details, see EURLex – Procedure 2008/0016/COD <http://eur-lex.europa.eu/legal-content/EN/HIS/?uri=CELEX:32009L0028&qid=1464183881140>

<sup>6</sup> Article 3(1) of the Renewable Energy Directive (RED).

<sup>7</sup> Annex I of the RED.



reports, the Commission prepares a progress report giving an overview of renewable energy policy developments in the EU<sup>8</sup>.

7. In 2014, the European Council adopted a new climate and energy framework, setting out new targets to be achieved by 2030. These stipulate that at least 27 % of the EU's energy should come from renewable sources by that year<sup>9</sup>. To this end, the Commission made several legislative proposals, in particular in its 'Clean Energy for all Europeans' package (also referred to as the 'Winter Package') of 30 November 2016. This package included a proposal to revise the Renewable Energy Directive (referred to in this report as the RED II proposal)<sup>10</sup> and is currently going through the legislative procedure.

8. The Commission in its RED II proposal proposed removing binding national targets for the Member States. However, it required them not to fall behind their 2020 targets. In its proposal on Energy Union Governance<sup>11</sup>, it required them to prepare integrated National Energy and Climate Plans to ensure that their national efforts were ambitious and coherent enough to meet the EU objectives.

9. Whilst renewable energy represents 26.7 % of the energy produced in the EU (see **Figure 2**), according to the Commission's Renewable Energy Progress Report from 2017, the share of renewable energy in the EU in terms of consumption had reached only 16 % in 2014. This is because more than half of the EU's energy consumption was supplied by net

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<sup>8</sup> Articles 22 and 23 of the RED.

<sup>9</sup> Conclusions of the European Council of 23 and 24 October 2014, EUCO 169/14 of 24 October 2014.

<sup>10</sup> COM(2016) 767 final/2 of 23.2.2017 "Proposal for a Directive on the Promotion of the Use of Energy from Renewable Sources".

<sup>11</sup> COM(2016) 759 final of 30.11.2016 "Proposal for a Regulation of the European Parliament and of the Council on the Governance of the Energy Union"  
(<https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>).

imports (mostly gas and crude oil)<sup>12</sup>. The same report states that the EU as a whole and a majority of Member States will achieve or exceed their 2020 targets. However, the projections also anticipate that Ireland, Luxembourg, the Netherlands and the United Kingdom will not meet their national targets<sup>13</sup>.

### ***Renewable energy support schemes***

10. To boost the production of renewable energy and to reach their national renewable energy targets, the Member States have implemented a variety of policy measures. They include financial incentives, such as feed-in tariffs (FITs) or feed-in premiums (FIPs); and measures, such as quota obligations with tradeable green certificates. Combinations of these instruments are often used, particularly in the electricity sector. In the heating and cooling sector, support is mainly based on investment grants and tax incentives<sup>14</sup>.

11. Renewable energy is a cross-cutting priority relevant to many EU policy areas. The EU provides support for renewable energy under several funding programmes. These include the European Regional Development Fund (ERDF) and the European Agricultural Fund for Rural Development (EAFRD) as well as the Horizon 2020 and LIFE programmes<sup>15</sup>.

12. The Commission could not provide recent comprehensive information on the overall financial support for renewable energy, either from EU programmes or from national schemes set up by the Member States. Only the Ecofys study ‘Subsidies and costs of EU

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<sup>12</sup> Eurostat “Energy production and imports” ([http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy\\_production\\_and\\_imports](http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports)).

<sup>13</sup> COM(2017) 57 final of 1.2.2017 “Renewable Energy Progress Report”, pp. 4 and 9.

<sup>14</sup> Herczeg, M., 2012 “Renewable energy support schemes in Europe, Copenhagen Resource Institute”, and Climate Policy Info Hub, “Renewable Energy Support Policies in Europe” (<http://climatepolicyinfohub.eu/renewable-energy-support-policies-europe>).

<sup>15</sup> FREE – Future of Rural Energy in Europe – Funding tool ([http://www.rural-energy.eu/en\\_GB/funding#.V0gVvU1f2Hv](http://www.rural-energy.eu/en_GB/funding#.V0gVvU1f2Hv)), and Covenant of Mayors for Climate and Energy, “Quick Reference Guide – Financing Opportunities for Local Climate & Energy Actions (2014-2020)”, Brussels, 2016 ([http://www.covenantofmayors.eu/support/funding-instruments\\_en.html](http://www.covenantofmayors.eu/support/funding-instruments_en.html)).

energy'<sup>16</sup> provides estimates of the annual subsidies for renewable energy from 2008 to 2012. According to this data, 99.4 billion euro of public money was paid in support to the energy sector in the EU in 2012, mainly from national budgets, of which 40.32 billion euro were for renewable energy. FITs (23.8 billion euro), FIPs (6.4 billion euro) and investment grants (4 billion euro) were the main types of aid allocated to renewables.

***Renewable energy within the EU's rural development policy framework***

13. EU legislative and policy documents identify the potentially positive impact of renewable energy on rural development. The Renewable Energy Directive and the RED II proposal contain references to the opportunities presented by renewable energy for employment and regional development, “especially in rural and isolated areas”<sup>17</sup>.

14. The Community Strategic Guidelines for Rural Development for 2007-2013<sup>18</sup> and Regulation (EC) No 1698/2005<sup>19</sup> take up these issues in the context of the rural development policy framework. The considerations on the potential of the production and use of renewable energy in rural areas were expanded upon in the ‘Health Check’, a reform package of the Common Agricultural Policy (CAP) which the EU’s agriculture ministers agreed in November 2008. In this context, they recognised renewable energy as one of six ‘new challenges’<sup>20</sup>.

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<sup>16</sup> Ecofys, “Subsidies and costs of EU energy”, 2014 (<http://ec.europa.eu/energy/en/content/final-report-ecofys>).

<sup>17</sup> See recital 1 of the RED and recital 2 of the RED II proposal.

<sup>18</sup> Council Decision 2006/144/EC of 20 February 2006 on Community strategic guidelines for rural development (programming period 2007 to 2013) (OJ L 55, 25.2.2006, p. 20) amended by Council Decision 2009/61/EC of 19 January 2009 (OJ L 30, 31.1.2009, p. 112). See section 3.1; 3.2; 3.3 and 3.4a.

<sup>19</sup> See recitals 22 and 23 of Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) (OJ L 277, 21.10.2005, p. 1).

<sup>20</sup> The other ‘new challenges’ were: climate change, water management, bio-diversity, dairy restructuring, and broadband.

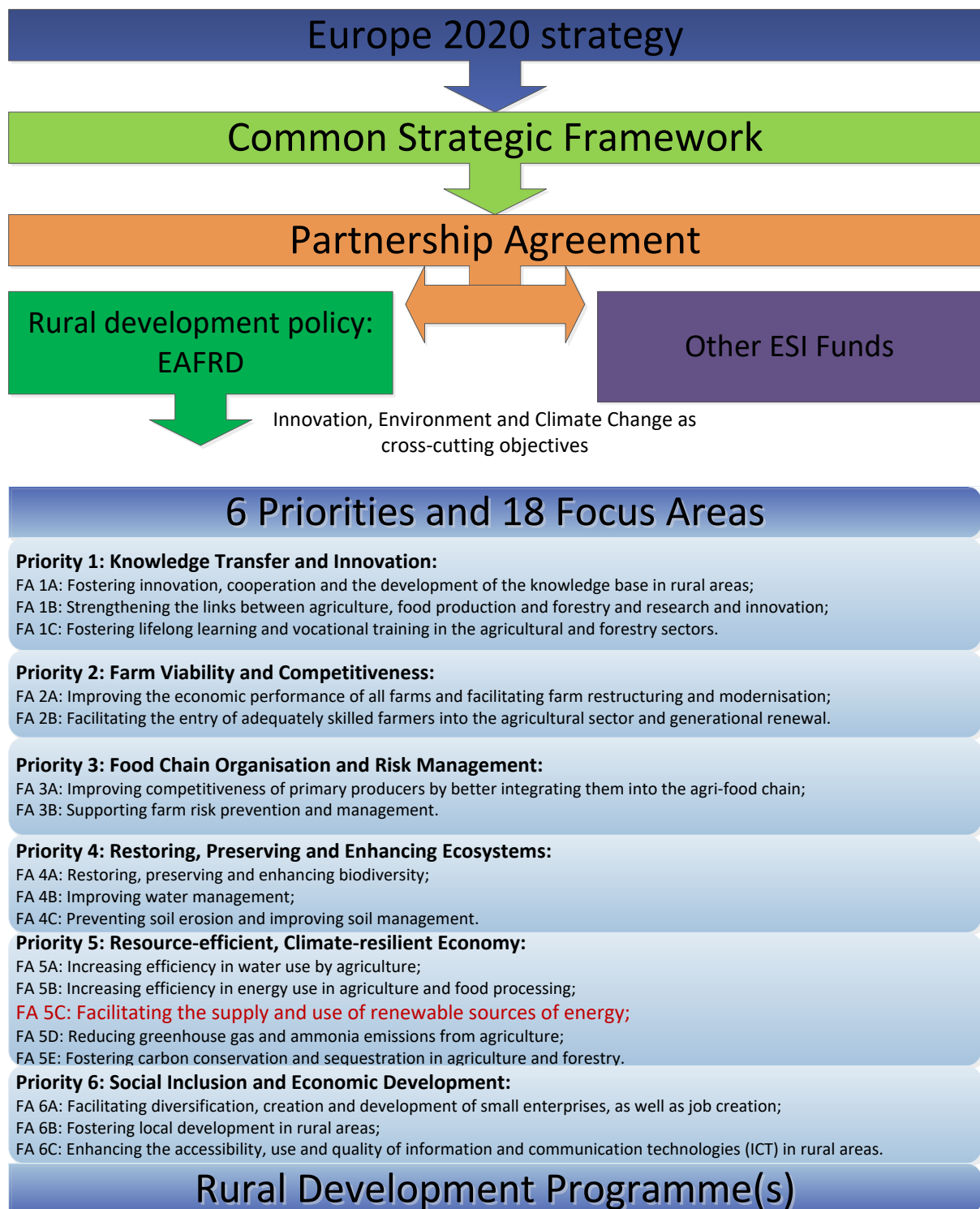
15. In the 2014-2020 programming period, the EU support for rural development, including support for renewable energy projects, is delivered within a new framework. The EAFRD has become one of the five European Structural and Investment Funds (ESIFs). This framework is intended to allow the different funds to be better coordinated, with the aim of improving the implementation of the Europe 2020 strategy for smart, sustainable and inclusive growth<sup>21</sup>. The strategic objectives of the Europe 2020 strategy have been translated into 11 thematic objectives at the level of the ESIFs. For the EAFRD, they have been further broken down into six rural development priorities and 18 focus areas<sup>22</sup> (see **Figure 3**). Our view on the new programming procedure is provided in Special Report No 16/2017 'Rural Development Programming: less complexity and more focus on results needed'.

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<sup>21</sup> COM(2010) 2020 final of 3.3.2010 "A strategy for smart, sustainable and inclusive growth".

<sup>22</sup> See Article 5 of Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005 (OJ L 347, 20.12.2013, p. 487).

Figure 3 – Rural development framework in the 2014-2020 programming period



Source: European Commission, European Network for Rural Development (ENRD, *Policy overview 2014-2020*, (adapted) (<https://enrd.ec.europa.eu/en/node/1587/policy-overview-2014-2020>).

16. Renewable energy is covered by focus area 5C, which refers to “facilitating the supply and use of renewable sources of energy, of by-products, wastes, residues and of other non-food raw material for purposes of the bio-economy”. This means that EAFRD measures that support the deployment of renewable energy should, in principle, be attributed to focus area 5C.

17. Within the framework of rural development policy, investment support for renewable energy deployment is subject to shared management by the Commission and the Member States. Rural Development Programmes (RDPs) are drawn up by the Member States and approved by the Commission. The Member States then select the projects to which funding is to be allocated, based on the programmes submitted.

## **AUDIT SCOPE AND APPROACH**

18. We examined the framework for renewable energy with a focus on how it had integrated rural development aspects. Our main audit question was: “Is EAFRD support for renewable energy facilitating renewable energy deployment and sustainable rural development?”

19. We assessed whether, and how, the instruments of renewable energy policy at EU and Member State level had actively supported rural development. Bioenergy is of prime importance for rural areas where biomass, such as crops, animal and organic waste and wood biomass, are readily available, but certain environmental and socio-economic risks are associated with it (**paragraphs 23 to 41**).

20. We also examined the rural development policy framework and its implementation at Member State level in order to assess whether EAFRD support for renewable energy actually contributed to sustainable rural development (**paragraphs 42 to 81**).

21. Taking account of the OECD’s work in this area<sup>23</sup>, we considered that investments in renewable energy contribute to sustainable rural development if they provide one or more of the following benefits:

- environmental benefits,
- income diversification for farmers and forest holders,
- jobs and business opportunities in and for rural enterprises,
- new and better energy infrastructure and services in rural areas,
- new sources of revenue to support key public services and infrastructure in rural areas.

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<sup>23</sup> OECD, “Linking Renewable Energy to Rural Development”, OECD Publishing, 2012, (<http://dx.doi.org/10.1787/9789264180444-en>).

22. We carried out the audit between September 2016 and May 2017, collecting audit evidence from the following sources.

- Documentary reviews and interviews with staff from four Directorates-General of the European Commission: DG Agriculture and Rural Development (AGRI), DG Energy (ENER), DG Environment (ENV), and DG Climate Action (CLIMA).
- Audit visits to five Member States: Bulgaria, France (Basse-Normandie), Italy (Tuscany), Lithuania and Austria. These Member States were selected because they cover 53 % of the planned expenditure for focus area 5C and in order to provide a balanced geographical spread. We reviewed the five relevant RDPs and other relevant documents, and interviewed staff of the Member States' rural development managing authorities, paying agencies and energy ministries. We visited 29 renewable energy projects from the 2007-2013 and the 2014-2020 programming periods on the spot and interviewed the project managers (see [\*Annex II\*](#)); the projects we visited were mainly investments in renewable energy installations, but they also included a number of supporting projects: for example, forest management projects, or investments in wood chip or pellet production facilities.
- A brief survey of six Member States (Ireland, Luxembourg, the Netherlands, Poland, Romania and Slovenia) that had allocated only a small amount of EAFRD funding, or none at all, to focus area 5C. Our aim here was to find out why this had been the case.
- Consultation meetings with relevant stakeholders, including the European Biomass Association (AEBIOM) and BirdLife, to discuss the potential benefits and sustainability risks of bioenergy.



## **OBSERVATIONS**

### ***The EU's renewable energy policy framework could better exploit the opportunities of renewable energy deployment in rural areas whilst mitigating the risks related to it***

23. In this section we examine whether the renewable energy policy framework encourages the potential benefits offered by renewable energy in rural areas, whilst mitigating the associated environmental and socio-economic risks. We focused on the particular case of bioenergy, since bioenergy is the renewable energy most evidently connected with rural areas.

### **The opportunities of renewable energy for rural development have not been sufficiently exploited**

#### **Studies show the potentially positive effects of renewable energy on rural development ...**

24. Several studies indicate that renewable energy projects can be developed to the advantage of local interests and sustainable rural development<sup>24</sup>. For example, renewable energy can create direct jobs (operating and maintaining equipment, for example) but most long-term jobs are indirect, and can be found all along the supply chain (construction, manufacturing, or in forestry and agriculture in the case of biomass). In some cases, the studies we examined showed that the construction of components for solar panels or wind turbines had been able to revive existing manufacturing facilities which had not previously been used for energy production. Some studies reported innovations (e.g. the development

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<sup>24</sup> OECD, "Linking Renewable Energy to Rural Development", OECD Publishing, 2012, (<http://dx.doi.org/10.1787/9789264180444-en>).

Revitalisation of local economy by development of renewable energy: good practices and case studies (REvLOCAL) for the IEA-RETD (International Energy Agency – Renewable Energy Technology Deployment platform) (<http://iea-retd.org/archives/publications/revlocal>).

AGRI-2010-EVAL-03 – Pedrolì, B., Langeveld, H. et al., 'Impacts of Renewable Energy on European Farmers – Creating Benefits for Farmers and Society'. Final Report for the European Commission Directorate-General Agriculture and Rural Development, 5.12.2011 ([https://ec.europa.eu/agriculture/external-studies/renewable-energy-impacts\\_en](https://ec.europa.eu/agriculture/external-studies/renewable-energy-impacts_en)).

SWD(2016) 416 final of 30.11.2016 "REFIT evaluation of the Directive 2009/28/EC of the European Parliament and of the Council", p. 54 (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016SC0416>).

of new products, practices and policies) in rural areas with renewable energy installations. Renewable energy can be a new source of revenue for farmers or forest owners, but also for land owners or local authorities. Moreover, by producing their own energy, rural communities may become less dependent on the price fluctuations of conventional fuels.

25. However, in order to maximise the economic benefits of renewable energy deployment for rural areas, the studies underline the need for an approach to rural development policy which is well adapted to local conditions and opportunities and which focuses on the competitiveness of rural areas. To this end, certain key factors need to be considered (see **Box 1**).

**Box 1 – Key factors for successfully linking renewable energy to rural development**

The OECD, in its study ‘Linking Renewable Energy to Rural Development’ identified the following key factors<sup>25</sup>.

- **Embed energy strategies in the local economic development strategy** so that they reflect local potential and needs.
- **Integrate renewable energy within larger supply chains in rural economies**, such as agriculture, forestry, traditional manufacturing and green tourism.
- **Limit subsidies in both scope and duration**, and only use them to encourage renewable energy projects that are close to being viable on the market.
- **Avoid imposing types of renewable energy** on areas that are not suited to them.
- **Focus on relatively mature technologies** such as heat from biomass, small scale hydro and wind.
- **Create an integrated energy system** based on small grids able to support manufacturing activities.

