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Compilation of information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, 2016

Note by the secretariat

Contents

I. Mandate

1. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by decision 15/CMP.1,[1] requested the secretariat to compile annually the supplementary information referred to in paragraphs 3 and 4 below.

2. In accordance with Article 3, paragraph 14, of the Kyoto Protocol, each Party included in Annex I to the Convention (Annex I Party) shall strive to implement the commitments mentioned in Article 3, paragraph 1, of the Kyoto Protocol, in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention.

3. In accordance with decision 15/CMP.1,[2] Annex I Parties, which are also Parties to the Kyoto Protocol, shall provide the supplementary information as referred to in paragraph 2 above. Parties included in Annex II to the Convention, and other Annex I Parties that are in a position to do so, shall incorporate information in their submissions on how they give priority, in implementing their commitments under Article 3, paragraph 14, of the Kyoto Protocol, to the following actions, based on the relevant methodologies referred to in decision 31/CMP.1: [3]

(a) The progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions, and subsidies in all greenhouse-gas-emitting sectors, taking into account the need for energy price reforms to reflect market prices and externalities;

(b) Removing the subsidies associated with the use of environmentally unsound and unsafe technologies;

(c) Cooperating in the technological development of non-energy uses of fossil fuels and supporting developing country Parties to this end;

(d) Cooperating in the development, diffusion and transfer of lower-greenhouse-gas-emitting advanced fossil-fuel technologies and/or technologies relating to fossil fuels that capture and store greenhouse gases, encouraging their wider use, and facilitating the participation of least developed countries and other Parties not included in Annex I to the Convention in this effort;

(e) Strengthening the capacity of developing country Parties identified in Article 4, paragraphs 8 and 9, of the Convention to improve efficiency in upstream and downstream activities relating to fossil fuels, taking into consideration the need to improve the environmental efficiency of these activities;

(f) Assisting developing country Parties, which are highly dependent on the export and consumption of fossil fuels, in diversifying their economies.

4. Where the information referred to above has been provided in earlier submissions, Annex I Parties shall include information on any changes that have occurred compared with the information reported in their last submissions.[4]

[1] Decision 15/CMP.1, annex, I.H, paragraph 26.

[2] Decision 15/CMP.1, annex, I.H, paragraph 23.

[3] In accordance with decision 31/CMP.1, paragraph 11, secretariat organized a workshop on reporting methodologies in the context of Article 3, paragraph 14, of the Kyoto Protocol, which was held in Abu Dhabi, United Arab Emirates, from 4 to 6 September 2006. The workshop report is contained in document FCCC/SBI/2006/27.

[4] Due to issues related to the new Common Reporting Format reporter, in 2015 some Parties submitted their NIR later than the cut-off date for the 2015 compilation and therefore were not included in the compilation. For those Parties, their 2016 NIRs will be compared to their 2014 NIRs in order to cover

5. One of the purposes of this compilation is to facilitate the detailed examination by an expert review team of the supplementary information incorporated in the annual inventory during an in-country visit, in conjunction with the review of the national communication, in accordance with decision 22/CMP.1.[5]

II. Approach

6. As of 28 October 2016, thirty-six[6] Parties submitted information in their national inventory reports (NIR) on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol. The information contained in section IV of this document is reproduced as received from Parties in their 2016 NIR. The secretariat has, however, made minimal changes to the format of the information to ensure consistency in presentation.

7. There are four different types of presentation:

(a) In the case that majority of the information provided in the 2016 NIR differs from the information provided in the 2015 NIR, the complete text as included in the 2016 NIR is presented in this compilation;

(b) In the case that only a small part of the information provided in the 2016 NIR differs from the information provided in the 2015 NIR, only the difference is presented;

(c) In the case that additional information is provided in the 2016 NIR on top of the information provided in the 2015 NIR, only the additional part is presented;

(d) In the case that no difference was found between the 2015 and 2016 NIRs, it is stated "No additional information was included in the NIR for 2016".

III. Observations

8. Out of the NIRs from the thirty-six Parties, it is observed that eleven (Australia, Croatia, Estonia, the European Union, France, Japan, Latvia, New Zealand, Norway, Ukraine and the United Kingdom) Parties provided major changes and/or additional information, seven Parties provided minor changes or updates, and eighteen Parties provided the same information as contained in last year's NIRs.

IV. Compilation of information on minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

9. Compilation of information on minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol by Party is provided below.

all differences between this compilation and the previous compilation.

[5] Decision 22/CMP.1, annex, paragraph 125.

[6] Monaco had not submit its NIR for 2016 by 28 October 2016.

1. Australia

Australia provided the following information in its NIR for 2016.

Australia recognizes that the economic cost of reducing emissions is lower than the cost of inaction on climate change (Stern 2006; Garnaut 2008 and 2011). Curbing emissions and addressing the impacts of climate change will have substantial economic, social and environmental benefits, particularly for developing countries that are most vulnerable to climate impacts. This is why Australia is committed to reducing emissions and supporting other countries' efforts.

Australia also recognizes that measures to address climate change can have social, environmental and economic impacts. In developing its climate change response measures, Australia seeks to identify possible impacts and minimise those that are negative.

Policy development in Australia is typically accompanied by consultation processes that enable those potentially affected to raise concerns and present ideas. For example, the Emissions Reduction Fund Green and White Paper consultation processes considered potential adverse impacts of the policy on business and the community.

Impact assessment is an integral part of Australia's policy development process. Any legislation introduced to the Australian parliament must be accompanied by a Regulatory Impact Statement that assesses the economic and social impacts of the measure.

Australia's bilateral consultations with other countries and engagement in international platforms such as the UNFCCC Forum on the Impact of the Implementation of Response Measures helps build understanding of positive and negative impacts and allow countries to raise concerns and suggest ways to minimize adverse impacts.

Australia helps developing countries prepare for the impacts of climate change response measures by supporting their transition towards lower emissions and climate resilient economies. Australia is supporting the development and deployment of low emissions technologies in developing countries and building countries' capacity to implement low emissions development strategies. For example, Australia is supporting the United Nations Development Programme's Low Emissions Capacity Building Programme, green growth research and planning initiatives such as the Global Green Growth Institute, and technology partnerships such as the Australia-China Joint Coordination Group on Clean Coal Technology.

Mandatory safeguards requirements apply to all of Australia's aid investments, including our bilateral climate finance programme. These ensure potential adverse social and environmental impacts are identified and adequately addressed.

2. Austria[7]

No additional information was provided in Austria's 2016 NIR compared to its 2014 NIR.

3. Belgium

The following information was updated in Belgium's 2016 NIR compared to its 2015 NIR.

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[7] Austria was not included in the 2015 compilation, see explanation in footnote 4 above.

Preliminary remark: the text presented below is similar to the text presented in previous reports. The only changes are (1) the deletion of the paragraphs on the flexibility mechanisms (given that the purchase programs have been finalized at this stage) and (2) additional information on governance implemented to ensure coherence between different policies.

4. Bulgaria

No additional information was provided in Bulgaria's NIR for 2016.

5. Croatia[8]

Croatia provided the following information in its NIR for 2016.

According to paragraph 24 of the Annex to Decision 15/CMP.1 Parties included in Annex II, and other Parties included in Annex I that are in a position to do so, shall incorporate information on how they give priority, in implementing their commitments based on relevant methodologies referred to in paragraph 8 of decision 31/CMP.1. As a country undergoing the process of transition to market economy, Croatia has, pursuant to Article 22, paragraph 3 of the Convention, assumed the commitments of countries included in Annex I, therefore Croatia is not required to provide financial or any other assistance to developing countries.

According to Article 4, paragraphs 8 and 9 of the Convention Croatia strives to implement Kyoto commitments in a way which minimize adverse impact on developing countries. In continuation information on implementation of policies and measures that minimise adverse social, environmental and economic impacts on non-Annex I Parties is provided.

(a) Market imperfections, fiscal incentives, tax and duty exemptions and subsidies

The ongoing liberalization of energy market is in line with EU policies and directives. No significant market distortions have been identified. Consumption taxes for electricity and fossil fuels were harmonized recently. The main instrument addressing externalities is the emission trading under the EU ETS.

(b) Removing subsidies associated with the use of environmentally unsound and unsafe technologies

In Republic of Croatia no subsidies for environmentally unsound and unsafe technologies have been identified.

(c) Technological development of non-energy uses of fossil fuels

The Republic of Croatia has not participated actively in activities of this nature.

(d) Carbon capture and storage technology development

The Republic of Croatia does not take part in any such activity.

(e) Improvements in fossil fuel efficiencies

In 2014 The Third National Energy Efficiency Action Plan for the 2014- 2016 period has been drawn up in accordance with the template laid down by the European Commission, with which all EU Member States must comply. Measures for the period from 2014 to 2016 regarding energy efficiency are:

[8] Croatia was not included in the 2015 compilation, see explanation in footnote 4 above.

- supporting the use of renewable energy sources and energy efficiency by the Environmental Protection and Energy Efficiency Fund (the Fund),
- encouraging the use of renewable energy and energy efficiency through the Croatian Bank for Reconstruction and Development (HBOR),
- energy efficiency projects with repayment through savings (ESCOs),
- increasing energy efficiency in buildings
- energy audits in the industry,
- promoting energy efficiency in households and the services sector through project activities,
- labelling the energy efficiency of household appliances,
- metering and informative billing of energy consumption,
- eco-design of energy using products.

(f) Assisting developing country Parties which are highly dependent on the export and consumption of fossil fuels in diversifying their economies

As regard of above motioned activity the Republic of Croatia does not take part in any such activity.

6. Czech Republic[9]

The following information was updated in Czech Republic's 2016 NIR compared to its 2014 NIR.