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<sup>25</sup> OECD, “Linking Renewable Energy to Rural Development”, OECD Publishing, 2012, pp. 18-19 (<http://dx.doi.org/10.1787/9789264180444-en>).

- **Recognise that renewable energy competes with other sectors for inputs**, particularly land.
- **Assess potential projects using investment criteria**, and not on the basis of short term subsidy levels.
- **Ensure local social acceptance by ensuring clear benefits to local communities and engaging them in the process.**

26. The experiences from renewable energy deployment in rural areas in Norway, Sweden and Finland underline the importance of local cooperation in order to foster renewable energy deployment and rural development. These examples mainly involve forest biomass<sup>26</sup>. The typical model of these ‘bioenergy communities’ involves biomass producers, forest transformation industries, local authorities and local civil-society organisations. These stakeholders often work together with consultancies or research institutes.

... but the EU’s renewable energy policy could more actively pursue these benefits

27. We found that the EU’s current renewable energy policy framework could more effectively encourage renewable energy projects that benefit rural areas.

- (i) EU legislative and policy documents mention the potentially positive impact of renewable energy on rural development. However, even though the Renewable Energy Directive refers to the rural development dimension of renewable energy deployment in its recitals, there are no specific provisions in the legislative part of the Directive related to promoting rural development.
- (ii) Little connection is made between renewable energy and rural development in the NREAPs and in the relevant progress reports. The EAFRD is rarely mentioned as a source of funding for renewable energy projects. There is also an apparent lack of coordination

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<sup>26</sup> Nordregio Policy Brief 2017:3 “Bioenergy and rural development in Europe: Policy recommendations from the TRIBORN research and stakeholder consultations, 2014-17” (<http://www.nordregio.se/en/Publications/Publications-2017/Bioenergy-and-rural-development-in-Europe-Policy-recommendations-from-the-TRIBORN-research-and-stakeholder-consultations-2014-17/>).

between the different ministries dealing with renewable energy and rural development policy in the Member States visited.

28. Our findings are supported by the study “Impacts of Renewable Energy on European Farmers” (December 2011) and by the European Economic and Social Committee (EESC), which suggest that the Member States should have developed strategies for linking rural development and the deployment of renewable energies, but had not done so<sup>27</sup>.

29. Nonetheless, in some Member States, we also found good examples of strategies concerning renewable energy that take into account the rural dimension (see **Box 2**).

**Box 2 – Good examples of strategies for renewable energy that take into account rural areas**

In Austria, the programme “Klima- und Energie-Modellregionen” (KEM) has been financed under the national climate and energy fund since 2009. It invites regions to develop and implement bottom-up concepts on climate and energy action, to meet energy demand with a smart mix of renewable energy generation, enhanced energy efficiency and smart controls according to their own potential and needs. Currently, 99 regions are participating in the KEM programme, covering 65 % of rural Austria.

France has a strategic plan for anaerobic digestion that is dedicated to rural areas, called EMAA (plan Énergie Méthanisation Autonomie Azote). Its objective is to build 1 000 anaerobic digesters on farms in France by 2020. EMAA aims to develop a French model to maximise the positive externalities of anaerobic digestion (such as the reduction of greenhouse gas emissions or the recovery of

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<sup>27</sup> AGRI-2010-EVAL-03 – Pedroli, B., Langeveld, H. et al., “Impacts of Renewable Energy on European Farmers – Creating Benefits for Farmers and Society”. Final Report for the European Commission Directorate-General Agriculture and Rural Development, 5.12.2011 ([https://ec.europa.eu/agriculture/external-studies/renewable-energy-impacts\\_en](https://ec.europa.eu/agriculture/external-studies/renewable-energy-impacts_en)).

Opinion of the European Economic and Social Committee (EESC) on the 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 - 2016-382-COD], paragraph 2.9 (<https://webapi.eesc.europa.eu/documentsanonymous/eesc-2016-06926-00-00-ac-tra-en.docx>).

different types of organic waste) and provide an additional income source for farmers. At the end of 2015, there were 236 anaerobic digesters on farms in France.

30. The declaration from the European Conference on Rural Development in Cork in September 2016<sup>28</sup> advocates “rural proofing mechanisms” for ensuring that the “rural potential to deliver innovative, inclusive and sustainable solutions” is reflected in Union policies and strategies. Rural proofing is about finding the best ways to deliver policies in rural areas and ensuring that rural areas receive equitable policy outcomes<sup>29</sup>. In May 2017 the Commission said it had started to look into relevant studies and Member States’ experiences. The results of this work may be used to develop a rural proofing mechanism.

31. The Commission has proposed, in its “Clean Energy for all Europeans” package (see ***paragraph 7***), a number of provisions and tools that could enhance the potentially positive effects of renewable energy deployment for rural development.

- (i) Integrated climate and energy plans to replace the NREAPs which, in the opinion of the Commission, will better integrate the concerns of rural areas and different authorities in charge while streamlining reporting by avoiding overlaps.
- (ii) The Governance Regulation<sup>30</sup> requires Member States to consider all stakeholders and better deploy synergies in different sectors.
- (iii) The Commission’s RED II proposal introduced provisions concerning renewable self-consumers and renewable energy communities<sup>31</sup>. Their purpose was to empower self-consumers to generate, store, consume and sell renewable electricity without facing

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<sup>28</sup> European Commission, “Cork 2.0 declaration: A Better Life in Rural Areas” ([http://enrd.ec.europa.eu/sites/enrd/files/cork-declaration\\_en.pdf](http://enrd.ec.europa.eu/sites/enrd/files/cork-declaration_en.pdf)).

<sup>29</sup> DEFRA, “Rural proofing – Practical guidance to assess impacts of policies on rural areas”, March 2017 (<https://www.gov.uk/government/publications/rural-proofing>).

<sup>30</sup> COM(2016) 759 final of 30.11.2016 “Proposal for a Regulation of the European Parliament and of the Council on the Governance of the Energy Union” (<https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>).

<sup>31</sup> Articles 21 and 22 of the RED II proposal.

disproportionate burdens, and to allow local communities to get involved and help develop specific strategies to improve the acceptance and deployment of renewable energy, thus unlocking the potential that exists in rural areas.

We consider these Commission proposals to be useful steps towards improving the integration of the rural dimension into the EU's renewable energy policy.

**The EU policy framework for renewable energy does not fully address environmental and socio-economic risks of bioenergy for rural areas**

32. Bioenergy is not a synonym for sustainable energy. The sustainability of bioenergy depends largely on how the biomass is produced and used. Biomass production and use can be unsustainable, for instance if they negatively impact people, the environment or natural resources in a way that compromises the ability of future generations to meet their needs.

33. Bioenergy is the renewable energy most clearly connected with rural areas. The raw materials<sup>32</sup> used for producing bioenergy are, in almost all cases, extracted from rural areas. Growing and extracting agricultural and forestry biomass provides opportunities for farm income diversification, jobs and business opportunities, and for providing new rural services.

34. Where solid biomass, biogas or biomethane replace the use of conventional fossil fuels they have the potential to reduce greenhouse gas emissions, as illustrated in **Figure A1** and **A2** in **Annex I**. This potential varies, depending on the agricultural or forest biomass production system, and on the biogas and biomethane production system.

35. However, bioenergy also entails environmental and socio-economic risks for rural areas. For example, land use change, intensification of forest management or intensive cultivation of energy crops may lead to a decrease in biodiversity, soil degradation or water stress and pollution (see **Box 3**). The combustion of wood biomass can also lead to higher emissions of

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<sup>32</sup> Such as agricultural crops (e.g. rapeseed, maize, miscanthus), waste from agricultural production, manure and wood (e.g. roundwood, wood from pruning or thinning, waste from wood processing industries).

certain harmful air pollutants<sup>33</sup>, and there are ongoing discussions as to whether wood biomass is actually carbon neutral (see **Box A1**)<sup>34</sup>. We have identified 16 environmental and socio-economic risks associated with the production and use of bioenergy (see **Table 1**, as well as **Tables A2** and **A3** in **Annex I**)<sup>35</sup>. The Commission analysed risks associated to bioenergy production and use in its Impact Assessment on Bioenergy Sustainability, prepared for the recast of the Renewable energy directive<sup>36</sup>.

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<sup>33</sup> Including particulate matter (PM) and Benzo[a]pyrene (BaP).

<sup>34</sup> IPCC, “Special Report on Renewable Energy Sources and Climate Change Mitigation”, 2011. European Environment Agency, “Opinion of the EEA Scientific Committee on Greenhouse Gas Accounting in Relation to Bioenergy”, 15.9.2011, p. 4.

“Bioenergy and rural development in Europe: Policy recommendations from the TRIBORN research and stakeholder consultations, 2014-171”, Nordregio Policy Brief 2017:3, published May 2017, p. 5.

European Environmental Agency, “Air quality in Europe — 2016 report”, 2016.

European Academies’ Science Advisory Council, “Multi-functionality and sustainability in the European Union’s forests”, 2017.

Searchinger, T.D.; Beringer, T. and Strong, A., “Does the world have low-carbon bioenergy potential from the dedicated use of land?”, 2017.

Brack, D., “Woody Biomass for Power and Heat Impacts on the Global Climate”, Chatham House, 23.2.2017.

Response to Chatham House report “Woody Biomass for Power and Heat: Impacts on the Global Climate”, 13.3.2017.

<sup>35</sup> The risks were mainly identified on the basis of the following Commission documents:

- SWD(2014) 259 final of 28.7.2014 “State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU”.
- SWD(2016) 418 final of 30.11.2016 “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)”.

This process was complemented through reviews of other scientific studies and policy documents.

<sup>36</sup> SWD(2016) 418 final of 30.11.2016 “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)”.

**Box 3 – The incentives for biogas production in Germany induced unsustainable cultivation of energy crops**

Germany is the biggest producer of biogas in Europe (it has 10 846 production facilities, making up 63 % of the EU total). Electricity from biogas accounts for 16.8 % of renewable electricity generated in Germany<sup>37</sup>.

Biogas production was strongly incentivised after 2000 by the provisions of the Renewable Energy Sources Act (EEG). Under that act, biogas installations were given a priority connection to the electricity grid. They were also able to sell electricity/biogas on a feed-in tariff fixed for 20 years. Changes to the EEG in 2004 and 2009 introduced additional bonuses, such as a bonus for using energy crops. Most biogas installations in Germany used a mixture of energy crops and manure as feedstock.

In 2013, an area of around 1 157 000 hectares (6.9 % of the agricultural area used) was used to produce energy crops, mainly maize silage (73 %). However, the increased use of energy crops, in particular maize, had generated controversies such as competition issues (biomass use, soil use), increased land rents, changes in land use (shorter crop rotation, more ploughing, less permanent pasture) and nutrient surpluses, and has led also to problems of acceptance by the population<sup>38 39</sup>.

Several modifications of the EEG in 2012, 2014 and 2017 (reduced payments, abolition of bonuses, etc.) aimed to slow down the growth of the sector and encouraged the use of waste rather than energy crops. A similar change in legislation recently took place in Italy, Europe's second-largest producer of biogas<sup>40</sup>.

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<sup>37</sup> Schaubach, K., Lauer, M., "Bioenergy Development in Germany and implications of the 2017 Renewable Energy Act", Bundesministerium für Wirtschaft und Energie, 4.4.2017.

<sup>38</sup> ADEME, « Benchmark des stratégies européennes des filières de production et de valorisation de biogaz », 10.2014.

<sup>39</sup> Scientific Advisory Board on Agriculture Policy at the Federal Ministry of Food, Agriculture and Consumer Protection (<http://www.bmel.de/SharedDocs/Downloads/EN/Ministry/Biogas-EEG.pdf>).

<sup>40</sup> *Decreto ministeriale 6 luglio 2012 – Incentivi per energia da fonti rinnovabili elettriche non fotovoltaiche* (Ministerial decree of 6 July 2012 – Incentives for renewable non-photovoltaic



36. EU legislation currently in place<sup>41</sup> establishes sustainability criteria for biofuels and bioliquids<sup>42</sup>. Since these criteria were adopted in 2009 and amended in 2015, discussions on the sustainability of bioenergy have been ongoing. As a result, in its ‘Clean Energy for all Europeans’ package, the Commission put forward sustainability criteria that would also apply to other types of bioenergy, such as bioenergy from solid and gaseous biomass fuels used for heat and power generation.

37. The Commission’s proposal contains two types of sustainability criteria:

- (i) criteria setting certain limits regarding the production of biomass fuels from agriculture and forestry, and
- (ii) criteria requiring a minimum percentage of greenhouse gas emission savings for different installations using biofuels, bioliquids and biomass fuels.

38. We examined whether, and to what extent, the criteria cover the risks we identified, and whether the proposed framework<sup>43</sup> provides an adequate basis for sustainable renewable energy deployment in rural areas.

39. The criteria included in the Commission’s proposal are not a binding condition for placing bioenergy on the market; they are only binding when:

- (i) the bioenergy production is counted as contributing towards the renewable energy target and for measuring compliance with renewable energy obligations, and

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generation of electricity; see Eurobserv’ER Biogas barometer 2014 (<https://www.eurobserv-er.org/biogas-barometer-2014>).

<sup>41</sup> RED Directive and Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC (‘Fuel Quality Directive’) (OJ L 140, 5.6.2009, p. 88). In 2015, an amendment to these Directives was included in order to address the issue of indirect land use change (ILUC) caused by the production of food-based biofuels.

<sup>42</sup> ECA Special Report No 18/2016 “The EU system for the certification of sustainable biofuels”, paragraphs 10 and 11 (<http://eca.europa.eu>).

<sup>43</sup> RED II proposal as published on 30 November 2016, with a corrigendum of 23 February 2017.

(ii) determining which biomass used for energy production is eligible for financial support.

40. The proposal does not cover all crops and uses, nor several types of installation (see **paragraph A3**). Only three of the sixteen risks we had identified were fully addressed in the RED II proposal and two in other legislative acts; 11 more such risks had been partly addressed. The risks that are not addressed are mainly linked to the intensification of agricultural practices and forest management, the burning of biomass and the emissions of pollutants during the rest of bioenergy lifecycle (see **Table 1**, as well as **Tables A2** and **A3** in **Annex I**). Our detailed analysis and conclusions supporting **Table 1** are set out in **Annex I**.

**Table 1 – Coverage of sustainability risks related to bioenergy in the Commission’s RED II proposal**

Sustainability risks		Risk addressed?
(1) Biodiversity decrease	1(a) due to direct land use change (e.g. deforestation, loss of protected areas)	
	1(b) due to intensification of agricultural practices (e.g. loss of crop diversity)	
	1(c) due to intensification of forest management	
(2) Soil degradation	2(a) due to direct land use change (leading to e.g. loss of carbon in the soil, erosion)	
	2(b) due to intensification of agricultural practices (leading to e.g. compaction, loss of soil fertility, erosion)	
	2(c) due to intensification of forest management (leading e.g. to loss of soil fertility in forests because of nutrient extraction – forest residues)	
(3) Water stress and pollution	3(a) due to direct land use change (e.g. changes in water balance)	
	3(b) due to intensification of agricultural practices (e.g. irrigation, fertilisation)	
	3(c) due to intensification of forest management (e.g. changes in water balance)	
(4) Greenhouse gas emissions (GHG)	4(a) due to lifecycle greenhouse gas emissions excluding biogenic carbon (e.g. fertiliser use, transport of the biomass, methane leakage from biogas plants)	
	4(b) due to indirect effects (e.g. indirect land use change (ILUC) due to displacement of food crop cultivation, younger forests)	
	4(c) due to CO <sub>2</sub> emissions from burning biomass (biogenic emissions)	
(5) Air pollution	5(a) due to burning biomass (e.g. particulate matter, SO <sub>2</sub> ...)	
	5(b) due to emissions of pollutants during the rest of the bioenergy lifecycle (e.g. transport of the biomass)	
(6) Socio-economic	6(a) Inefficient use of the biomass (including the non-application of the cascading principle, suboptimal conversion methods from biomass to energy)	
	6(b) Competition with existing uses (e.g. food production, wood for paper and pulp industry)	

Legend:

Risk addressed	Risk partly addressed	Risk not addressed

Source: ECA.

41. Setting renewable energy targets in combination with public support schemes for bioenergy stimulates the use of bioenergy. This has been the case, especially for transport

and electricity production, since the early 2000s. Part of this bioenergy is imported: in 2015, the EU imported 34 % of the pellets and 9.5 % of the liquid biofuels it consumed<sup>44</sup>. In the absence of sufficient safeguards (weak sustainability criteria), we consider it a risk that the RED II proposal encourages bioenergy production and use through ambitious renewable energy targets in combination with financial incentives, because this may lead to an increased use of unsustainable biomass in the long run. Therefore, the proposed framework does not provide an adequate basis for maximising the potential of rural areas for sustainable development.

***The EAFRD does not sufficiently pursue rural development goals through its expenditure on renewable energy***

42. Member States can decide to finance renewable energy investments through the EAFRD. The EU's rural development policy is meant to help the rural areas of the EU to meet economic, environmental and social challenges. Therefore, renewable energy investments financed through the EAFRD should clearly benefit rural areas. In the following sections we examine whether the Commission and the Member States have designed and implemented adequate strategies and measures, and whether they are able to demonstrate the achievements of EAFRD support for both renewable energy deployment and sustainable rural development.

**Renewable energy is not adequately considered in the rural development programming exercise**

43. The EAFRD has the potential to support projects that contribute to both renewable energy deployment and sustainable rural development. To promote better value for money, EAFRD funding for renewable energy should be built on a sound strategy, and provided according to soundly identified and quantified needs. It should also be coordinated with other available funding sources and other policy instruments, such as the NREAPs.