Tab 15-2
Actions implementation by party as identified in paragraph 24 of the Annex to Decision 15/CMP.1

Action	*Implementation by the Party*
(d) Cooperating in the development, diffusion, and transfer of less-greenhouse-gas-emitting advanced fossil-fuel technologies, and/or technologies, relating to fossil fuels, that capture and store greenhouse gases, and encouraging their wider use; and facilitating the participation of the least developed countries and other non-Annex I Parties in this effort.	There is currently no ongoing or CCS programme or demonstration project in the Czech Republic. On 31st March 2014 the first open call for applications to fund individual projects within the Programme CZ08 "Pilot Studies and Surveys on CCS Technology (Carbon Capture and Storage)" under the so called Norway Grants. In 2015 4 projects were approved in the first call of the the Programme CZ08. These projects focus on pilot CCS technologies for coal fired power plants, sharing of knowledge and experience, research of high temperature CO2 sorption from flue gas using carbonate loop and finally preparation of a pilot CCS project in the Czech Republic.

[9] Czech Republic was not included in the 2015 compilation, see explanation in footnote 4 above.

(d) Cooperating in the development, diffusion, and transfer of less-greenhouse-gas-emitting advanced fossil-fuel technologies, and/or technologies, relating to fossil fuels, that capture and store greenhouse gases, and encouraging their wider use; and facilitating the participation of the least developed countries and other non-Annex I Parties in this effort.	There is currently no ongoing or CCS programme or demonstration project in the Czech Republic. On 31st March 2014 the first open call for applications to fund individual projects within the Programme CZ08 "Pilot Studies and Surveys on CCS Technology (Carbon Capture and Storage)" under the so called Norway Grants. In 2015 4 projects were approved in the first call of the the Programme CZ08. These projects focus on pilot CCS technologies for coal fired power plants, sharing of knowledge and experience, research of high temperature CO2 sorption from flue gas using carbonate loop and finally preparation of a pilot CCS project in the Czech Republic.

7. Denmark[10]

No additional information was provided in Denmark's 2016 NIR compared to its 2014 NIR.

8. Estonia

The following additional information was provided in Estonia NIR for 2016.

The changes since previous inventory submission include following:

- update of information regarding promotion of renewable energy; and
- information on Long-term Climate Finance.

15.1. Information on how Estonia is striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement the commitments mentioned in Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention

Promotion of renewable energy

In August 2013 the compilation of National Development Plan for Energy Sector 2030+ (NDPES) was started with the decision of the Government. The plan deals with the developments of the following sectors: electricity, heat, fuels, transport and housing. The draft act was compiled in December 2014 and the plan was approved by the ministries in 2015 (draft act still to be proved by Government). In addition, the NDPES determines the starting points of the several development plans that come from the European Union legislation (National Renewable Energy Action Plan (according to 2009/28/EC); National Energy Efficiency Action Plan). The target of aggregating different fields dealt with in the plan is to reduce the amount of documents regulating different aspects of energy sector and to rally the comprehensive planning of energy sector under one development plan.

[10] Denmark was not included in the 2015 compilation, see explanation in footnote 4 above.

The Directive on renewable energy (Directive 2009/28/EC), a part of the EU's climate and energy package, sets ambitious targets for all Member States including Estonia. In Estonia the National Renewable Energy Action Plan until 2020 was approved by the Government in 2010 (with its implementation plan for years 2010–2013). This plan is a comprehensive document summarizing the national renewable energy policies, forecasting final energy consumption and setting out renewable energy targets and forecast trajectories until 2020.

Estonia renewable energy 2020 targets are:

- Overall target: 25% of renewable energy in final consumption;
- Heating and cooling: 18% of demand met by renewable energy sources;
- Electricity: 5% of electricity demand met by electricity generated from renewable energy sources;
- Transport: 10% of energy demand met by renewable energy sources.

Estonia supports regional and international development measures, encourages the exchange of best practices in production of energy from renewable sources between regional and international development initiatives and promotes the use of structural funding.

Long-term Climate Finance

The work programme on long-term finance launched by the Conference of the Parties (COP) at its seventeenth session and extended at its eighteenth session, concluded its work at COP 19 in Warsaw with a decision to continue deliberations on long-term finance with three core elements for the period 2014 to 2020. At the COP 21 in Paris a number of climate funding announcements by developed country governments, multilateral development banks and multilateral climate funds were made. Estonia has announced its intention to provide 6 million EUR between 2015 and 2020 for climate finance; from that 1 million EUR has already been pledged to the Green Climate Fund.

9. European Union[11]

The following additional information was provided in the European Union's NIR for 2016.

15.1 Information on how the EU is striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement the commitments mentioned in Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention

1. **Editorial comment: The EU is only required to report changes related to the information on minimizing adverse impacts in accordance with Article 3, paragraph 14. However for an improved understanding, text from the last year's inventory report was included and additional and new information is marked in bold**.

In this section the EU provides information on how it is implementing its commitment under Article 3, paragraph 14 of the Kyoto Protocol, i.e. how it is striving to implement its commitment under Article 3, paragraph 1 of the Kyoto Protocol in such a way as to minimize potential adverse social, environmental and economic impacts on developing countries. In order to strive for such a minimization, an assessment of potential positive and negative impacts – both of direct and indirect nature - is necessary with a double objective to maximize

[11] The European Union was not included in the 2015 compilation, see explanation in footnote 4 above.

positive impacts and to minimize adverse impacts. The EU is well aware of the need to assess impacts, and has built up thorough procedures in line with our obligations.