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<sup>44</sup> AEBIOM, "Statistical report 2016", pp. 121, 147 (calculated).

44. Beneficiaries of renewable energy projects may recover some of the investments costs through the sale of produced energy at preferential or market prices, or improve the economic performance of their operations. However, where investment support from the EAFRD is supplemented by attractive FITs, there is the risk of overcompensation and unlawful state aid as a form of financial advantage for beneficiaries, which was confirmed by a Commission audit in Bulgaria. Different approaches in the Member States we visited are shown in **Box 4**.

**Box 4 – Different Member States approaches to combine EAFRD support and feed-in tariffs**

In Bulgaria and France, the combination of FIT and EAFRD support was allowed in the 2007-2013 programming period. Following an audit in Bulgaria, the Commission proposed financial corrections because it had considered that the approach provided an unlawful state aid as a form of financial advantage for beneficiaries. As a consequence, the Bulgarian authorities had lowered the FIT retroactively in order to reduce the initial correction proposed. We have no information of similar changes in France.

Lithuania did generally not allow this kind of combined support. However, one of the visited beneficiaries went to court and eventually obtained both FIT and EAFRD investment support.

In Austria and Italy (Tuscany), in the 2007-2013 programming period, it was possible to receive both FIT payments and EAFRD support, but EAFRD support was lower for projects which were receiving FIT support. In the 2014-2020 programming period, combining EAFRD and FIT support is not allowed.

**Total planned expenditure on renewable energy from different EU funds is not known**

45. There is no comprehensive data available on the planned expenditure on renewable energy investments the 2014-2020 programming period under the ESIF in general and from the EAFRD in particular. ESIF thematic objective 4, 'Shift to low-carbon economy', which accounts for a planned expenditure of 44 814 million euro<sup>45</sup>, includes renewable energy, but also energy efficiency and sustainable urban mobility. Consequently, the Commission has no

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<sup>45</sup> European Commission (SFC), 12 October 2017.

clear picture of the planned contribution of ESIF investments to renewable energy deployment.

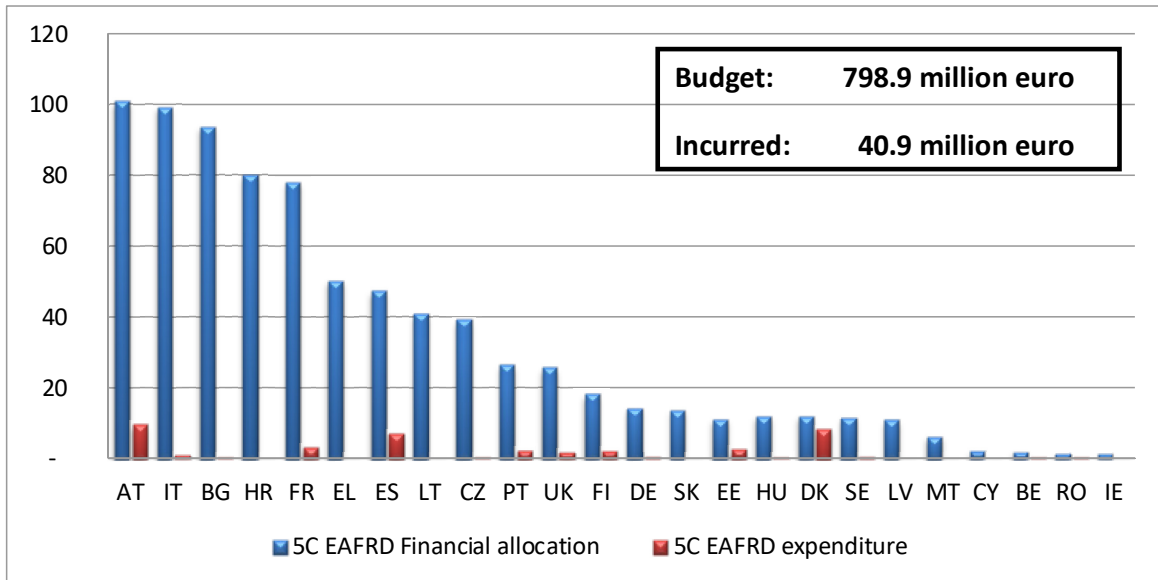
46. The EAFRD accounted for about 11 % of the ESIF allocation for thematic objective 4 (approximately 5 027 million euro<sup>46</sup>), while the planned EAFRD expenditure for focus area 5C was 798.9 million euro for the 2014-2020 programming period (see **Figure 4**). However, investments under this focus area do not only concern renewable energy, but also other aspects of the bio-economy such as the supply and use of by-products, wastes, residues and of other non-food raw material.

47. On the other hand, Member States may implement projects with renewable energy components under other focus areas (see **paragraphs 55 to 58**), which further complicates an analysis of the EAFRD contribution to renewable energy financing. We found from our survey (see **paragraph 22**) that Romania (see **Box 6**) and Slovenia, for example, decided to allocate only a low level or no funding to focus area 5C, because they considered other focus areas, such as 2A, 3A, 6A or 6B, to be more appropriate. The Netherlands and Poland replied that they had not programmed any EAFRD expenditure for renewable energy, because they considered other ESIFs and their own national programmes sufficient to support renewable energy deployment in rural areas.

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<sup>46</sup> Ibid.

**Figure 4 – Allocation of funding to focus area 5C by Member State for the 2014-2020 period and incurred expenditure at 12 October 2017 (in million euro)**



Source: European Commission (SFC), 12 October 2017.

48. Half-way through the programming period, only 40.9 million euro of expenditure had been incurred (5.1 % of the 800 million euro total budget)<sup>47</sup>. The significant delays in programme implementation for renewable energy may reflect the difficulties related to the programming of focus areas (see [paragraphs 55 to 58](#)), in addition to the delays in adopting the RDPs and the time needed by the Member States to design and adapt to the new framework.

#### Scope for improving the link between identified needs and the approach for renewable energy funding set out in the RDPs

49. The Commission's 'Guidelines for strategic programming for the period 2014-2020' stated that "the strategy description (intervention logic) should justify the choice, the combination and the prioritisation of rural development measures in the light of the results of the SWOT analysis and the needs identified. It has to prioritise the various needs

<sup>47</sup> Ibid.

identified and justify the prioritisation”. To this end, the Commission reviews the Member States’ strategic considerations for renewable energy deployment at the RDP approval stage.

50. The Commission provides guidance to the Member States through task forces, monitoring committees, checklists, measure guidelines (‘measure fiches’) etc. in order to facilitate the set-up and implementation of the RDPs. However, the guidance documents do not explicitly discuss the strategic considerations for renewable energy, nor what EAFRD investments in renewable energy should achieve, how they should add value to rural areas and how the EAFRD should complement existing EU and national funding schemes.

51. We found that all five RDPs we examined contained the obligatory elements regarding objective-setting, needs, and strategic considerations regarding renewable energy, but none of them included a comprehensive analysis or quantification of the associated financial needs. With the exception of Austria, the Member States visited did not effectively use their identified needs and SWOT analyses to inform their strategic approach towards renewable energy in their RDPs; their approach remained very general. Further weaknesses concerned the implementation and short-term changes of the initial strategies (see **Box 5**).

**Box 5 – Changes to the initial approach to renewable energy funding set out in the RDPs**

**Bulgaria: renewable energy strategy not adapted to evaluator’s recommendations and market conditions**

In Bulgaria, over 90 % of the renewable energy projects approved in the 2007-2013 period related to solar energy – which also benefited from attractive feed-in tariffs from electricity sales. The mid-term evaluation of the 2007-2013 Bulgarian RDP stated that Bulgaria’s potential for biomass production had not been fully realised, mostly due to external market factors. Noting the high number of solar energy projects, the evaluator recommended that a more balanced EAFRD support of the different types of renewable energies be implemented. However, the authorities did not adapt their strategy to take into account, for example, the biomass potential for the second part of the 2007-2013 programming period. In Bulgaria, investments in energy selling projects are no longer eligible in the 2014-2020 programming period.



**France (Basse-Normandie): the needs identified for renewable energy to be addressed with half of the initially-planned EAFRD funding**

In August 2015, the Commission approved the RDP of the French region of Basse-Normandie, which was based on the needs identified by the region itself. In March 2017, Basse-Normandie submitted an amended version of its RDP. This resulted in a decrease of 48 % of the EAFRD funds for renewable energy under focus area 5C, from 14.6 to 7.6 million euro. It is not clear whether the needs initially identified in the RDP had actually decreased or disappeared in such a short timeframe, or whether they are covered by other EU or national schemes.

52. The Commission's guidance and checks did not prevent these weaknesses. They did not ensure that the Member States had articulated sound strategies for renewable energy in rural areas. Furthermore, the choice of the EAFRD measures and their budgetary allocation did not always flow logically from the potential and needs described in the RDPs.

Weak coordination between various sources of financing for renewable energy

53. The current legislative framework<sup>48</sup> promotes the effective, efficient and coordinated implementation of the various EU funds, in particular the ESI funds. Responsibility for justifying the need for intervention under the RDP and for ensuring good coordination between funds lies mainly with the Member States. The Commission provides support and guidance to the Member States by issuing strategic guidelines, promoting good practices and monitoring programme implementation.

54. Upon reviewing a sample of Partnership Agreements and RDPs for the 2014-2020 programming period, we found that Member States had identified several potential funding sources and set out general demarcation principles and measures to prevent double-funding. However, the strategic documents we reviewed contained no further information

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<sup>48</sup> Article 27(1) of the Regulation (EU) No 1303/2013 of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the ERDF, the ESF, the CF and the EMFF and repealing Council Regulation (EC) No 1083/2006 (OJ L 347, 20.12.2013, p. 320).

on the benefits that could be achieved by effective coordination between the different funding sources for renewable energy. There had also been no analysis of the potential substitution effects, or of financial gaps in this area<sup>49</sup>.

#### Assignment of renewable energy measures to different focus areas

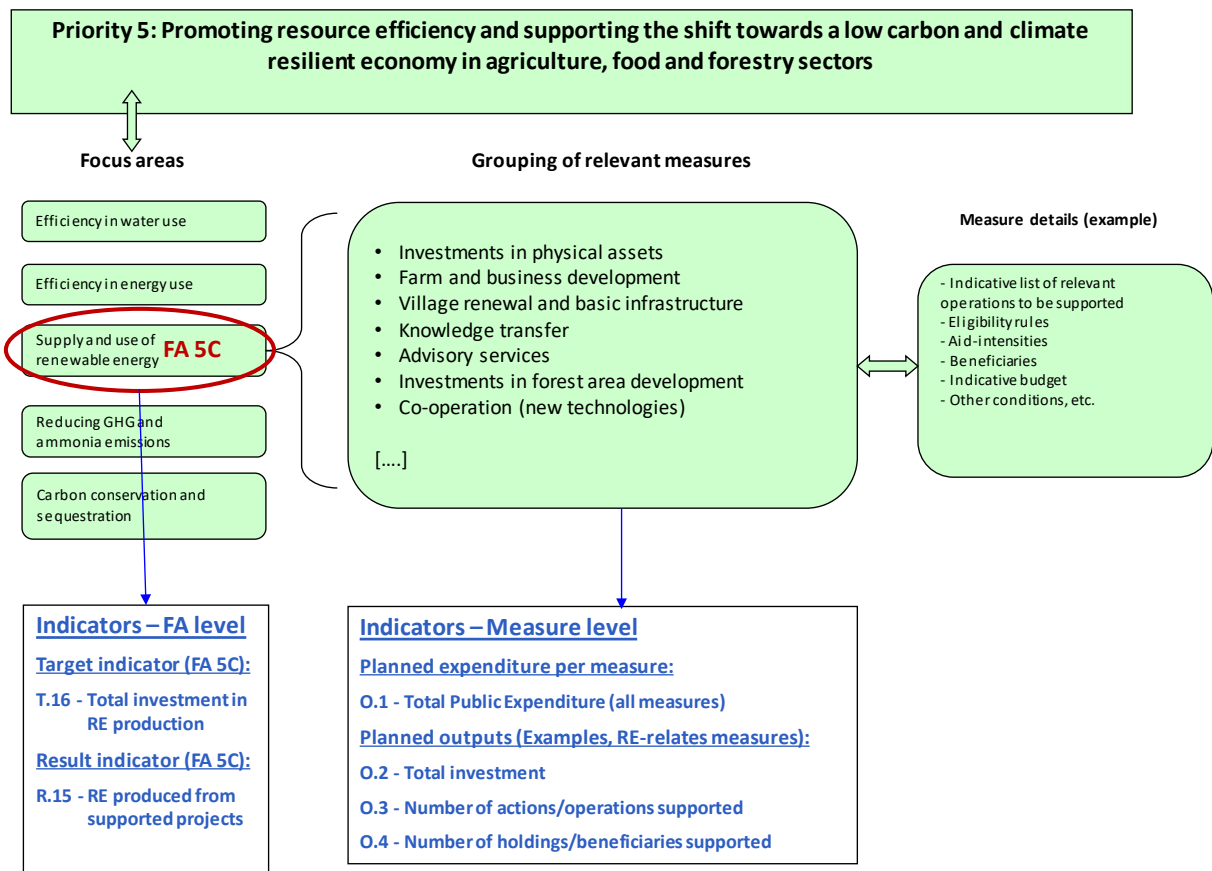
55. As explained in ***paragraphs 14 and 15***, the 2014-2020 rural development policy framework is structured around six priorities, which are further broken down into 18 thematic focus areas (see ***Figure 3***). Support for renewable energy is covered by focus area 5C, which refers to the supply and use of renewable energy.

56. The focus areas are implemented through rural development measures. ***Figure 5*** provides examples on the allocation of measures and the indicators set for priority 5. However, a single measure can contribute to several focus areas, priorities and objectives.

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<sup>49</sup> ECA Special Report No 16/2017 “Rural Development Programming: less complexity and more focus on results needed”, paragraphs 25 to 29 (<http://eca.europa.eu>).

**Figure 5 – Example of grouping of measures and indicators for priority 5 and its focus areas**



Source: European Commission, DG AGRI (adapted by ECA).

57. Furthermore, Member States can identify secondary effects for specific measures assigned under focus area 5C that impact additional focus areas. For example, the addition of photovoltaic panels on the top of a new barn used to improve the economic performance of a beneficiary could be assessed as a renewable energy project (i.e. under focus area 5C), or as part of a farm modernisation project, thus falling under focus area 2A (see **Figure 3**), with the renewable energy component having a secondary effect on focus area 5C.

58. Member States have not consistently assigned renewable energy measures and types of projects to focus areas (see **Box 6**). This will have an impact on the effectiveness of the monitoring and evaluation of the renewable energy projects financed through the EAFRD (see **paragraphs 69 to 71**), in particular because the Commission has not issued additional guidance on assigning projects to focus areas consistently across Member States.

### **Box 6 – Assignment of renewable energy projects to different focus areas**

#### **France – allocation of forestry measures**

Some forestry measures facilitate the production and sale of wood energy and can thus be linked to renewable energy<sup>50</sup>. Forestry measures were inconsistently allocated to focus areas by the French regions. Less than half of the regions in France allocated them to focus area 5C; the rest allocated them to other focus areas such as 2A, 2B, 2C, 5E, or 6A. The choice depended on the identified needs and the focus area selected to be activated, even though the expected outcome of the measures was similar.

#### **Romania and Bulgaria – renewable energy projects for own consumption**

In the 2014-2020 period, Romania and Bulgaria significantly or exclusively supported renewable energy projects for own consumption (on the farm or in the enterprise, with no energy being sold). Bulgaria considers that these projects contribute to focus area 5C, and has allocated the third-highest amount of all Member States to this focus area. The Romanian authorities, however, allocated a very low budget to focus area 5C, as they deemed renewable energy investments for own use to make only a secondary contribution to focus area 5C. These projects fell instead under focus areas 2A, 3A, 6A or 6B.

### **Monitoring and evaluation provides little information on the funding and results of investments in renewable energy**

59. Performance information on the effectiveness and efficiency of rural development spending on renewable energy is needed to demonstrate what has been achieved with the EU budget and to show that it has been well spent. In addition, monitoring and evaluation information is a valuable tool to improve the efficiency and effectiveness of rural

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<sup>50</sup> Forestry measures under the EAFRD relate to various aspects of forest management (generally aimed at promoting sustainable forest management and the multifunctional role of forests) as well as to agriculture and forestry-related activities. Forests are a main source of biomass, one of the most important types of renewable energy in rural areas. The forestry measures facilitate, among other things, the production and sale of wood energy. So their effect in terms of renewable energy production is only partial.

development spending by guiding the ongoing management of programmes, pointing out possible improvements and helping to shape future policy.

#### Renewable energy in the 2007-2013 Common Monitoring and Evaluation Framework (CMEF)

##### *No comprehensive monitoring information under CMEF for renewable energy*

60. Many Member States (including all five Member States we visited) decided to use EAFRD funding to finance renewable energy projects from the beginning of the 2007-2013 programming period. At that time no specific indicators were in place to measure outputs or results from renewable energy projects.

61. This changed in the context of the CAP 'Health Check', when renewable energy was recognised as a 'new challenge' and the Member States received additional funding for renewable energy projects for the rest of the programming period (2009-2013) (see **paragraph 14**). In this context, Member States were required to monitor the expenditure and the number of beneficiaries for renewable energy projects funded under this 'new challenge'. However, they did not have to collect data on project achievements, such as renewable energy produced or capacity installed. As a consequence, comprehensive information on the renewable energy projects financed through the EAFRD in the 2007-2013 period does not exist at EU level; the indicators which exist refer exclusively to the additional funds spent on renewable energy under the CAP 'Health Check'.

62. We examined the renewable energy project data (number of projects, support paid) provided by the Member States we visited, and noted a number of discrepancies in four of the Member States visited<sup>51</sup>, between the data reported to the Commission and our calculations based on the figures from the Member States' project databases. The authorities were unable to provide us with clarification, which raises doubts about the accuracy and completeness of the CAP 'Health Check' data.

63. Furthermore, there is also no comprehensive information available at EU level on the number of projects, renewable energy production or installed capacity. It is consequently

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<sup>51</sup> All Member States visited, with the exception of Lithuania.

impossible to quantify the EAFRD's contribution to the deployment of renewable energy in rural areas. In the absence of relevant and reliable information on renewable energy, it is not possible to assess the effectiveness of these measures in this period, and it remains unclear on what basis the Member States designed the renewable energy sections in their RDPs. These findings are consistent with our previous observations regarding monitoring data of ERDF and CF support for renewable energy in the 2007-2013 programming period<sup>52</sup>.

*CMEF programme evaluations provide limited information on the impact of renewable energy support on rural development*

64. Delays in implementing programmes under the MFFs are recurrent problems we have identified in many policy areas in the past<sup>53</sup>. The delays in implementing the 2007-2013 RDPs resulted again in a mismatch between the spending cycle and the timing of the reporting requirements. This led to limited pertinent data being available on renewable energy for the mid-term evaluations, although some useful information was provided (see **Box 7**). Many Member States experienced delays in finalising their ex-post evaluations<sup>54</sup>.

65. Our review of ex-post evaluations indicated that they had addressed the renewable energy investments (e.g. measures used) while their impact on sustainable rural development had not always been discussed. Pertinent analyses, covering, for example, the renewable energy environmental benefits for rural areas, income diversification, job creation, improvements in the energy infrastructure and services in rural areas, etc. had not been carried out.

66. We noted, however, some good practices regarding the evaluation of renewable energy projects (see **Box 7**).

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<sup>52</sup> ECA Special Report No 6/2014 "Cohesion policy funds support to renewable energy generation — has it achieved good results?", paragraphs 28 and 29 (<http://eca.europa.eu>).

<sup>53</sup> ECA Special Report No 16/2017, paragraphs 89 to 92.

<sup>54</sup> In May 2017, the Commission confirmed that three ex-post evaluations were still outstanding: Bulgaria, Romania and Spain (Galicia).

**Box 7 – Examples of good practices regarding the evaluation of renewable energy in rural areas**

The regional authorities of **Tuscany (Italy)** had carried out additional evaluation exercises that contained pertinent information about the contribution of the supported projects to the deployment of renewable energy: an evaluation report on 15 integrated supply chain projects, an evaluation report on forestry measures, discussing the wood-energy supply chain and the potential of the sector, and a paper on the experience of the five district-heating systems financed through LEADER+ during the 2000-2006 period.

The **Austrian** authorities had also completed evaluation reports addressing renewable energy, notably for measure 321 (Basic services for the economy and rural population). The report collected information on renewable energy projects' economic, regional, social and environmental effects by means of an evaluation matrix with 30 detailed indicators. From 20 case studies, the evaluators concluded that the impact of biomass heating systems, as implemented in Austria, had had positive effects on sustainable rural development, such as regional wood supply, job creation along the supply chain, and heat supply for the rural population.

Austria had displayed further examples of good practices by carrying out monitoring and evaluation activities outside the CMEF, such as studies on the economic and regional effects of a national programme aiming to support local and regional initiatives for renewable energy deployment (see **Box 2**). These studies concluded that regional awareness-raising and activity coordination were amongst the most valuable impacts for the participating regions. The authorities had also introduced a quality-management system for biomass heating systems of a certain size, gathering benchmarking data which was useful for project owners.

Renewable energy in the 2014-2020 Common Monitoring and Evaluation System (CMES)

67. The new performance framework of the 2014-2020 programming period aims to make rural development programme implementation more result-oriented than in the past. In this context, the CMES<sup>55</sup>, the rural development monitoring and evaluation system, provides a detailed common set of indicators to be used for focus areas, together with common

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<sup>55</sup> CMES was established in Articles 67 and 68 of Regulation (EU) No 1305/2013 and in Article 14 and Annexes IV, V and VI of Regulation (EU) No 808/2014, and replacing the CMEF of the 2007-2013 programming period.

evaluation questions to be answered in the future, with the intention of assessing the progress and achievements of rural development policy, as well as the impact, effectiveness, efficiency and relevance of rural development policy interventions.

68. The CMES requires that monitoring information be provided on ‘Total investment in renewable energy production’ (target indicator T 16) and on ‘Renewable energy produced from supported projects’ (complementary result indicator R 15). Member States have the option to establish additional output indicators for specific measures, and the Commission confirmed that ten Member States or regions<sup>56</sup> had decided to do so. However, the majority of these additional measure-specific indicators for the focus area 5C were input indicators, such as the public expenditure, or output indicators, such as the number of beneficiaries, projects or actions supported. Thus, these indicators cannot provide a sound basis for assessing the results of the renewable-energy component of the RDPs, so the results-oriented focus could not be enhanced<sup>57</sup>.

69. A further complication is that performance information is collected only at the level of focus areas<sup>58</sup>. Thus, the EAFRD projects assigned to focus area 5C do not provide comprehensive data on renewable energy in rural areas, because some projects may be indirectly linked to renewable energy (such as forest management) but assigned to focus area 5C, while others may be assessed as having secondary contributions to focus area 5C and thus be supported under other focus areas such as 2A, 3A, 6A, 6B etc. As a result, information on the ‘Total investment in renewable energy production’ (target indicator T 16) will only reflect what was assigned under the focus area 5C, and will not present the overall picture of all renewable energy investments in rural areas.

70. Another indicator, result indicator R 15 – ‘Renewable energy produced from supported projects’, aims to cover all renewable energy projects. However, the Commission guidance

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<sup>56</sup> Denmark, Estonia, Germany (North Rhine-Westphalia), Italy (Sicilia, Valle d’Aosta), Lithuania, Spain (national, Cataluña and Murcia), and UK (Scotland).

<sup>57</sup> ECA Special Report No 16/2017, paragraphs 50 and 51.

<sup>58</sup> ECA Special Report No 16/2017, paragraphs 23 and 24.



indicates that data for this indicator could be collected by the evaluators in different ways; for example, through EU and national statistics surveys. Thus, the comparability of data at EU level depends upon the choices made by evaluators.

71. Although the Commission issued detailed guidelines to support the preparation of the reporting and evaluation, the interconnections of the CMES indicators and focus areas could provide an additional burden for the evaluators, have an impact on the quality of the programme evaluations and their comparability, and may result in delays, as in the past. If reliable monitoring and evaluation information is not available at the key reporting time, Member States and the Commission may miss the opportunity to improve the implementation of renewable energy measures.

**Renewable energy projects confirm their potential for rural development, despite weaknesses in the selection procedures and project implementation**

72. The Member States are responsible for selecting rural development projects, with the aim of better targeting rural development measures towards EU priorities and the Member States' objectives and strategies. In order to do so, Member States are required to establish and apply clear, relevant and objective eligibility and selection criteria together with objective, fair and transparent procedures<sup>59</sup>.

73. Eligibility criteria are the requirements which have to be fulfilled by the projects in order to be eligible for support under the EAFRD. This eligibility is a yes/no condition. Selection criteria are established by the Member States for the prioritisation of projects that best meet the needs identified and the objectives established in the RDPs. Member States should apply the selection criteria even in cases where sufficient funds are available for all applications to be approved, in order to ensure sound financial management<sup>60</sup>. In the

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<sup>59</sup> See Article 49 of Regulation (EU) No 1305/2013.

<sup>60</sup> DG AGRI, "Draft guidelines on eligibility conditions and selection criteria for the programming period 2014-2020", March 2014.

present case they should particularly ensure the selection of viable projects that support renewable energy deployment and add value to rural areas.

Most projects had provided benefits for renewable energy deployment and rural development

74. We audited renewable energy projects of different types and sizes (see **Annex II**). The project sample included both investments that had supplied third parties with energy from renewable sources and others that had generated the energy for the project owners' own use.

75. The aim of "third-party energy supply" projects was mainly to diversify the income of agricultural or forestry holdings. Some projects had been initiated and implemented by SMEs or micro-enterprises. Successful projects of this type had provided new and well-received energy services to private households and public buildings in rural areas. These projects had had environmental benefits, particularly in the case of district-heating systems, which are generally more energy-efficient and have lower emissions than individual heating systems. These projects had also allowed project owners to benefit from new business opportunities. They had allowed suppliers of raw material along the local biomass supply chain, mainly farmers and foresters, to diversify their incomes and maintain their holdings (see **Box 8**).

76. Renewable energy deployment also requires thorough planning as well as installation and maintenance work. The expertise and experience gained in the region are valuable assets for its further development towards renewable energy production and usage, and the benefits may go beyond the initial project investment.

**Box 8 – Good practices in third-party energy supply projects financed under the EAFRD**

**District heating systems in rural Austria**

Austria's EAFRD support for renewable energy in the 2007-2013 programming period focused on the further development of wood-based district heating systems.

One of the projects we visited concerned EAFRD support for diversification into non-agricultural activities. It was run by a cooperative of 26 part-time farmers who jointly owned and managed a forest measuring 400 ha. They had established a local heating system with a wood chip boiler with a

capacity of 398 kW. The system provided 580 MWh of heat per year to three buildings outside the village: a nursery home, a building for assisted living, and a monastery. The farmers ran the heating system, as well as providing the wood for the production of wood chips from their own forests, using mainly low-quality wood from thinnings for which they had had no market before.

The farmers had benefited from the project economically: they had gained income streams from the heat itself and from the wood chips. In addition, the farmers had obtained new skills by participating in courses for entities managing district heating systems.

Other district-heating systems with wood chip boilers which we visited were run by SMEs or micro-enterprises and had higher energy capacities, thus providing heat to a greater number of consumers, including private houses, local authorities and restaurants. In all cases, the wood or the chips were being supplied by local farmers or forest holders located within a 50 km radius.

77. 'Own-use projects' had provided benefits to agricultural or forestry holdings and food-processing enterprises, for example through energy security and self-sufficiency, reduced energy costs, improved financial performance or a reduced carbon footprint. They had also contributed indirectly to sustainable rural development by providing jobs and income opportunities to local residents or by contributing to improving the environmental situation in the region (see **Box 9**).

#### **Box 9 – 'Own-use' renewable energy projects contribute indirectly to rural development**

##### **Reducing the carbon footprint of a winery in Tuscany**

A multifaceted project which we visited had received EAFRD support for food processing; it concerned the building of a new winery. Environmental sustainability was a priority for the winery, which calculated the carbon footprint of its products. The project included various elements for reducing energy consumption and producing renewable energy: a geothermal plant for cooling, a photovoltaic installation, a wood biomass heating plant, and several investments for saving energy (a sunlight capture system, ventilation, evaporative cooling tower). In 2015, the company produced 68 % of the energy it used. The project also resulted in a reduction of the carbon footprint per bottle of wine.

In addition to improving its environmental performance, the company had improved its economic results, which had also allowed it to increase its number of employees (from 8 in January 2011 to 20 in December 2016).

### **Small renewable energy projects in Bulgaria adapted to the farmers' needs**

Two investment projects on small farms we visited in Bulgaria (12.5 ha and 4 ha) underline the potential of EAFRD-financed renewable energy projects, albeit to a more modest extent. Both projects used electricity from photovoltaic cells to run an irrigation pump for organic hazelnut and truffle production, and for electric lighting in a warehouse for organic fruit. Both projects were implemented outside the village without connection to the grid, so the photovoltaic installations were considered to be economical and environmentally friendly solutions, adapted to the farmers' needs. The production of organic hazelnuts and truffles provides opportunities not only for farmers but also for the region to develop new business opportunities.

However, the Member States' selection procedures did not ensure that the most pertinent projects were selected ...

78. The Member States are required to establish selection criteria for the selection of projects, in order to ensure that financial resources for rural development are used in the best way. We found that the Member States visited did not always comply with this principle.

79. We examined the selection criteria and processes in the 2014-2020 programming period and found that four of the five Member States<sup>61</sup> we visited had used selection criteria that were relevant, to some extent, to ensure that projects that facilitated renewable energy deployment and sustainable rural development were prioritised: for example, projects which were expected to have positive effects on income diversification and the environment, the use of locally produced and processed raw material (biomass fuels), or the consideration of local strategies and the involvement of the local population. However, these efforts were partially jeopardised by weak selection procedures. We considered that Austria, Bulgaria, Italy (Tuscany) and France (Basse-Normandie; concerning their forestry measures) had used undemanding scoring systems with minimum thresholds that could be achieved by fulfilling only one or a few criteria.

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<sup>61</sup> All Member States visited, with the exception of Bulgaria, had used relevant criteria.

... and resulted in some renewable energy projects that provided marginal benefit to rural areas

80. Weaknesses in the selection process may result in the financing of projects that provide an economic benefit for the project owners, but have little impact on rural areas. This is the case for some of the projects visited during the audit. Financial support had not always been used to create jobs or initiate further business opportunities, to improve the situation of existing farm or forestry holdings or to provide energy services to the rural people (see **Box 10**).

**Box 10 – Renewable energy projects with marginal benefits for rural development**

**Marginal benefit for rural areas from photovoltaic projects in Bulgaria**

As set out in **Box 2**, Bulgaria had used more than 90 % of its EAFRD support for renewable energy in the 2007-2013 programming period for photovoltaic projects, despite recommendations to the contrary and despite grid capacity limitations<sup>62</sup>.

Three renewable energy projects we visited in Bulgaria had received EAFRD support for the creation and development of micro-enterprises and for diversification into non-agricultural activities. Each of the projects created one job for maintaining and protecting the installations. All three projects depended on preferential FIT payments, and did not provide other business opportunities or services, thus creating no considerable benefit for rural development.

81. Our project visits confirmed the positive impact of certain types of renewable energy projects on rural development, justifying financial support under the EAFRD. However, taking into account the existence of several other renewable energy support schemes, projects which do not contribute to both the renewable energy target and the overall rural development objective should not receive EAFRD support.

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<sup>62</sup> DG ENER, “Mid-term evaluation of the Renewable Energy Directive for the European Commission”, April 2015, p. 38.

## **CONCLUSIONS AND RECOMMENDATIONS**

82. EU legislative and policy documents underline the intention to exploit the potentially positive impact of renewable energy investment on rural development. Studies confirm that renewable energy can have positive effects on sustainable rural development, but there are also environmental and socio-economic risks linked to the deployment of certain types of renewable energy.

83. In our audit, we examined the framework for renewable energy with a focus on how it had integrated rural development aspects. We also examined the rural development policy framework and its implementation in the Member States in order to assess whether EAFRD support for renewable energy had actually contributed to sustainable rural development.

84. From our audit work we conclude that funding of renewable energy projects has significant potential to facilitate sustainable rural development but, as yet, that potential remains mostly unrealised.

85. We found that the rural development dimension of renewable energy had not been adequately considered in the Commission and the Member States' current policy framework. As a consequence, the opportunities of renewable energy deployment in rural areas had not been sufficiently exploited. The Commission has recently proposed some changes to the renewable energy policy framework that have the potential to improve this situation (**paragraphs 24 to 31**).

### **Recommendation 1 – Rural proofing of future renewable energy policy**

When designing their future renewable energy policy, the Commission and the Member States should take into account the circumstances and needs of the rural community and economy, consider potential positive and negative policy impacts, and ensure that rural areas receive equitable policy outcomes.

In order to do so, the Commission, in cooperation with the Member States, should develop a relevant mechanism that could be inspired by the rural proofing mechanism as envisaged under “Policy Orientation 1” of the Cork 2.0 Declaration of 2016.

The Commission should introduce this tool in the consultation process with the Member States on the integrated national energy and climate plans, which have to be notified to the Commission by 1 January 2019 and guide the Member States on how to apply it.

Target implementation date: end of 2019.

86. Moreover, for bioenergy, which is the renewable energy most evidently connected with rural areas, the environmental and socio-economic risks linked to its deployment have not been sufficiently addressed in the Commission's current or proposed policy frameworks. The combination of renewable energy targets, public support schemes and weak sustainability criteria for bioenergy risks boosting the use of biomass for energy purposes, without providing sufficient guarantees to ensure that the biomass has been sustainably sourced (*paragraphs 32 to 41*).

#### **Recommendation 2 – Improved bioenergy sustainability framework**

The Commission, together with the co-legislators, should design the future policy framework for bioenergy in a way that provides for sufficient safeguards against the unsustainable sourcing of biomass for energy. The framework should acknowledge and address the sustainability risks of boosting the use of bioenergy through targets and financial support schemes, and ensure that the associated environmental and socio-economic risks are mitigated.

Target implementation date: 2020.

87. The Commission has not provided clear guidance on how EAFRD support for renewable energy could add value at European level, and how it should complement the existing EU and national funding schemes. Therefore, the EAFRD risks becoming simply another funding source for renewable energy, with no priority given to rural development.

88. The Commission issued comprehensive guidance to the Member States about setting up and implementing their RDPs. However, partly due to the absence of a clear vision concerning EAFRD support for renewable energy, the Member States visited had adopted only a very general strategic approach towards renewable energy support, and had not

sufficiently coordinated EAFRD support with the various other EU and national funding sources for renewable energy in order to maximise its impact in rural areas. Furthermore, we found that renewable energy measures had not been assigned consistently to focus areas in the EU, which appears sub-optimal, but we consider this to mainly be an issue concerning monitoring and evaluation (***paragraphs 49 to 58***).