This includes bilateral dialogues and different platforms in which we interact with third countries, explain new policy initiatives and receive comments from third countries. Impacts on third countries are mostly indirect and can frequently neither be directly attributed to a specific EU policy, nor directly measured by the EU in developing countries. Therefore, the reported information covers potential adverse social, environmental and economic impacts that result from complex assessments of indirect influences and that are based on accessible data sources in developing countries.

Impact assessment of EU policies

In the EU a wide-ranging impact assessment system accompanying all new policy initiatives has been established. This regulatory impact assessment is a key element in the development of the Commission's legislative proposals. The Commission is required to take the impact assessment reports into account when taking its decisions, while the impact assessments are also presented and discussed during the scrutiny of legislative proposals from the Council and the Parliament. This approach ensures that potential adverse social, environmental and economic impacts on various stakeholders (in the case on developing country Parties) are identified and minimized within the legislative process. In general, impact assessments are required for all legislative proposals, but also other important Commission initiatives which are likely to have far-reaching impacts. Below the impact assessment process implemented in the EU policy making is explained in more detail in order to better demonstrate how the EU is striving for all strategies and policies to minimize their adverse impacts. Specific guidelines for the impact assessment have been adopted in 2009, called "Impact Assessment Guidelines"(European Commission 2009a). The Imact Assessment guidelines were revised in May 2015, since then called "Better Regulation Guidelines" (European Commission 2015a). Assessing systematically the likely effects of different policy initiatives on developing countries is a requirement based on Article 208(1) TFEU (##), which stipulates that the EU "shall take account of the objectives of development co-operation in the policies that it implements which are likely to affect developing countries". This constitutes the legal basis of a concept generally known as "Policy Coherence for Development" (PCD). Practically, the application of the PCD principle means recognizing that some EU policy measures can have a significant impact outside of the EU which may contribute to or undermine the Union's policy objectives concerning development. Through PCD, the EU seeks to take account of development objectives in all of its policies that are likely to affect developing countries, by minimising contradictions and building synergies between different EU policies to benefit developing countries and by increasing the effectiveness of development cooperation. Measures regarding climate change mitigation and affecting adaptation needs in developing countries have been identified as "measures known to have impacts on developing countris".

The assessment of impacts on developing countries includes economic, social and environmental impacts.

Related to economic impacts the following guiding questions have to be assessed (European Commission 2015a, Better Regulation "Toolbox", p. 221ff):

- Who are the developing countries' producing (and exporting to the EU) the goods/services affected? Are these least developed countries?
- What is the impact on proportion (esp. in value) of the trade between these developing countries and the EU, in particular regarding the trade balance of developing countries?
- What is the likely impact on price volatility?

- What are the impacts on proportion between the purchase of raw materials and finished products from developing countries?

- What is the impact on the competiveness of exporters in developing countries in terms of intended or unintended trade barriers?

- What are the impacts on the initiative on intellectual property rights, standards, and technology and business skills in developing countries and on their capacity to trade their goods (towards the EU or between themselves)?

- What is the impact on food security for local population (e.g. by impacting on price of commodities or food on world and regional/local markets or by limiting access to land, water or other assets)?

- What is the impact on different population groups (urban vs. rural, small vs. large scale farmers)?

- What are the impacts on international and domestic investment flows (outflows and inflows including FDI) in the developing countries?

- What are the impacts on the private sector in developing countries (including competitiveness, access to finance, access to market)?

Related to social impacts the following guiding questions have to be assessed:

- What are the impacts on labour market (e.g. creation of job or decrease in employment level, impacts on different groups of workforce – low-skilled vs. high skilled workforce, wages level, working conditions)?

- What are the impacts on main stakeholders and institutions affected by the proposal?

- What is the impact on poverty levels and inequality in developing countries?

- What are the impacts on gender equality and on the most vulnerable groups of society?

- What is the impact on human rights in the development countries?

- What is the impact on migration in developing countries (rural-urban or international)?

- What is the impact on food security for the local population (e.g. by impacting on price of commodities or food on world and regional/local markets or by limiting access to land, water or other assets)?

- What is the impact on different population groups (urban vs. rural, small vs. large scale farmers)?

Related to environmental impacts the following guiding questions have to be assessed:

- How does it impact ecosystem approach?

- What is the impact on emission targets in developing countries?

- What is the impact on chemicals authorisation as well as on use and waste management?

- What is the impact on green economy development, both globally and in partner countries?

- What is the impact on the low carbon technology transfer and its availability in developing countries?

- What is the impact on the biodiversity (mono-cropping, deforestation) and global or local food security?

- What is the impact on the management and use of natural resources, e.g. minerals,timber, water, land, etc.?