**Recommendation 3 – Clear guidance on the EAFRD’s role for renewable energy support**

When designing their future rural development policy, the Commission should set out what EAFRD investments in renewable energy should achieve; how they should add value in rural areas; and how the EAFRD should complement the existing EU and national funding schemes for renewable energy.

In this context, the Commission should use relevant good practice experience found during our audit (see ***Box 7***, ***Box 8*** and ***Box 9***), as well as similar experience described in the OECD study ‘Linking Renewable Energy to Rural Development’ (see ***Box 1***).

Target implementation date: end of 2018.

89. The availability of relevant and reliable monitoring and evaluation information when reports are being made is crucial for the Commission and the Member States to improve the implementation of EAFRD support for renewable energy. However, despite some examples of good practice, there is no comprehensive monitoring and evaluation information on support for renewable energy projects from EAFRD and other EU funds available for the 2007-2013 programming period (***paragraphs 60 to 65***).

90. For the 2014-2020 programming period, the Commission issued guidelines to support the Member States’ reporting and evaluation. However, the Member States’ varying approaches to defining primary and secondary contributions of projects and assigning the measures and project types will have a negative impact on the effectiveness of the monitoring and evaluation exercises. The main indicators with relevance to renewable



energy in the 2014-2020 programming period<sup>63</sup> have limited information value, because of their restricted scope and because of methodology issues. The Member States were able to use additional relevant indicators, but only a few did so. These limitations require additional efforts from the Member States' evaluators and may result in inconsistent EU-wide reporting and delays (***paragraphs 67 to 71***).

91. In Special Report No 16/2017<sup>64</sup>, we already underlined the need for the Commission to ensure that the enhanced annual implementation reporting of 2019 provides clear and comprehensive information on programme achievements, and to define the various types of indicators more accurately for the post-2020 programming period.

**Recommendation 4 – A simpler and more meaningful monitoring and evaluation framework**

With regard to EAFRD support for renewable energy, the Commission should require the Member States to provide pertinent information on programme achievements of renewable energy projects in their enhanced annual implementation reports of 2019. This information should allow the Commission to know how much EAFRD expenditure has been paid out for renewable energy projects, the energy capacity installed or the energy produced from such projects.

Target implementation date: end of 2018.

92. The Member States are responsible for targeting their project selection towards the EU's priorities and towards their own objectives, in line with their strategy. In order to do so, they should establish and apply clear, relevant and objective eligibility and selection criteria

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<sup>63</sup> T16 – Total investment in renewable energy production,  
R15 – Renewable energy produced from supported projects.

<sup>64</sup> Special Report No 16/2017, recommendations 3 and 4.

together with objective, fair and transparent procedures. The Commission has issued guidance in this regard, for example in the form of seminars and guidelines<sup>65</sup>.

93. The projects we visited produced energy for project operators' own use or for third-party supply, or supported renewable energy deployment indirectly (***paragraphs 74 to 77***). However, the high budgets for focus area 5C, together with the low implementation rates (see ***paragraph 48***) and weak selection procedures (***paragraphs 78 and 79***), imply the risk that EAFRD support will be granted to renewable energy projects that do not provide any clear benefit to the rural areas where they were located, in order to avoid decommitment of the earmarked money.

**Recommendation 5 – Better project selection taking into account value added to rural areas and project viability**

In order to mitigate the risks linked to high budgets for focus area 5C, together with the low implementation rates and weak selection procedures, the Commission should reinforce with the Member States the need to apply relevant selection procedures, in order to give support only to viable renewable energy projects with a clear benefit for sustainable rural development.

Target implementation date: end of 2018.

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<sup>65</sup> European Commission, "Draft Guidelines on eligibility conditions and selection criteria for the programming period 2014 – 2020 and FAQs". Selection criteria ([https://enrd.ec.europa.eu/news-events/events/enrd-workshop-selection-criteria-towards-more-performant-rd-policy\\_en](https://enrd.ec.europa.eu/news-events/events/enrd-workshop-selection-criteria-towards-more-performant-rd-policy_en)).

This Report was adopted by Chamber I, headed by Mr Phil WYNN OWEN, Member of the Court of Auditors, in Luxembourg at its meeting of 10 January 2018.

*For the Court of Auditors*

Klaus-Heiner LEHNE

*President*

**ANNEX I****Analysis: Does the EU’s sustainability framework for bioenergy sufficiently mitigate the related environmental and socio-economic risks?**

A1. We examined whether (and to what extent) the EU’s sustainability framework for bioenergy addresses 16 environmental and socio-economic risks related to the deployment of bioenergy.

**The Commission has proposed changes to the current bioenergy sustainability framework ...**

A2. EU legislation currently in place<sup>66</sup> establishes sustainability criteria for biofuels and bioliquids. Since these criteria were adopted in 2009 and amended in 2015, discussions on the sustainability of bioenergy have been ongoing. As a result, in its ‘Clean Energy for all Europeans’ package, the Commission put forward sustainability criteria that would also apply to other types of bioenergy, such as bioenergy from solid and gaseous biomass fuels see **Table A1**).

**Table A1 – The proposed sustainability framework for bioenergy at a glance**

Proposed sustainability criteria		
Sustainability criteria <sup>1</sup> concerning the production of biomass fuels		Greenhouse gas emissions saving criteria
from agriculture	from forestry	
- it is prohibited to obtain biomass for energy from certain types of land (i.e. land with high biodiversity value,	- laws, monitoring and enforcement systems should be in place to ensure that certain forest management practices are respected	- a minimum percentage of greenhouse gas emissions savings for different types of installations depending on the date on which they start operating (see also

<sup>66</sup> RED and Directive 2009/30/EC. In 2015, an amendment to these Directives was included in order to address the issue of indirect land use change (ILUC) caused by the production of food-based biofuels.

land with high carbon stock, and peatland)	- countries or regions sourcing forest biomass to the EU must meet a number of LULUCF requirements, including ratifying the Paris agreement; having commitments and actions in place to conserve and enhance carbon stocks and sinks; and having in place a reporting scheme for greenhouse gas emissions	<b>paragraph A4</b> on accounting issues)
Article 26(2)–26(4)	Article 26(5)–26(6)	Article 26(7)
<b>Other provisions that may impact on the sustainability of bioenergy</b>		
<b>Energy efficiency requirement</b>	- the need to use high-efficiency cogeneration technology for installations producing electricity with a fuel capacity $\geq 20$ MW	Article 26(8)
<b>Cap on the use of food or feed crops</b>	- the use of food or feed crops for the production of biofuels and bio-liquids should be capped at 7 % and reduced to 3.8 % in 2030	Article 7
<b>Heating and cooling RE target</b>	- the share of renewable energy supplied for heating and cooling should be annually increased by 1 %	Article 23
<b>Energy from ‘advanced biofuels’ target</b>	- the minimum share of energy from ‘advanced biofuels’ (listed in Annex IX), from renewable liquid and gaseous transport fuels of non-biological origin, from waste-based fossil fuels and from renewable electricity in the total amount of transport fuels should be 1.5 % in 2021, and be increased to 6.8 % in 2030	Article 25(1)

- <sup>1</sup> The sustainability criteria are applicable to installations producing electricity, heating and cooling or fuels with a fuel capacity greater than or equal to 20 MW (solid biomass) and with an electrical capacity greater than or equal to 0.5 MW (gaseous biomass). Member States may apply the criteria to installations with a lower fuel capacity.

Source: ECA.

... but the proposal’s coverage is limited ...

A3. The sustainability framework does not cover all the biomass produced and used in the EU. It only applies to biomass used for energy purposes, some crops or uses are excluded, and the number of installations covered is limited.

- (i) Crops destined to be used to create biogas for electricity are not covered by Article 7(1).
- (ii) Biogas for use in the transport sector is not covered by the greenhouse gas emissions savings criteria (Article 26(7)).

- (iii) These criteria are only applicable to installations above a certain capacity. The industrial sector is not the most prolific consumer of solid biomass, since most is used for residential heating<sup>67</sup>. Moreover, the threshold of 20 MW for solid biomass fuels was set solely based on data concerning plants using wood chips<sup>68</sup>; but only 32 % of solid biomass is consumed in the form of wood chips by installations with a capacity of greater than 1 MW<sup>69</sup>. The threshold of 0.5 MW for biogas plants means that the criteria risk being applied only to a very limited number of biogas plants, since the plants based on agricultural feedstocks have average electric capacities of 450 kW<sup>70</sup>.

... includes unresolved accounting issues related to greenhouse gas emissions ...

A4. Calculating greenhouse gas emissions levels from bioenergy production is a problematic task. The most significant issues are described below. However, they are not covered by the RED II proposal, but should be addressed by the Commission's proposal on LULUCF.

- (i) At the level of individual installations: direct carbon dioxide emissions associated with the combustion of biomass are not accounted for in life-cycle analyses (LCAs)<sup>71</sup> for

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<sup>67</sup> Statistics for the consumption of solid biomass show that residential consumption (excluding pellets) alone already accounts for 39 % of the total consumption of solid biomass. To this figure should be added a proportion of the consumption of "pellets" (bearing in mind that 65 % of EU wood pellet consumption is for residential heating) and "other solid biofuels (small-scale use of wood chips, black liquor etc.)" not taking place in industrial premises.

<sup>68</sup> At EU level, the number of electric plants using solid biomass (particularly for plants using pellets, and other solid biofuels (small scale use of wood chips, black liquor, etc.)) is not known, and neither is their size, but some data exist for plants using wood chips. The plants using wood chips over 20MW represent, according to the AEBIOM 2016 full report, 16 % of the total number of plants using this material as a raw source; these alone consume 75 % of the wood chips biomass.

<sup>69</sup> AEBIOM, "Statistical report 2016", p. 68 (calculated).

<sup>70</sup> The information available on the number and capacity of biogas plants in the EU is very limited. The EBA statistical report 2016 (p. 8) gives an average figure of 450 kW electrical capacity for plants based on agricultural feedstock.

<sup>71</sup> LCA is a tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle. Unfortunately, LCA methods are unable to properly characterise land use effects.

greenhouse gas emissions calculations in the renewable energy directive. This implicitly assumes that an almost immediate uptake of the carbon takes place via plant regrowth. However, this assumption is incorrect in the case of wood biomass because of the time trees need to grow to maturity and because of the failure to take into account the absorption and release of carbon that land would generate if not used for biomass production. This is further elaborated in **Box A1**.

- (ii) At the level of national greenhouse gas emissions accounting: under the current Kyoto national accounting rules for greenhouse gas emissions, the combustion of biomass counts as zero in the energy sector under the assumption that any resulting carbon stock changes are accounted for as emissions in the LULUCF<sup>72</sup> sector. This is done in order to avoid counting these emissions twice. On the other hand, LULUCF is not yet fully included in the EU's domestic reduction target for 2020, so the greenhouse gas emissions from the combustion of biomass are not currently accounted for in any sector. In July 2016, the Commission proposed a regulation which would require greenhouse gas emissions and removals from LULUCF to be included in the 2030 climate and energy framework from 2021<sup>73</sup>.

**Box A1 – Is the use of wood biomass carbon neutral?<sup>32</sup>**

Burning wood to produce energy usually emits more carbon per unit of energy produced than does burning fossil fuels.

This means that the environmental benefits of bioenergy in the form of reduced greenhouse gas emissions cannot materialise in the use phase of the biomass (i.e. the burning of biomass for energy). Instead, the benefits must be achieved during the production of the biomass, either by reducing emissions (especially when using wastes and residues, which would otherwise release their carbon to the atmosphere if not collected for energy), or by increasing carbon sinks (e.g. if the production of the biomass for energy increases plant growth, known as 'additional' biomass).

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<sup>72</sup> LULUCF stands for Land use, land use-change and forestry; for further explanation, see glossary.

<sup>73</sup> COM(2016) 479 final and SWD(2016) 249 final.

Scientists disagree on the appropriate timeframe over which environmental benefits from bioenergy might be expected to materialise (the carbon payback period). In the short term, burning biomass from wood waste or residue can deliver considerable reductions in greenhouse gas emissions. However, harvesting forests primarily for energy purposes will increase the CO<sub>2</sub> content of the atmosphere even if new trees are planted, because newly planted trees cannot absorb the same amount of carbon as more mature trees, and it takes time for the amount of CO<sub>2</sub> released during burning to be captured again. This may even trigger an irreversible change in the global climate from one stable state to another at a higher temperature ('climate tipping points'). Some scientists argue that the length of the carbon payback period does actually not matter, as long as all CO<sub>2</sub> emissions are eventually absorbed.

Further discussions refer to the appropriate reference scenarios. According to the EEA Scientific Committee, "[t]he basic error in the assumption of general carbon neutrality of biomass is the failure to count the production and uses of biomass that land would generate if not used for bioenergy (the counterfactual). Therefore, the Committee recommends that only biomass grown in addition and wastes, i.e. biomass that would otherwise decay in the forest, should be used for bioenergy consumption. Other scientists disagree, claiming that it is acceptable to harvest forests for bioenergy, as the forest would be harvested anyway.

... and does not fully address the sustainability risks of bioenergy

A5. Statistical data confirm that biomass production from forestry and agriculture is increasing in absolute terms<sup>74</sup>. The EU's forests, a net carbon sink, are expanding. Each year, this increase cancels out the equivalent of approximately 10 % of the EU's non-LULUCF greenhouse gas emissions. However, this absorptive capacity could be jeopardised, and other sustainability risks exacerbated, if demand for bioenergy increases significantly.

A6. In the course of our analysis we found that the sustainability framework as set out in the RED II proposal does not fully address the 16 environmental and socio-economic risks we had identified. Only three of the sixteen risks we had identified were addressed in the RED II proposal and two in other legislative acts; further six risks were partly and five not addressed

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<sup>74</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Agri-environmental\\_indicator\\_-\\_renewable\\_energy\\_production](http://ec.europa.eu/eurostat/statistics-explained/index.php/Agri-environmental_indicator_-_renewable_energy_production)



(see **Tables A2** and **A3**). The main risks that are not or only partly addressed were the following:

- (i) Intensification of forestry practices (see **Table A2**, risks 1(c), 2(c) and 3(c)). The Commission has not proposed to make the existing voluntary sustainability requirements mandatory. In the absence of binding standards ensuring an equal and high level of sustainable forest management practices<sup>75</sup>, the proposal thus relies on voluntary initiatives in the EU Member States (such as Forest Europe) and in non-EU countries supplying biomass to the EU.
- (ii) Intensification of agriculture practices (see **Table A2**, risks 1(b), 2(b) and 3(b)). In the current Renewable Energy Directive, the sustainability criteria for biofuels explicitly impose standards for keeping land in good agricultural and environmental condition<sup>76</sup>. This requirement has been deleted in the RED II proposal. As a consequence, the relevant environmental standards are not mandatory for areas that are not checked under the Common Agricultural Policy. There are also no such standards for biomass sourced outside the EU.
- (iii) Cascading (see **Table A3**, risk 6(a)). According to the logic of the circular economy, wood should be put to good use before it is reused, recycled and finally burnt for energy. This principle, known as the cascading use principle, gives priority to higher-value uses and promotes energy use only when other options are starting to run out. However, cascades are only established if they make sense economically. Strong policy incentives to use biomass as a renewable energy source, such as financial support and ambitious targets, may distort this logic. This risk is not addressed in the Commission's proposal.

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<sup>75</sup> 'Impact assessment' SWD(2016) 418 final.

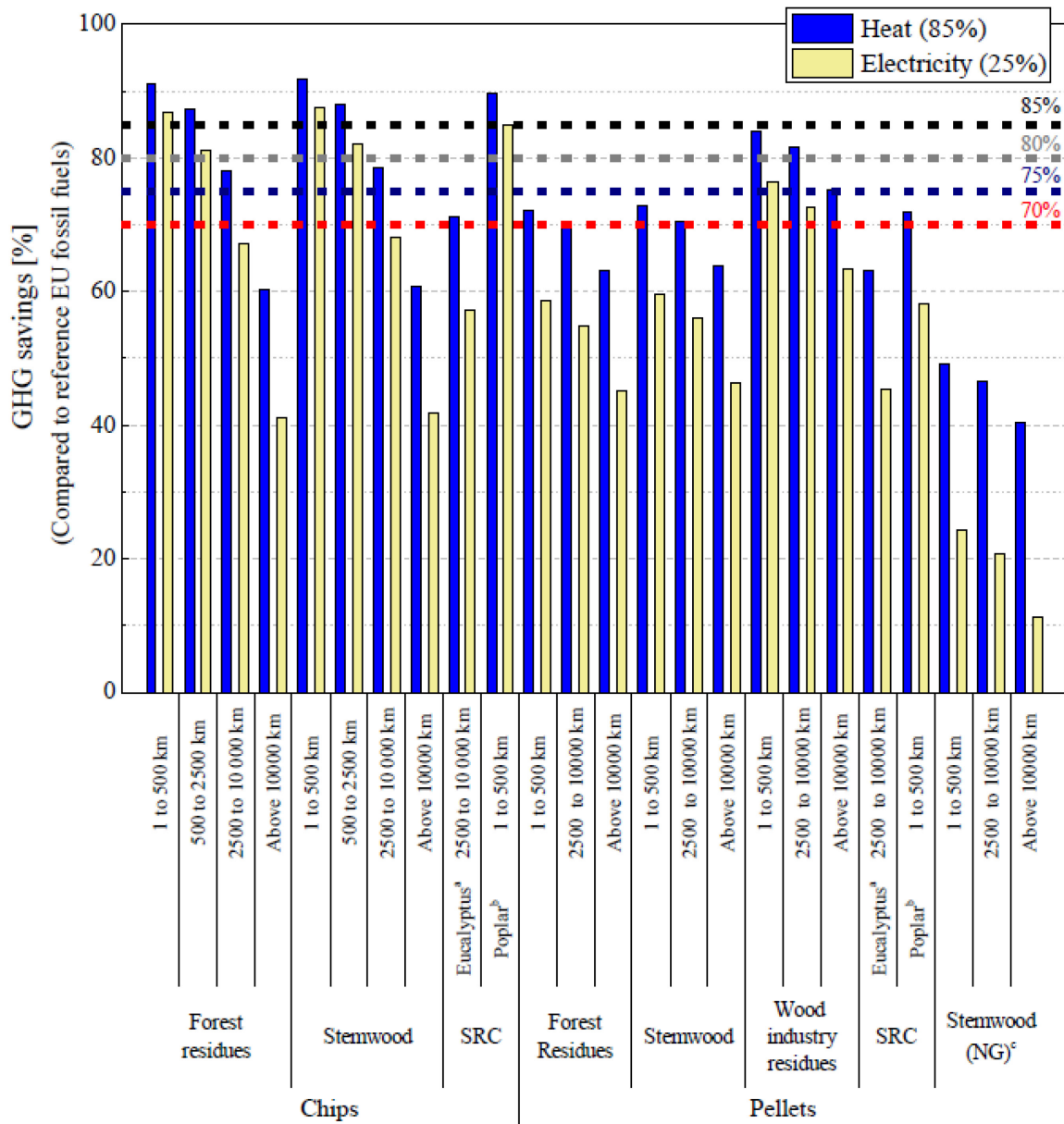
<sup>76</sup> Article 17(6) of the RED that cross-compliance requirements apply to agricultural land used for producing biofuels and bioliquids. Some of these requirements are related to soil protection, maintenance of soil organic matter and structure, avoiding the deterioration of habitats, and water management.