- Are these options consistent with our support (under development cooperation policy) to responsible approaches to natural resources management such as FLEGT[12], EITI[13] or Kimberley agreement[14]

Depending on the case, a comprehensive literature review is conducted, while in some cases a detailed, substantial and quantified analysis including detailed quantitative data to establish the causal link betwee the poicy option and its impacts. A range of analytical approach can be used for this purpose, such as econometric analysis or computable general equilibrium (CGE) models Consulting interested parties is an obligation for every impact assessment and all affected stakeholders should be engaged. Each consultation includes a 12-week internet-based public consultation and can be complemented by other approachs and tools. Existing international policy dialogues are also be used to keep third countries fully informed of forthcoming initiatives, and as a means of exchanging information, data and results of preparatory studies with partner countries and other external stakeholders. The Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) is the European Union response to illegal logging that was adopted in 2003. <http://ec.europa.eu/environment/forests/illegal_logging.htm>

The Extractive Industries Transparency Initiative is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources. https://eiti.org/eiti. The Kimberley Process (KP) is a joint government, industry and civil society initiative to stem the flow of conflict diamonds – rough diamonds used by rebel movements to finance wars against legitimate governments. http://www.kimberleyprocess.com/

The EU's Second Biennial Report provides a detailed overview of the European policies and measures to mitigate GHG emissions in all sectors. All key strategies and climate policies have been subject to impact assessments as described above. All impact assessments and all opinions of the Impact Assessment Board are published online (see http://ec.europa.eu/smart-regulation/impact/ia_carried_out/cia_2015_en.htm). In addition to the general approach described above to address adverse social, environmental and economic impacts, more specific ways to minimize impacts depend on the respective policies and measures implemented. As the reporting obligation related to Article 3, paragraph 14 in the UNFCCC reporting guidelines for GHG inventories does not include an obligation to report on each specific mitigation policy, the EU chooses the approach to provide some specific examples for a more complete overview on the ways how the EU is striving to minimize adverse impacts.

Major EU policies such as the Directive on the promotion of the use of renewable energy (Directive 2009/28/EC, in particular its relation to biomass and biofuels, are presented in

[12] The Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) is the European Union response to illegallogging that was adopted in 2003. http://ec.europa.eu/environment/forests/illegal_logging.htm

[13] The Extractive Industries Transparency Initiative is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources. https://eiti.org/eiti.

[14] The Kimberley Process (KP) is a joint government, industry and civil society initiative to stem the flow of conflict diamonds –rough diamonds used by rebel movements to finance wars against legitimate governments. http://www.kimberleyprocess.com

more detail as examples in this chapter, because the related impact assessments identified potential impacts on third countries.

Directive on the promotion of the use of renewable energy - Promotion of biomass and biofuels The Directive on renewable energy (Directive 2009/28/EC), a part of the EU's climate and energy package, sets ambitious targets for all Member States, such that the EU will reach a 20% share of energy from renewable sources in the overall energy consumption by 2020 (with individual targets for each Member State) and a 10% share of renewable energy specifically in the transport sector, which includes liquid biofuels, biogas, hydrogen and electricity from renewables. The impact assessments related to enhanced biofuel and biomass use in the EU showed that the cultivation of energy crops have both potential positive and negative impacts. To address the risk of potentially negative impacts, Article 17 of the EU's Directive on renewable energy sources creates pioneering "sustainability criteria", applicable to all biofuels (biomass used in the transport sector) and bioliquids. The sustainability criteria adopted include:

- establish a threshold for GHG emission reductions that have to be achieved from the use of biofuels;
- exclude the use of biofuels from land with high biodiversity value (primary forest and wooded land, rotected areas or highly biodiverse grasslands),
- exclude the use of biofuels from land with high C stocks, such as wetlands, peatlands or continuously forested areas. Developing country representatives as well as other stakeholder were extensively consulted during the development of the sustainability criteria and preparation of the directive and the extensive consultation process has been documented.
- In October 2012 a new Commission proposal was published to limit global land conversion for biofuel production, and raise the climate benefits of biofuels used in the EU (EuropeanComission 2012a). A new Directive amending the current legislation on biofuels through the Renewable Energy and the Fuel Quality Directives was adopted in 2015 (Directive (Eu) 2015/1513) with the objectives:
- To increase the minimum greenhouse gas saving threshold for new installations to 60% in order to improve the efficiency of biofuel production processes as well as discouraging further investments in installations with low greenhouse gas performance.
- To include indirect land use change (ILUC) factors in the reporting by fuel suppliers and Member States of greenhouse gas savings of biofuels and bioliquids;
- To limit the amount of food crop-based biofuels and bioliquids that can be counted towards the EU's 10% target for renewable energy in the transport sector by 2020, to the current consumption level, 5% up to 2020, while keeping the overall renewable energy and carbon intensity reduction targets;
- To provide additional market incentives to the eixsing ones for biofuels with no or low indirect land use change emissions, and in particular the 2nd and 3rd generation biofuels produced from feedstock that do not create an additional demand for land, including algae, straw, and various types of waste, as they will contribute more towards the 10% renewable energy in transport target of the Renewable Energy Directive.