A7. Setting renewable energy targets in combination with public support schemes for bioenergy stimulates the use of bioenergy. This has been the case, especially for transport and electricity production, since the early 2000s. Part of this biomass is imported: in 2015, the EU imported 34 % of the pellets and 9.5 % of the liquid biofuels it consumed<sup>77</sup>. In the absence of sufficient safeguards (weak sustainability criteria), we consider it a risk that the RED II proposal encourages bioenergy production and use through ambitious renewable energy targets in combination with financial incentives, because this may lead to an increased use of unsustainable biomass in the long run. Therefore, the proposed framework does not provide an adequate basis for protecting rural areas sufficiently against identified environmental and socio-economic risks nor for maximising their potential for further sustainable development.

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<sup>77</sup> AEBIOM, "Statistical report 2016", pp. 121, 147 (calculated).

**Figure A1 – Illustration of GHG supply chain emissions compared to reference fossil fuel emissions for the most representative solid biomass pathways**



*Note:* Values exclude combustion and all emissions and removals of biogenic carbon in the supply chain, except methane. Values are based on the default GHG emission values.

SRC = Short Rotation Coppice.

(a) The calculations are based on greenhouse gas data from eucalyptus cultivation in tropical areas.

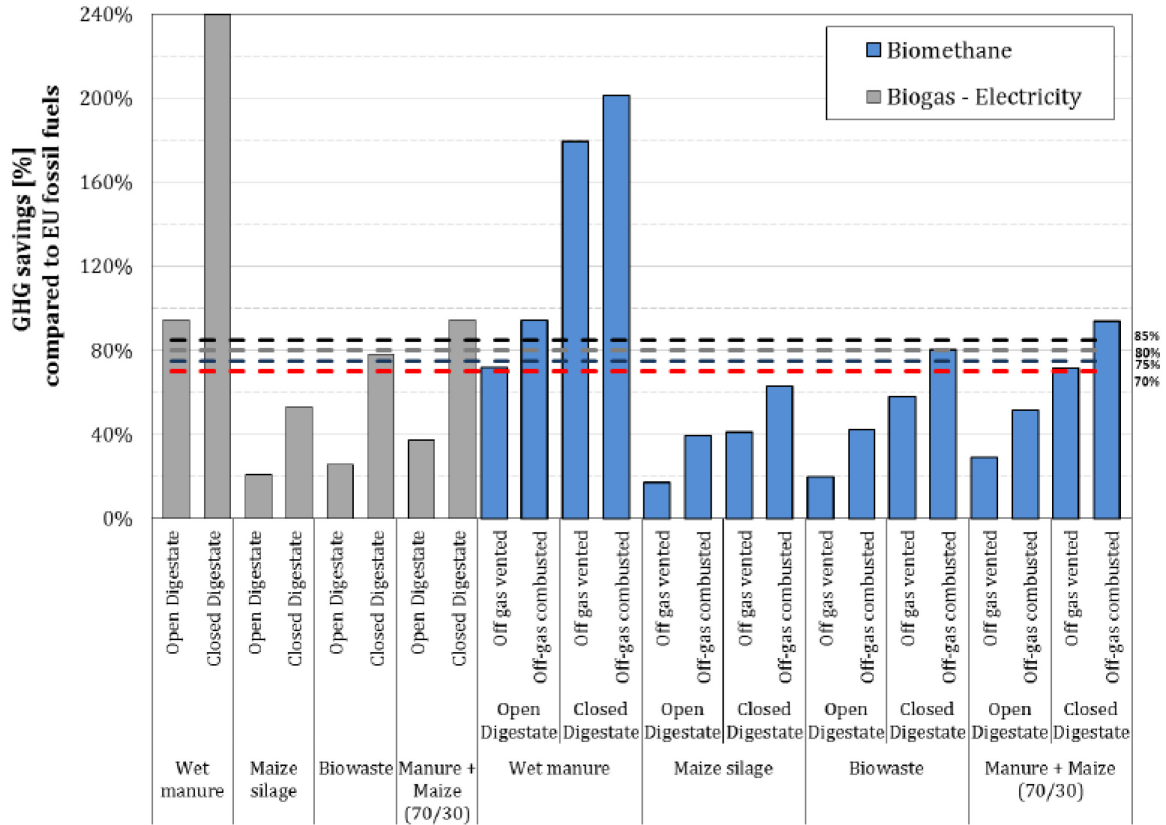
(b) Data are based on poplar cultivated in EU without any synthetic fertilization.

(c) Stemwood (NG) = pellets produced using natural gas as process fuel, all the other pathways are based on wood as process fuel.

*Source:* Giuntoli J, Agostini A, Edwards R, Marelli L, *Solid and gaseous bioenergy pathways: input values and GHG emissions. Calculated according to the methodology set in COM(2016) 767, EUR 27215 EN, doi:10.2790/27486, p. 131*

<http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104759/ld1a27215enn.pdf>.

**Figure A2 – Illustration of GHG savings for the most representative biogas and biomethane pathways**



*Note:* Values exclude combustion and all emissions and removals of biogenic carbon in the supply chain, except methane. Values are based on default GHG emission values. Values higher than 100 % represent systems in which credits from improved agricultural management more than offset any supply chain emission. For illustrative purposes, values obtained for the co-digestion of a mixture of 70 % (wet mass) manure and 30 % (wet mass) maize are also included.

*Source:* Giuntoli J, Agostini A, Edwards R, Marelli L, *Solid and gaseous bioenergy pathways: input values and GHG emissions. Calculated according to the methodology set in COM(2016) 767, EUR 27215 EN, doi:10.2790/27486, p. 141 (adapted)*

<http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104759/Id1a27215enn.pdf>.

**Table A2 – Extent to which the risks associated to the production of biomass are addressed**

Sustainability risks		Risk addressed in the sustainability or GHG savings criteria of the RED II proposal?	Related EU policy framework	
Environmental	(1) Biodiversity decrease	1(a) due to direct land use change (e.g. deforestation, loss of protected areas)	<b>Yes:</b> Article 26(2)(a), (b) and (c); Article 26(3)(b) and (c); Article 26(5)(a)(ii), (iii) and (iv); Article 26(5)(b)(ii), (iii) and (iv)	EU Biodiversity Strategy: Birds Directive 2009/147/EC, Habitats Directive 92/43/EEC, Regulation on Invasive Alien Species No 1143/2014
		1(b) due to intensification of agricultural practices (e.g. loss of crop diversity)	Partly addressed by Article 7(1) that sets a limit on the use of food and feed crops for biofuels and bioliquids and biomass fuels for transport. However, this limit does not apply to the use of crops for biogas for electricity. In addition, the reference to cross compliance requirements (RED Article 17(6) has been removed.	Common Agricultural Policy: Council Regulation No 1306/2013, Commission Implementing Regulation No 809/2014, Commission Delegated Regulation No 640/2014
		1(c) due to intensification of forest management	<b>Partly addressed</b> by Article 26(5)(a)(iv) and Article 26(5)(b)(iv), but no additional sustainable forest management (SFM) measures are imposed. Article 26(5) fully relies on existing legislation and management plans. In the absence of binding standards ensuring an equal and high level of sustainable forest management practices, the proposal relies on voluntary initiatives.	EU Forest Strategy COM(2013) 659 final
	(2) Soil degradation	2(a) due to direct land use change (leading to e.g. loss of carbon in the soil, erosion)	<b>Yes:</b> Article 26(3)(a); Article 26(4); Article 26(5)(a)(ii) and Article 26(5)(b)(ii)	Common Agricultural Policy: Council Regulation No 1306/2013, Commission Implementing Regulation No 809/2014, Commission Delegated Regulation No 640/2014
		2(b) due to intensification of agricultural practices (leading to e.g. compaction, loss of soil fertility, erosion)	<b>Partly addressed.</b> Indirectly and partially addressed through Annex VI, point 6: certain agricultural management practices can be taken into account for calculating GHG emission savings (e.g. reduced or zero tillage, improved crop rotation, use of cover crops), if there is solid and verifiable evidence of soil carbon increase. In addition, the reference to cross compliance requirements (RED Article 17(6) has been removed. No safeguards with respect to increased agricultural residue extraction leading to soil degradation are defined.	
		2(c) due to intensification of forest management (leading e.g. to loss of soil fertility in forests because	<b>Partly addressed.</b> While Article 26(5) includes requirements related to the risk of using unsustainable forest biomass production, no safeguards with respect to increased forest residue extraction leading to soil degradation are defined. No additional sustainable forest management (SFM) measures are imposed. Article 26(5) fully relies on existing legislation and	EU Forest Strategy COM(2013) 659 final

Sustainability risks		Risk addressed in the sustainability or GHG savings criteria of the RED II proposal?	Related EU policy framework
	of nutrient extraction – forest residues)	management plans, if they meet the requirements set out in the same article. In the absence of binding standards ensuring an equal and high level of sustainable forest management practices, the proposal relies on voluntary initiatives.	
(3) Water stress and pollution	3(a) due to land use change (e.g. changes in water balance)	<b>Yes:</b> Article 26(3)(a); Article 26(4); Article 26(5)(a)(ii) and Article 26(5)(b)(ii)	Water Framework Directive 2000/60/EC
	3(b) due to intensification of agricultural practices (e.g. irrigation, fertilisation)	<b>Partly addressed.</b> Indirectly and partially addressed through Annex VI: SRC poplar without fertilisation results in slightly higher values for greenhouse gas emissions savings than fertilised SRC poplar. In addition, the reference to cross compliance requirements (RED Article 17(6) has been removed.	Common Agricultural Policy: Council Regulation No 1306/2013, Commission Implementing Regulation No 809/2014, Commission Delegated Regulation No 640/2014
	3(c) due to intensification of forest management (e.g. changes in water balance)	<b>Partly addressed.</b> While Article 26(5) includes requirements related to the risk of using unsustainable forest biomass production, no additional sustainable forest management (SFM) measures are imposed. Article 26(5) fully relies on existing legislation and management plans. In the absence of binding standards ensuring an equal and high level of sustainable forest management practices, the proposal relies on voluntary initiatives.	EU Forest Strategy COM(2013) 659 final
(4) Greenhouse gas emissions (GHG)	4(a) due to lifecycle greenhouse gas emissions excluding biogenic carbon (e.g. fertiliser use, transport of the biomass, methane leakage from biogas plants)	<b>Partly:</b> Article 26(7)(a), (b), (c); Article 26(7)(d) However, biogas for transport is not covered by the above greenhouse gas savings requirements.	Climate Policy: Proposal for a LULUCF Regulation Emission Trading System (ETS) Directives 2003/87/EC and 2009/29/EC, Effort Sharing Decision No 406/2009/EC, Fuel Quality Directive 2009/30/EC, Energy Efficiency Directive 2012/27/EU
	4(b) due to indirect effects (e.g. indirect land use change (ILUC) due to displacement of food crop cultivation, younger forests)	<b>Partly</b> addressed by Article 7(1) that sets a limit on the use of food and feed crops for biofuels and bioliquids and biomass fuels for transport. However, this limit does not apply to the use of crops for biogas for electricity.	Proposal for a LULUCF Regulation ILUC Directive 2015/1513

Source: ECA.

**Table A3 – Extent to which the risks associated to the use of biomass are addressed**

Sustainability risks		Risk addressed in the sustainability or GHG savings criteria of the RED II proposal?	Related EU policy framework
Environmental	(4) Greenhouse gas emissions	<b>Partly:</b> Article 26(7)(a), (b), (c), Article 26(7)(d) However, biogas for transport is not covered by the above greenhouse gas savings requirements. Unsolved accounting issues related to biogenic greenhouse gas emissions are not addressed (see <b>paragraphs A1 and A4</b> ).	Climate Policy: Emissions Trading System (ETS) Directives 2003/87/EC and 2009/29/EC, Effort Sharing decision No 406/2009/EC, Fuel Quality Directive 2009/30/EC, Energy Efficiency Directive 2012/27/EU
	(5) Air pollution	5(a) due to burning biomass (e.g. particulate matter, SO <sub>2</sub> ...)	EU Air Pollution Policy: Ecodesign Directive 2009/125/EC, Medium Combustion Plant Directive 2015/2193, Industrial Emissions Directive 2010/75/EU
		5(b) due to emissions of pollutants during the rest of the bioenergy lifecycle (e.g. transport of the biomass)	<b>Not addressed in this proposal</b> but tackled via other instruments.
(6) Socio - economic	6(a) Inefficient use of the biomass (including the non-application of the cascading principle, suboptimal conversion methods from biomass to energy)	<b>Partly:</b> Article 26(8) addresses the efficiency of producing electricity from biomass but it does not concern the production of heat. This article applies only to installations with fuel capacity > 20MW. Given the much smaller average size of biogas plants, it applies to a small minority of biogas plants only. The risk for non-application of the cascading principle is not addressed in the proposal. The principles of the waste hierarchy are mentioned in Article 7.5, but only regarding the inclusion of new feedstocks in Annex IX (feedstocks for the production of advanced biofuels).	Directive 2012/27/EU on energy efficiency  Waste Framework Directive 2008/98/EC
	6(b) Competition with existing uses (e.g. food production,	<b>Partly</b> addressed by Article 7(1) that sets a limit on the use of food and feed crops for biofuels and bioliquids and biomass fuels for transport. However, this limit does not apply to the use of crops for biogas for electricity.	

Sustainability risks		Risk addressed in the sustainability or GHG savings criteria of the RED II proposal?	Related EU policy framework
	wood for paper and pulp industry)	Article 7(5) acknowledges the need to <i>avoid significant distortive effects on markets for (by-)products, wastes or residues</i> when including new feedstocks in Annex IX (feedstocks for the production of advanced biofuels). Potential distortion of markets for products, wastes or residues currently included in proposed Annex IX is not mentioned. Feedstocks included in Annex IX cannot be removed afterwards.	

Source: ECA.