With these new measures, the Commission wants to promote stronger biofuels that help achieving substantial emission cuts, do not directly compete with food and are more sustainable at the same time. While the directive does not affect the possibility for Member States to provide financial incentives for biofuels, the Commission considers that in the period after 2020 biofuels should only receive financial support if they lead to substantial greenhouse gas savings and are not produced from crops used for food and feed. The Impact Assessment of the Directive analysed social, economic and environmental impacts on third

countries in detail[15]. The Directive also ensures that the Commission reports every two years, in respect to both third countries and Member States which constitute a significant source of biofuels or of raw material for biofuels consumed within the Union, on national measures taken to respect the sustainability criteria for soil, water and air protection. On 27 March 2013, the European Commission published its first Renewable Energy Progress Report (European Commission 2013a) under the framework of the 2009 Renewable Energy Directive, on 15 June 2015, the second Renewable Energy Progress Report (European Commission 2015c) followed The reports include information on biofuels and bioliquids sustainability criteria. The 2015 report and its accompanying staff working document analyses *inter alia* the origin of biofuel foodstock consumed in the EU, whereby 79% of EU consumed biodiesel in 2013 was produced within the EU and 71% of the EU consumed bioethanol was produced in the EU. In 2010, imports of biodiesel came primarily from Argentina (10%), Indonesia (3%), Malaysia (1%) and China (1%), while Brazil (8%), USA (4%), Peru (1%), Kazakhstan (1%) and Bolivia (1%) were the top five importers of bioethanol. In 2013, biodiesel imports still came primarily from Argentina or Indonesia and ethanol was still imported primarily from either the United States or Brazil. The 2013 report states that "While the total amount of land worldwide under cultivation for biofuel production continues to grow, the amount of land used for biofuel exports to the EU has actually declined on a land per energy basis, with 0.16 Mha/Mtoe required in 2012 compared to 0.18 Mha/Mtoe in 2010" (Ecofys et al. 2014).

Whilst imported mineral oil still constitutes the vast bulk of fuel used in the transport sector, the 5.4% share of biofuels in 2012 is estimated to have generated 34 Mt CO2eq savings, based on national reporting, not taking into account indirect land use change effects.

Both progress reports find that the transposition and implementation of the biofuel sustainability criteria in many Member States is still not complete or correct. The Commission continues to assess Member State progress in implementation of the renewable energy Directive and legal measures are being taken in those cases where the transposition is incomplete.

In addition, the Commission reported on the effects on food prices, on land use rights and on the need for specific measures for air, soil and water protection, all of which concluded that notwithstanding current lack of major issues, future monitoring on these parameters should continue.

In addition to the official progress reports, the Commission contracted a consortium led by Ecofys to perform support activities concerning the assessment of progress in renewable energy and sustainability of biofuels (Ecofys and consortium 2012 and 2014). The Ecofys studies revealed *inter alia* that:

- In 2012, the use of renewable energy in transport was 5.11%, consisting of:
- 11.6 Mtoe of sustainable biofuels or 4.63%;
- 1.35 Mtoe of renewable electricity, or 0.47%;
- Between 2008 and 2010, the volume of biofuels consumed in the EU increased by 39%, whereas the volume of petroleum fuels consumed in road transport decreased with 3.5%;
- Both the production and consumption of biofuels in the EU has continued to grow during 2011 and 2012, but at a much slower pace than in the preceding years: Between 2010 and 2012, the share of renewable energy in transport only increased slightly by 0.41 percentage points,

[15] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0296&from=EN

- The volume of sustainable biofuels even decreased by 1.4 Mtoe because the sustainability of a significant biofuels volume could not be demonstrated to many newly implemented sustainability administrations in several countries. Comparison of the numbers between 2010 and 2012 are however difficult because for the biofuels in 2009 and 2010, the sustainability did not play a role, as the Directive was not yet implemented. This became especially apparent in 2011 where a few countries show a dip in the use of sustainable biofuels, most notably France, Czech Republic, Portugal, Romania and Cyprus.

- Furthermore, use of double counting biofuels increased significantly (mainly biodiesel that has been used as cooking oil before) An analysis of the world trade in biofuels shows that 21% of the biodiesel in the EU was imported, especially from Argentina and Indonesia, with few changes between 2011 and 2012. Whereas the EU import from Argentinean biodiesel moderately increased from 1,179 ktonne in 2010 to 1,476 ktonne in 2012 the import of Indonesian biodiesel more than doubled in 3 years from 495 ktonne in 2010 to 1,134 ktonne in 2012. Both countries have Differential Export Taxes (DETs) in place that incentivise the export of biodiesel, by making the raw materials (soy and palm oil respectively) more expensive than the finished product.

Following legal complaints by the biodiesel industry the EC launched an assessment of the matter mid 2012 which lead to provisional anti-dumping duty on imports of biodiesel from Argentina and Indonesia in May 2013 (EC Regulation No 490/2013). The provisional duties were confirmed by steeper five-year tariffs in November 2013. The biodiesel imports from these countries strongly declined. The exports from the US, which were large in previous years, almost disappeared from 2011 onwards.