**ANNEX II****Characteristics of the projects audited**

Project No		Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development
01	AT-01	2007-2013 M 121	Wood biomass heating on farm (farm house)	36 424.57 euro	Bioenergy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating system; PM emissions from burning wood</li> <li>• Local fuel supply: wood from farmer's own forest</li> <li>• No diversification of farm income, no additional farming activities or services</li> </ul>
02	AT-02	2007-2013 M 413 (321)	District heating – wood biomass (heat network extension project)	269 512.69 euro	Bioenergy Third-party energy supply	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating system; district heating system; PM emissions from burning wood</li> <li>• Local fuel supply: wood from suppliers within 50 km from location of boiler</li> <li>• Diversification of farm income / job retention on farms and along the wood supply chain</li> <li>• Provision of local energy services</li> <li>• Local involvement (LEADER project)</li> </ul>

Project No		Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development
03	AT-03	2007-2013 M 321	District heating – wood biomass, biogas + distribution network	928 443.47 euro	Bioenergy Third-party energy supply	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating system; district heating system; PM emissions from burning wood; ‘production’ of biogas manure</li> <li>• Local fuel supply: wood from suppliers within 50 km from location of boiler and local biogas plant</li> <li>• Diversification of farm income / job retention on farms and along the wood supply chain</li> <li>• Provision of local energy services</li> </ul>
04	AT-04	2007-2013 M 413 (311)	District heating – wood biomass; farmers’ cooperative	311 865.86 euro	Bioenergy Third-party energy supply	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating system; district heating system; PM emissions from burning wood</li> <li>• Local fuel supply: wood from suppliers within 50 km from location of boiler</li> <li>• Diversification of farm income / job retention on farms and along the wood supply chain (farm cooperative) and from heat sales</li> <li>• Provision of local energy services</li> <li>• Local involvement (LEADER project)</li> </ul>

Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development	
05	AT-05	2007-2013 M 311	Biogas plant	1 550 000.00 euro	Bioenergy Third-party energy supply and own-use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: CHP; mainly use of animal waste from own and other local farms in biogas plant; 'production' of biogas manure</li> <li>• Diversification of farm income / retention of farm job</li> <li>• One job created: technical maintenance and accounting/financial management</li> <li>• Meaningful use of heat: provision of drying services (seeds); dried manure for horticulture holdings</li> </ul>
06	AT-06	2014-2020 M 6.4.3	Photovoltaic installation	18 065.00 euro	Solar energy Own-use of energy	<ul style="list-style-type: none"> <li>• Reduction of the farm's energy costs</li> <li>• No diversification of farm income, no additional farming activities or services</li> </ul>
07	AT-07	2014-2020 M 4.1.1	Wood biomass heating on farm	25 902.53 euro	Bioenergy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating system; PM emissions from burning wood</li> <li>• Local fuel supply: wood from local forests</li> <li>• Job retention and extension of farm activities (extension of animal husbandry) due to time savings and space (which was previously used to store straw for heating)</li> </ul>

Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development
08	BG-01 2007-2013 M 121	Photovoltaic installation for irrigation pump and other electric devices; organic truffle and hazelnuts production	42 791.12 euro	Solar energy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: use of solar energy (compared to Diesel generator, which would have been the alternative, as the parcel has no connection to the village's electricity grid)</li> <li>• Establishment of a new farm with innovative production: new business and job creation</li> </ul>
09	BG-02 2007-2013 M 312	Photovoltaic installation (micro-enterprise)	278 112.28 euro	Solar energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Micro-enterprise created: income from electricity sales (FIT payments)</li> <li>• One job created (mainly surveillance)</li> <li>• No new business or business opportunities created or new services provided</li> </ul>
10	BG-03 2007-2013 M 312	Photovoltaic installation (micro-enterprise)	277 908.78 euro	Solar energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Micro-enterprise created: income from electricity sales (FIT payments)</li> <li>• One job created (mainly surveillance)</li> <li>• No new business or business opportunities created or new services provided</li> </ul>

Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development	
11	BG-04	2007-2013 M 123	Photovoltaic installation and biogas plant (heat production); own use through food processor	3 615 358.49 euro	Solar energy and bioenergy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: solar electricity, waste water treatment and meaningful use of sewage sludge in biogas plant</li> <li>• Reduction of the company's energy costs</li> <li>• Provision of jobs in rural area</li> <li>• Provision of marketing opportunities for local farmers (farm and job retention)</li> </ul>
12	BG-05	2014-2020 M 04.1	Photovoltaic installation for lighting; new, small farm	project not completed at the time of the audit visit	Solar energy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: use of solar energy (compared to Diesel generator, which would have been the alternative, as the parcel has no connection to the village's electricity grid)</li> <li>• Establishment of a new farm with innovative production: new business and job creation</li> </ul>
13	BG-06	2007-2013 M 311	Photovoltaic installation; farm diversification	255 764.12 euro	Solar energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Diversification of farm income (FIT payment)</li> <li>• One job created (mainly surveillance)</li> <li>• No new business or business opportunities created or new services provided</li> </ul>
14	FR-01	2007-2013 M 121	Installation of a heat pump	49 945.00 euro	Energy efficiency project	<ul style="list-style-type: none"> <li>• Improved economic and environmental performance of agricultural activity through reduced fuel consumption on farm and improved milk production</li> </ul>

Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development	
15	FR-02	2007-2013 M 413 (311)	Construction of farm-based anaerobic digester	1 409 920.00 euro	Bioenergy Third-party energy supply and own-use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: CHP; mainly use of animal waste from own and other local farms in biogas plant; 'production' of biogas manure</li> <li>• Diversification of farm income / retention of farm job</li> <li>• One job created: technical maintenance</li> <li>• Meaningful use of heat for drying cereals</li> <li>• Local involvement (LEADER project)</li> </ul>
16	FR-03	2007-2013 M 411 (121)	Photovoltaic installation	47 500.00 euro	Solar energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Reduction of the farm's energy costs</li> <li>• No diversification of farm income, no additional farming activities or services</li> <li>• Local involvement (LEADER project)</li> </ul>
17	FR-04	2014-2020 M 04.3	Support for forest services - Volet 2	13 506.00 euro	Projects supporting biomass production	<ul style="list-style-type: none"> <li>• Business opportunity for local forest companies</li> </ul>
18	FR-05	2014-2020 M 08.6	Forest conversion - Volet 2	project not completed at the time of the audit visit	Projects were selected, because no 2014-2020 renewable energy investment projects had started at the time of the audit visit	
19	IT-01	2007-2013 M 311	Geothermal plant	71 042.00 euro	Geothermal energy Own use of energy	<ul style="list-style-type: none"> <li>• Improved economic and environmental performance of agricultural and agro-tourism activities through reduced CO<sub>2</sub> emissions and increase of wine sales</li> </ul>

Project No		Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development
20	IT-02	2007-2013 M 311	Photovoltaic installation	16 570.12 euro	Solar energy Own use of energy	<ul style="list-style-type: none"> <li>Improved economic and environmental performance of agricultural activity through use of photovoltaic and increase of agro-tourism activities</li> </ul>
21	IT-03	2007-2013 M 123	Geothermal plant, biomass heating, photovoltaic panels and light capturing system	807 500.00 euro	Geothermal energy, solar energy, bioenergy, plus energy saving techniques Own use of energy	<ul style="list-style-type: none"> <li>Environmental aspects: valorisation of waste from pruning, clearing ditches, bushes and woody areas of the holding; energy savings; reduced carbon footprint (per bottle of wine)</li> <li>Increase of wine sales</li> <li>Creation of 12 new jobs</li> </ul>
22	IT-04	2007-2013 M 121	Building insulation for energy savings	241 064.50 euro	Energy efficiency project (project is part of project IT-03)	<ul style="list-style-type: none"> <li>Environmental benefits from energy savings</li> </ul>
23	IT-05	2007-2013 M 121	Geothermal plant	315 022.94 euro	Geothermal energy Own use of energy	<ul style="list-style-type: none"> <li>Improved economic and environmental performance of agricultural activity through reduced CO<sub>2</sub> emissions and increase of turnover</li> <li>Two local companies installed the geothermal plant</li> </ul>

Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development
24	IT-06 2007-2013 M 311	Photovoltaic panels, solar thermal panels and biomass heating	32 740.20 euro	Geothermal energy, solar energy, bioenergy Own use of energy	<ul style="list-style-type: none"> <li>• Environmental aspects: efficient systems for energy production replace fossil fuel (gas) boilers;</li> <li>• Raw material supply (wood) comes from the beneficiary's own forest management activities and from pruning of olive and fruit trees</li> <li>• Start of agro-tourism activities</li> <li>• Creation of jobs (2-3 FTE)</li> <li>• Only local companies installed the renewable energy components</li> </ul>
25	LT-01 2007-2013 M 312	Hydroelectric power plant	552 712.80 euro	Hydro-energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Farm income diversification through electricity sales (no FIT payments)</li> </ul>
26	LT-02 2007-2013 M 123	Production of straw pellets	831 500.00 euro	Production of biomass fuel	<ul style="list-style-type: none"> <li>• Creation of a rural micro-enterprise</li> <li>• 20 jobs created</li> <li>• Use of local raw material</li> <li>• Supply of straw pellets for renewable energy installations not profitable, therefore shift to animal bedding product</li> </ul>



Project No	Programming period EAFRD measure	Project title and brief description	Actual project costs (whole project, incl. non-energy parts in some cases)	Type of renewable energy; Type of energy use	Project characteristics with regard to sustainable rural development	
27	LT-03	2007-2013 M 312	Production of straw pellets and heating activities	202 784.00 euro	Bioenergy Third-party energy supply	<ul style="list-style-type: none"> <li>• Environmental aspects: energy efficient heating of two public buildings</li> <li>• Creation of a rural micro-enterprise</li> <li>• Six jobs created</li> <li>• Use of local raw material</li> <li>• Supply of straw pellets for renewable energy installations not profitable, therefore shift to animal bedding product considered</li> </ul>
28	LT-04	2007-2013 M 311	Production of wood chips - acquisition of necessary equipment (tractor, trailer, semi-trail, and wood chopper)	85 200.00 euro	Production of biomass fuel	<ul style="list-style-type: none"> <li>• Diversification of farm income</li> <li>• Safeguarded three existing jobs</li> <li>• Tractor and other equipment are using Diesel</li> </ul>
29	LT-05	2007-2013 M 311	Wind turbine on farm	404 024.00 euro	Wind energy Third-party energy supply	<ul style="list-style-type: none"> <li>• Farm income diversification through electricity sales (FIT payment)</li> </ul>

## **REPLIES OF THE COMMISSION TO THE SPECIAL REPORT OF THE EUROPEAN COURT OF AUDITORS**

### **"RENEWABLE ENERGY FOR SUSTAINABLE RURAL DEVELOPMENT: SIGNIFICANT POTENTIAL SYNERGIES, BUT MOSTLY UNREALISED"**

#### **EXECUTIVE SUMMARY**

IV. The EU Renewable Energy Directive promotes renewable energy deployment by setting an EU target of 20% by 2020 and national binding renewable energy targets. Member States have wide discretion on how to achieve their national renewable energy targets and the choice of renewable energies to support.

How to further contribute to rural benefits of renewable energy can be better addressed under the rural development policy and implemented through the national or regional rural development programmes.

Evidence shows that the existing EU sustainability criteria for biofuels and bioliquids laid down in the current Renewable Energy Directive (RED) have been effective to avoid unintended direct environmental impacts. In 2015, the RED has been amended to address also risks of indirect land use change. The Commission proposal for a recast of the Renewable Energy Directive for the post-2020 period reinforces the EU sustainability criteria by covering also biomass and biogas for heat and power, thus further protecting rural areas sufficiently against identified environmental and socio-economic risks and maximising the bioenergy potential for further sustainable development.

Furthermore, the Commission legislative proposal on land use within the EU 2030 energy and climate implementing package (LULUCF proposal) – currently in co-decision (with a provisional agreement reached by the co-legislators on 14 December 2017) – provides an overall sustainability safeguard on biomass for all uses by providing that the EU terrestrial carbon sink has to be at least maintained if not increased ("no debit rule").

In addition, the Common Agricultural Policy, currently, provides for a protection of soil organic carbon in cropland and grassland. Hence, the Common Agricultural Policy is meant to protect soil organic carbon and contribute in this way to biomass sustainability for the area subject to CAP payments. For the future, the Commission seeks to strengthen the CAP's ambition regarding resource efficiency, environmental care and climate action.

V. During the negotiations for the 2014-2020 programming period the Commission has actively promoted the establishment of synergies and complementarities in the use of the European Structural and Investment Funds while taking also into account existing national or other EU funding schemes. However, implementation choices fall under the responsibility of the Member States.

VI. While it is true that no specific output indicators for renewable energy projects existed at the beginning of the period 2007-2013 data on expenditure was available after the introduction of the Health Check. Furthermore, the CMEF 2007-2013 included an impact indicator covering the production of renewable energy.

For the programming period of 2014-2020, the CMES has been improved taking into account issues of data availability in all Member States, cost-effectiveness of the system and acceptable administrative burden for the Member States.

VII. The legal framework requires Member States to include the principles with regard to the establishment of selection criteria in their RDP, however, the actual selection procedures and criteria remain a competence of the Member States in line with the shared management principle.

VIII.

First alinea: The Commission accepts this recommendation in so far it concerns the Commission action. The Commission considers that it has addressed the design of future renewable energy policy through the Commission proposals on the Governance Regulation and on the recast of the Renewable Energy Directive.

When drafting their integrated national energy and climate plans required under the Governance Regulation – currently in co-decision – Member States could take into account, inter alia, the circumstances and needs of their rural areas.

Second alinea: The recommendation is accepted. The Commission considers that its 2016 proposal for a recast of the Renewable Energy Directive (RED II) reinforces significantly the EU bioenergy sustainability framework, including additional safeguards avoiding unsustainable sourcing of forest biomass.

Furthermore, the Commission legislative proposal on land use within the EU 2030 energy and climate implementing package (LULUCF proposal) – currently in co-decision (with a provisional agreement reached by the co-legislators on 14 December 2017) – provides an overall sustainability safeguard on biomass for all uses by providing that the EU terrestrial carbon sink has to be at least maintained if not increased ("no debit rule").

Furthermore, as outlined in the Communication on Future of Food and Farming, the Commission seeks to strengthen the CAP's ambition regarding resource efficiency, environmental care and climate action.

Third alinea: The Commission can only partially accept this recommendation, as it is not in a position at this stage to make specific commitments in relation to legislative proposals for the post 2020 period.

The Commission commits to analyse possible ways of strengthening result-orientation of the future CAP, by achieving EU added value whilst reflecting better the needs and aspirations of the territories concerned, as outlined in Commission Communication COM(2017) 713 final.

Fourth alinea: The Commission partially accepts this recommendation. The recommendation has already been implemented and the enhanced annual implementation reports of 2019 will contain the required information.

Fifth alinea: The Commission considers this recommendation to be addressed to the Member States. While actual selection procedures and definition of selection criteria remain the competence of the Member States in line with the shared management principle, the Commission will pursue its ongoing efforts to encourage Member States to apply relevant selection procedures.

## **INTRODUCTION**

12. The Commission has already started to prepare a new study on support in the energy and other sectors (e.g.: transport), including renewable energy sources. Under the Energy Union Governance – currently in co-decision – the Commission is monitoring subsidies in the energy sector. Detailed analysis and results will be available in the next edition of the Energy Prices and Costs report, to be published in 2018.

15. The Commission's position is outlined in the Commission replies to Special Report No 16/2017.

## **OBSERVATIONS**

25. Rural development policy offers a flexible framework/ toolbox which allows Member States, in line with the principle of subsidiarity and the shared management context, to decide how to best support deployment of renewable energy in line with EU policy objectives and the Member States'/Regions' specific context, potential and needs.

27.

(i) Linking renewable energy to rural development occurs in two ways. On the one hand, the EU renewable energy policy, by creating demand for renewable energy, can indirectly support development in rural areas which become suppliers of renewable energy (e.g. through wind and solar) or biomass raw material (from forestry and agriculture). On the other hand, renewable energy production in rural areas can be directly supported under the framework of rural development policy, which is, at EU level, chiefly supported through the EAFRD.

30. A reference to rural proofing is included in the Commission Communication on the Future of Food and Farming (see page 22 of COM(2017) 713 final).

In this Communication the Commission commits to promoting a "rural proofing" mechanism, which systematically reviews relevant policies through a "rural lens", considering possible impacts on rural communities.

A concrete example of rural proofing is the concept of Smart Villages, which is supported by different policies and ESI Funds to favour the creation of villages of the future, well equipped to build on their specific assets (see page 21 of COM(2017) 713 final).

35. The risks associated to bioenergy production and use are analysed in the 2016 Impact Assessment on Bioenergy Sustainability<sup>1</sup> (SWD(2016) 418 final), prepared for the recast of the Renewable energy directive. The carbon impacts of biomass production are analysed also in the 2016 Impact Assessment to the proposal for the LULUCF Regulation (SWD(2016) 249 final)<sup>2</sup>.

39. The existing and proposed EU sustainability criteria for bioenergy are binding on Member States and economic operators. The EU sustainability criteria are not a binding condition for placing bioenergy on the EU market. In order to avoid excessive administrative burden, the EU sustainability and greenhouse gas saving criteria proposed in the RED II proposal do not apply to small biomass-based heating/cooling and electricity installations, with a fuel capacity below 20 MW in the case of biomass and 0.5 MWe<sub>el</sub> in the case of biogas.

40. The risks associated to bioenergy production and use and the related EU policy framework are analysed in the Commission Impact Assessment on Bioenergy Sustainability, prepared for the recast of the Renewable energy directive. The carbon impacts of biomass production are also analysed in the 2016 Impact Assessment to the LULUCF Regulation (SWD(2016) 249 final)<sup>3</sup>.

The RED II will, when adopted, reinforce the EU sustainability criteria to minimize significant risks of negative environmental impacts associated to biomass for energy. In particular, the proposal aims to minimise the risk of adverse environmental impacts associated with increased forest biomass harvesting. In addition, it requires that the impact of biomass harvesting on soil quality and biodiversity are minimised. Evidence of compliance can include legislation in place in the country of biomass origin, or in case this is not available, evidence at the forest holding level. These criteria should be seen in connection with other relevant EU policies.

Furthermore, the Commission proposal for a Regulation to integrate greenhouse gas emissions and removals from land use, land use-change and forestry into the 2030 climate and energy framework

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<sup>1</sup> [http://eur-lex.europa.eu/resource.html?uri=cellar:1bdc63bd-b7e9-11e6-9e3c-01aa75ed71a1.0001.02/DOC\\_1&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:1bdc63bd-b7e9-11e6-9e3c-01aa75ed71a1.0001.02/DOC_1&format=PDF)

<sup>2</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016SC0249&from=EN>

<sup>3</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016SC0249&from=EN>

(LULUCF Regulation), includes emissions or removals related to the production of biomass for energy, and provides for the maintenance of the EU LULUCF carbon stock ("no debit rule").

41. The Commission believes that both the current RED and the RED II proposal discourage unsustainable bioenergy.

The Commission believes that the RED II proposal considerably reinforces the EU sustainability framework for bioenergy and ensures that bioenergy use in the EU post-2020 delivers optimal GHG savings while minimizing the risks of adverse environmental impacts associated to increased forest biomass harvesting. The Commission's proposal on LULUCF – currently in co-decision – provides an additional sustainability safeguard. The proposal foresees the continuation of the Kyoto Protocol "no debit rule" for the EU LULUCF sector, meaning that the EU LULUCF carbon sink is to be protected, or at least maintained.

43. Rural development policy is based on the principles of shared management and subsidiarity. Thus it is the competence of Member States/ Regions to determine how investments in renewable energy supported under EAFRD can best meet rural development objectives in line with their specific context, potential and needs.

44. In order to ensure that there is no overcompensation, maximum aid intensities and other conditions are set out in the horizontal State aid rules, notably the General Block Exemption Regulation (EU) No 651/2014 (see Section 7) and the Guidelines on State aid for environmental protection and energy 2014-2020.