- 2011 saw a large import of US subsidised ethanol to the EU , which was similar to the “splash-and-dash” practice of US biodiesel until 2009. Now, E90 from the USA and Brazil, which was blended in the USA received a Volumetric Ethanol Excise Tax Credit (VEETC). The VEETC, together with low EU import duties for high ethanol blends (not administrated as ethanol), resulted in a drastic increase of ethanol import from the USA to the EU, thereby reducing the market share of domestically produced but more expensive ethanol. As the VEETC expired at the end of 2011, the EC stopped their anti-subsidy investigation on US ethanol. The import of ethanol immediately decreased to about 18% of the EU ethanol market.The anti-dumping investigation continued and in February 2013 the EC imposed an anti-dumping duty of 9.6% on US ethanol imports.

- The international biofuel market is quite dynamic and trade routes change continuously.

Most of the volatility should be attributed to the nature of agricultural commodities and the ways that governments regulate (i.e. support) agricultural production and export.The most important feedstock for biodiesel is rapeseed originating from the EU but also from Australia, Canada, Ukraine and Russia with a share of more than 70%, the second most important feedstock is used cooking oil with an 11.4% share in 2012. There was a steady increase of this feedstock so that it became the second most important from 2011 on, leading also to a decrease in the share of (mainly) Argentinean soy and Indonesian and Malaysian palm oil. EUproduced biodiesel is partially produced from imported feedstock (palm oil, soy and part of the rapeseed);

- EU-produced bioethanol is mainly produced from EU feedstock, with only small shares of maize originating from the USA and Ukraine and of sugar cane originating from Guatemala and a few other countries;
- Statistical analysis reveals that the total land use worldwide to produce the feedstock for EUconsumed biofuels in 2012, is about 7.8 Mha. Of this, 4.3 Mha (58%) is within the EU and 3.1 Mha (42%) resides outside the EU. True valuation of co-products would yield a lower figure;

- In most of the non-EU countries, the land dedicated to the production of feedstock for EU biofuels is less than 0.5% of the cropland in 2012. A notable exception is Argentina where 3% of the total cropland produces soybean for EU biodiesel in 2012;

- The comparison of a composite food price index with global annual biofuels production volumes shows that any obvious correlation between crop prices and biofuels volume is absent after 2008, while crop prices correlate strongly with the prices of all commodities, suggesting that the underlying issue is not biofuels. After early 2011, no notable spikes are observed until at least end of 2013, while the world's production and consumption of biofuels has continuously increased;

- Based on on estimates and projections of the Global Renewable Fuels Association global ethanol and biodiesel production supports nearly 1.4 million jobs in all sectors of the global economy in 2010. The direct gross employment related to the 2012 EU biofuel consumption in the main countries of supply (Indonesia, Malaysia, Argentina, Brazil, USA and the EU itself) is estimated to be at around 160,000 people. EurObserv'Er (2012) indicates a total of 114.955 direct and indirect jobs in the EU related to the biofuel sector in 2012. Most of this employment is located in France (24%) and Germany (20%). IRENA (2014) indicates a total of 108.000 jobs. These estimates relate to the total amount of biofuels produced in the EU;

- Maximally around 10 percent of biofuel projects outside the EU have been developed with the EU market in mind. As Member States continue down the path to the 2020 objective, the Commission's regular monitoring of the EU biofuel origin and consumption trends since 2010 tend to suggest that, although there is some impact of increased biofuel consumption on food prices, the overall impact of the EU biofuel market is relatively small compared to the other systematic factors driving global commodity prices like reduced reserves, food waste, speculation, oil prices, transportation issues, storage costs, and hoarding.

The EU's biofuel sustainability criteria form the first global initiative to address the climate change and sustainability issues surrounding crop production. The Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (2010/C 160/01)79 sets up a system for certifying sustainable biofuels, including those imported into the EU. It lays down rules that such schemes must adhere to if they are to be recognized by the Commission. This will ensure that the EU's requirements that biofuels deliver substantial reductions in greenhouse gas emissions and that biofuels do not result from forests, wetlands and nature protection areas are implemented.

The European Commission has so far (April 2014) recognised 19 voluntary schemes: International Sustainability and Carbon Certification (ISCC), Bonsucro EU, Round Table on Responsible Soy (RTRS EU RED), Roundtable of Sustainable Biofuels (RSB EU RED), Biomass Biofuels voluntary scheme (2BSvs), Abengoa RED Bioenergy Sustainability Assurance (RBSA), Greenergy Brazilian Bioethanol verification programme, Ensus voluntaryscheme under RED for Ensus bioethanol production, Red Tractor Farm Assurance Combinable Crops & Sugar Beet Scheme, SQC (Scottish Quality Farm Assured Combinable Crops (SQC) scheme), Red Cert, NTA 8080, RSPO RED (Roundtable on Sustainable Palm Oil RED), Biograce GHG calculation tool, HVO Renewable Diesel Scheme for Verification of Compliance with the RED sustainability criteria for biofuels, Gafta Trade Assurance Scheme, KZR INIG System, Trade Assurance Scheme for Combinable Crops and Universal Feed Assurance Scheme[16]