Common Commission reply to paragraphs 45 and 46:

Thematic objectives under ESIF are intentionally set at a broader level and are not covering single parts of interlinked aspects as the deployment of renewable energy alone. However, target indicator T 16 is well reflecting planned investments in renewable energy production under EAFRD (Focus Area 5C, see also paragraph 68).

48. The Commission does not share the view that alleged difficulties related to the programming of focus areas have resulted in significant delays in programme implementation for renewable energy. These delays are inter alia caused by the time needed by Member States to launch calls and select projects, as well as for the realisation of those investment projects on the ground.

50. The Commission has provided comprehensive set of guidance documents on strategic programming, guiding Member States on how to develop a sound intervention logic for contributing to EU priorities and targets (such as the renewable energy target), and rural development objectives in line with the Member States'/ Regions' specific context, potentials and needs. This intervention logic (choice of relevant objectives, target setting, combination of relevant measures, respective funding allocation etc.) is set out in the RDPs and thoroughly assessed by the Commission during the negotiation of the programmes.

Facilitating the supply and use of renewable energy is only one of a wide range of objectives of the EAFRD. Member States can decide to support renewable energy through instruments other than the RDPs. The coordination between different ESIF and other funding instruments is set out in the Partnership Agreements which are assessed by the Commission.

51. The quantification of financial needs is reflected by the budget allocated to relevant measures and the target values set for the relevant indicators. However, the Commission acknowledges that there is scope for further improving the link between identified needs and the strategic approach.

**Box 5 – Changes to the initial approach to renewable energy funding set out in the RDPs**

First alinea:

In the case of Bulgaria, lessons learnt from the implementation in the 2007-2013 programming period, including a higher error rate and financial corrections had been taken into account for the current programming period. For the 2014-2020 rural development programme, Bulgaria has decided to only support projects linked to on-farm consumption in order to mitigate the risk of future errors.

Second alinea:

Adaptations of budget allocations may occur for different reasons during the programming period. In the case of France (Basse-Normandie) the EAFRD financial allocation to the renewable energy objectives was decreased as the Region decided to change the source of funding for some of the types of projects for which originally the EFARD funding was planned. Justifications for the proposed change were communicated to the Commission prior to the amendment. Changes consisted in moving financing of wood-based energy production and boilers-related schemes to national funding from the Agency for the Environment and Energy Management (ADEME) and supporting biogas projects (anaerobic digestion) through capital contributions or bank guarantees with the help of the Normandy Development Agency (ADN).

52. Strategic programming under EAFRD seeks to find the balance between different needs and objectives rather than implement a complete strategy for renewable energy in rural areas.

Modifications of budget allocation like in the case of the RDP Basse-Normandie have to be justified in the request for programme amendments. Moreover, a change of more than 50% of a quantified target linked to a focus area, i.e. by significant budget shifts, requests a change in the programme strategy, resulting in a Commission decision by means of implementing acts according to Article 11 (a) of Regulation (EU) No 1305/2013.

54. During the negotiations of the Partnership Agreements and relevant programmes the Commission has actively promoted the establishment of synergies and complementarities in the use of the European Structural and Investment Funds while taking also into account existing national or other EU funding schemes. However, implementation choices fall under the responsibility of the Member States.

Common Commission reply to paragraphs 56 and 57:

Within the strategic programming approach Member States can choose which focus area they consider most adequate for programming a specific measure in line with the specific purpose of the measure. It is a logical consequence that a single measure can thus appear under different focus areas. In addition, the concept of secondary effects reflects well the multiple characters of many RD measures, which often do not serve one objective alone.

### **Box 6 – Assignment of renewable energy projects to different focus areas**

First alinea:

The attribution of measures to different focus areas in the rural development programmes reflect also a quantification of the expected outcomes of the measure, which may vary between programmes. Measures are attributed to focus areas according to their primary effect, whereas secondary effects are not decisive for this decision.

Second alinea:

Also the comparison of the RDPs of Romania and Bulgaria demonstrates the different ranking of objectives: Bulgaria pursues the production of renewable energy for own consumption as primary objective of the measure and therefore attributes it to focus area 5C. In the Romanian RDP, the situation is indeed different in the sense that only projects that contain renewable investments for own consumption were programmed to have a direct contribution to focus area 5C whereas other

measures, programmed under FA 2A, 3A, 6A and 6B were considered to have secondary effects on focus area 5C. One example is small scale infrastructure, including investments in renewable energy and energy saving, considered to primarily foster local development in rural areas and therefore attributed to focus area 6B.

61. While it is true that no specific output indicators for renewable energy projects existed at the beginning of the period 2007-2013, the CMEF 2007-2013 included an indicator referring explicitly to renewable energy production for programme evaluation. Impact indicator n°7 *Contribution to combating climate change* was addressed through a measurement of an increase in production of renewable energy (quantitative and qualitative change in the production of renewable energy attributed to intervention funded by EAFRD).

62. In the context of reporting on monitoring and indicators, the Commission provides guidance to help Member States to build capacities in addressing their monitoring obligations. With regards to the data submitted by Member States, the Commission assesses its quality. However, the reliability of such data is the responsibility of the Member States authorities.

63. As projects serving the deployment of renewable energy are dispersed in different measures and no single output indicator existed before the Health Check, comprehensive information is difficult to attain. However, the impact indicator as referred to in reply to paragraph 61 provides for some information on the possible effectiveness of the support for investments in renewable energy.

Considering that renewable energy was introduced as a new challenge only in the Health Check when the programmes had already started, the renewable energy-related information in ex-ante evaluations used for the design of the RDPs was limited.

65. In the ex-post evaluations all Member States/Regions had to answer a particular evaluation question directly linked to renewable energy. The Commission provided guidance (which is not binding). However, the content of ex-posts evaluations depends on the content of a particular RDP which reflects the policy choices made by Member States. If the attention given to renewable energy within an RDP is marginal the coverage within the evaluation will be corresponding.

#### Common Commission reply to paragraphs 68 and 69:

Within the framework of Rural Development Programs, expected results and corresponding targets are established at the level of objectives (i.e. focus areas) and not at the level of individual measures.

Effectiveness and efficiency of Rural Development Programmes will be assessed through extended evaluations for which CMES indicators only represent a tool and will be complemented by other information. The definition of common indicators had to be done by taking into account issues of data availability in all Member States, cost-effectiveness of the system and acceptable administrative burden for the Member States. Although not always corresponding to the definition of “result” indicators, the Commission considers that additional programme-specific indicators can be helpful to assess the programmes.

70. The Commission guidelines "Assessment of RDP results: how to prepare for reporting on evaluation in 2017" suggest in Annex 11 (p. 76) various data sources such as: beneficiaries' application forms and payment requests, national/regional statistics, energy supply and control entities data, Eurostat – energy statistics. "Surveys/focus groups" are also cited as one possible data source – at the last place of a long list of other possible above-mentioned data sources ([https://enrd.ec.europa.eu/evaluation/publications/guidelines-assessment-rdp-results-how-prepare-reporting-evaluation-2017\\_en](https://enrd.ec.europa.eu/evaluation/publications/guidelines-assessment-rdp-results-how-prepare-reporting-evaluation-2017_en)).

Please note also that the Commissions guidelines are non-binding documents. Their goal is to improve the quality and comparability of the evaluations which are under the responsibility of the Member States.

71. In the framework on Rural Development Programmes, several measures can work to achieve the results of a given objective. Such results can only be assessed through evaluations. The Commission acknowledges the risk of administrative burden created by this but aims to strike an appropriate balance between costs and benefits. As to the alleged lack of comparability due to programme specificities, e.g. additional programme-specific indicators, an individual evaluation of a RDP still assesses impacts and results of this same programme and serves as examples for other RDPs, which may not even have the respective measures.

75. Under rural development, different activities contribute to improved deployment of renewable energy, of which investments in renewable energy production or mobilisation of forest biomass for the energy purposes represent only two.

The EAFRD also supports renewable energy projects through local development strategies supported by LEADER. Such community-led local development initiatives typically provide benefits in terms of increased local acceptance and ensure renewable energy projects are embedded in a broader strategy for the sustainable development of the local area in question.

78. The role of selection criteria is to prioritise projects according to the ranking of objectives of the programme as a whole, based on needs and potential identified.

In line with shared management, Member States set the selection criteria for each measure and consults the RDP Monitoring Committee (where all relevant stakeholders are represented in line with the partnership principle).

79. The Commission participates in these Monitoring Committees, providing guidance and feedback. This feedback may also include clear indication that the thresholds are considered to be too low. This has been for example the case for the French RDP visited by the ECA.

#### **Box 10 – Renewable energy projects with marginal benefits for rural development**

Based on the lessons learnt in the 2007-2013 programming period, in the current programming period the Bulgarian RDP supports investments in renewable energy production for own consumption only (on the farm or in the enterprise).

81. Member States are generally encouraged to choose projects for support under EAFRD providing a significant contribution to rural development. However, when assessing the benefits for rural development in comparison to renewable energy projects funded by other support schemes, the scope of such projects under EAFRD has to be taken into account. The number of jobs created as well as other business opportunities and services provided have to be seen within that context.

#### **CONCLUSIONS AND RECOMMENDATIONS**

84. The Commission agrees that renewable energy projects have a potential to contribute to sustainable rural development, in particular through inclusion of local stakeholders. However, whether the potential of EAFRD funding in this respect is realised remains the choice of the Member States/Regions when designing their rural development programmes and striking the balance between various objectives of their rural development strategies.

85. The Renewable Energy Directive is a general legal framework for promoting the deployment of renewable energy across the EU and the achievement of the 2020 renewable energy targets. Although rural development is an important driver for renewable energy deployment, the Directive itself leaves significant freedom to Member States on how to achieve their national renewable energy targets, including how to promote renewable energy deployment in rural areas. The



Commission proposal for a recast of the Renewable Energy Directive addresses the emerging models of renewable energy consumption and renewable energy communities, which can further support rural development benefits of renewable energies.

### **Recommendation 1 – Rural proofing of future renewable energy policy**

First alinea: The Commission accepts this recommendation in so far it concerns the Commission action. The Commission considers that it has addressed the design of future renewable energy policy through the Commission proposals on the Governance Regulation and on the recast of the Renewable Energy Directive.

When drafting their integrated national energy and climate plans required under the Governance Regulation – currently in co-decision – Member States could take into account, inter alia, the circumstances and needs of their rural areas.

Second alinea: A reference to rural proofing is included in the Commission Communication on the Future of Food and Farming (see page 22 of COM(2017) 713 final).

In this Communication the Commission commits to promoting a "rural proofing" mechanism, which systematically reviews relevant policies through a "rural lens", considering possible impacts on rural communities.

Third alinea: The recommendation is accepted in so far that the Commission proposal for Regulation on the Energy Union Governance – currently in co-decision – already provides for an interactive dialogue with Member States with the view to assess whether the targets, objectives and contributions included in their national energy and climate plans are sufficient for the collective achievement of the Energy Union objectives.

86. Modelling carried out for the Impact Assessment on bioenergy sustainability point out to the fact that while biomass imports are projected to increase, the supply of biomass for energy will continue to be sourced mostly domestically. According to the Commission's own modelling for a 2020-2030 perspective, demand of biomass for heat and power is projected to peak in 2025 and decline slightly afterwards by 2030, as a result of competition from other renewables and the effects of energy efficiency in buildings. In a longer term perspective (2050), biofuel demand is projected to increase significantly due to the need to decarbonize the transport sector, including aviation.

Furthermore, the Commission believes the proposal for a recast of the Renewable Energy Directive reinforces the EU bioenergy sustainability framework, thereby providing sufficient safeguards to ensure that biomass for energy is sustainably produced and used.

### **Recommendation 2 – Improved bioenergy sustainability framework**

The Commission accepts the recommendation. In the Commission's view, the proposal for a recast of the Renewable Energy Directive, now in co-decision, will, once adopted, reinforce the EU bioenergy sustainability framework, thereby providing sufficient safeguards to ensure that biomass for energy is sustainably produced and efficiently used.

In addition, the Commission proposal for a Regulation to integrate greenhouse gas emissions and removals from land use, land use-change and forestry into the 2030 climate and energy framework (LULUCF Regulation) – currently in co-decision (with a provisional agreement reached by the co-legislators on 14 December 2017) – aims to ensure that emissions or removals for biomass for energy are accounted at national level by Member States and that the "no debit rule" applies for LULUCF. Therefore the Commission considers this recommendation fulfilled as far as the Commission proposals on RED II and LULUCF are concerned.

Moreover, the Common Agricultural Policy, currently, includes provisions for the protection of soil organic carbon in cropland and grassland. Hence, the Common Agricultural Policy is meant to

protect soil organic carbon and contribute in this way to biomass sustainability for the area subject to CAP payments.

As outlined in the Communication on Future of Food and Farming, the Commission seeks to strengthen the CAP's ambition regarding resource efficiency, environmental care and climate action.

87. During the negotiations of the Partnership Agreements and relevant programmes the Commission has actively promoted the establishment of synergies and complementarities in the use of the European Structural and Investment Funds while taking also into account existing national or other EU funding schemes. However; implementation choices fall under the responsibility of the Member States.

In the case of projects for renewable energy, EAFRD can very well be the adequate support mechanism for local projects, thus complementing other existing funding. They will furthermore address potential beneficiaries in rural areas not eligible under other funds.

88. Within the strategic programming approach Member States can chose which focus area they consider most adequate for programming a specific measure in line with the objective of the measure. It is a logical consequence that renewable energy projects thus appear under different focus areas.

### **Recommendation 3 – Clear guidance on the EAFRD's role for renewable energy support**

First alinea: The Commission can only partially accept this recommendation, as it is not in a position at this stage to make specific commitments in relation to legislative proposals for the post 2020 period.

The Commission commits to analyse possible ways of strengthening result-orientation of the future CAP, by achieving EU added value whilst reflecting better the needs and aspirations of the territories concerned, as outlined in Commission Communication COM(2017) 713 final.

Furthermore Member States/Regions are best placed to decide which funding instruments are most suitable in their specific context and how they should best be combined to achieve renewable energy targets and rural development objectives in the most cost-effective way.

Second alinea: The Commission accepts this recommendation and considers it has already implemented it.

The website of the European Network for Rural Development includes a database containing good practices, including, inter alia, examples of renewable energy projects supported by the EAFRD and of community based approaches in this field. Furthermore, under EIP-AGRI, a Focus Group on "enhancing production and use of renewable energy on the farm" has just been launched; the first meeting took place on 21-22 November 2017.

89. While it is true that no specific output indicators for renewable energy projects existed at the beginning of the period 2007-2013, the CMEF 2007-2013 included an impact indicator covering the increase of production of renewable energy for programme evaluation. This provided some information depending on the extent to which the programmes addressed this issue.

90. Within the framework of shared management the RDP evaluations are the responsibility of Member States.

Effectiveness and efficiency of Rural Development Programmes will be assessed through extended evaluations for which CMES indicators only represent a tool and will be complemented by other information. The definition of common indicators had to be done by taking into account issues of

data availability in all Member States, cost-effectiveness of the system and acceptable administrative burden for the Member States.

Although additional programme-specific indicators may result in less comparable reporting, the Commission considers this acceptable and considers that it can be helpful to assess the programmes.

91. Commission's guidelines for the enhanced annual implementation reporting of 2019 are currently being prepared.

As outlined in the reflections on the post 2020 period, the Commission commits to analyse possible ways to improve the performance measurement of the CAP as a whole. An enhanced CAP delivery model focussed on results is envisaged. To this end the assurance process would need to be adapted to the requirements of a result-driven policy design including the development and application of solid and measurable indicators and of a credible performance monitoring and reporting.

#### **Recommendation 4 – A simpler and more meaningful monitoring and evaluation framework**

The Commission partially accepts this recommendation. The recommendation has already been implemented with respect to data on expenditure on renewable energy and the renewable energy produced from supported projects. The enhanced annual implementation reports of 2019 will contain this information.

However, the Commission has no mandate to require Member States to provide information in these reports which they have not been asked to collect from the outset of the programming period, such as data on the energy capacity installed.

93. The current programming period applies the so-called N+3 rule at programme level in order to allow full use of EAFRD funding according to the objectives set in the respective rural development programmes. This aims at reducing the risk that EAFRD support will be granted without benefit, while selection procedures can be adapted during the programming period in line with shared management and the partnership principle.

#### **Recommendation 5 – Better project selection taking into account value added to rural areas and project viability**

The Commission considers this recommendation to be addressed to the Member States. While actual selection procedures and definition of selection criteria remain the competence of the Member States in line with the shared management principle, the Commission will pursue its ongoing efforts to encourage Member States to apply relevant selection procedures.

<b>Event</b>	<b>Date</b>
Adoption of Audit Planning Memorandum (APM) / Start of audit	10.11.2016
Official sending of draft report to Commission (or other auditee)	13.11.2017
Adoption of the final report after the adversarial procedure	10.1.2018
Commission's (or other auditee's) official replies received in all languages	7.2.2018

Using more energy from renewable sources is crucial to reduce the EU greenhouse gas emissions and its dependence on fossil fuels and imported energy and thus contribute to the security of its energy supply. Moreover, renewable energy can play an important role as a driver of sustainable development in rural areas. In our audit, we found that there are potential synergies between renewable energy policy and funds designated to facilitate sustainable development, but that these synergies remain mostly unrealised. The EU's renewable energy policy is not explicit enough in establishing the conditions for linking renewable energy to rural development successfully. The specific funding available for rural development could play a role in achieving EU and national renewable energy targets, but Member States did not always prioritise renewable energy projects that could make a contribution to sustainable rural development.



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