[16] https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes

In line with Article 19(4) of Directive 2009/28/EC on the promotion of the use of energy from renewable sources[17] the Commission published in 2010 a report on the feasibility of drawing up lists of areas in third countries with low greenhouse gas emissions from cultivation (COM(2010) 427 final) concluding that, "while desirable, it is not yet feasible to set up legally binding lists of areas for third countries where a major component of the underlying calculation is uncertain and can easily be questioned, and where third countries have had no possibility to contribute on the methodology and data used. It is therefore not appropriate, at least at this stage, to produce legislative lists for third countries based on the current modelling of N2O emissions from agriculture. However, it is important to enhance the understanding of the topic and survey the data used in view of a new assessment in 2012.

The Commission has thus published the preliminary results of the JRC work together with all necessary data and description of methodology to support such a process on the webpage of the JRC. It will use this as the basis for a discussion with third countries in the framework of its dialogue and exchange with them under Article 23(2) of the Renewable Energy Directive." Another way the EU will strive to minimize potential adverse impacts of biomass use is to promote second generation biomass technologies. Within the renewable energy Directive, second generation biofuels are promoted through Article 21, paragraph 2 which establishes that the contribution made by biofuels produced from wastes, residues, non-food cellulosic material, and ligno-cellulosic material shall be considered to be twice that made by other biofuels for the purposes of demonstrating compliance with national renewable energy targets; and EU research also has a major focus on bioenergy technologies. The goal of 79 OJ C160, 19.6.2010, p.1 second generation biofuel processes is to extend the amount of biofuel that can be produced sustainably by using biomass consisting of the residual non-food parts of current crops, such as stems, leaves and husks that are left behind once the food crop has been extracted, as well as other crops that are not used for food purposes (non food crops) and also industry waste such as woodchips, skins and pulp from fruit pressing. Second generation biofuels are expected to expand the biomass feedstock available for biofuel production. Further research and impact assessments in this area are necessary to assess e.g. the long-term effects of the energy use of non-food parts of crops compared to their existing use. The Commission continues the efforts to promote second and third generation biofuels, shifting away from food-crop based fuels. In this light, it put forth a proposal to limit to 5% the use of food-based fuels in meeting the EU renewable energy target in transport (see discussion above on Proposal from October 2012).

As part of the Communication on a policy framework for climate and energy in the period from 2020 to 2030 (European Commission 2014a) it is proposed not to establish new targets for renewable energy specifically for the transport sector, or the greenhouse gas intensity of fuels used in the transport sector or any other sub-sector after 2020. The priority expressed in the communication is a focus of policy development on improving the efficiency of the ransport system, further development and deployment of electric vehicles, second and third generation biofuels and other alternative, sustainable fuels as part of a more holistic and integrated approach. A greenhouse gas reduction target of 40% to be shared between the ETS and non-ETS sector is accompanied by a coherent headline target at EU level for renewable energy of at least 27% with flexibility for Member States to set national objectives.

Inclusion of aviation in the EU emission trading scheme

In 2005 the Commission adopted a Communication entitled "Reducing the Climate Change Impact of Aviation", which evaluated the policy options available to this end and was accompanied by an impact assessment. The impact assessment concluded that, in view of the likely strong future growth in air traffic emissions, further measures are urgently needed. Therefore, the Commission decided to pursue a new market-based approach at EU level and

[17] OJ L 140, 5.6.2009, p. 16

included aviation activities in the EU's scheme for greenhouse gas emission allowance trading. In April 2013 the EU temporarily suspended enforcement of the EU ETS requirements for flights operated from or to non-European countries, while continuing to apply the legislation to flights within and between countries in Europe. The EU took this initiative to allow time for the International Civil Aviation Organization (ICAO) Assembly in autumn 2013 to reach a global agreement to tackle aviation emissions – something Europe has been seeking for more than 15 years. In October 2013 the EU's hard work paid off when the ICAO Assembly agreed to develop by 2016 a global market-based mechanism (MBM) addressing international aviation emissions and apply it by 2020. Until then countries or groups of countries, such as the EU, can implement interim measures. In response to the ICAO outcome and to give further momentum to the global discussions, the European Commission has proposed amending the EU ETS[18] so that only the part of a 82 See Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an flight that takes place in European regional airspace is covered by the EU ETS. In April 2014 the "Regulation (EU) No 421/2014 of the European Parliament and the Council of 16 April 2014 amending the Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions" entered into force. The regulation limits the aviation coverage of EU ETS to emissions from flights within the European Economic Area (EEA) for the period from 2013 to 2016. This applies to all (also third country) aircraft operators. All options are left open for the EU to react to the developments of the ICAO Assembly in 2016 and to re-adjust the scope of the EU ETS from 2017 onwards. The regulation also includes exemptions for small emitters.

A* roadmap *for moving to a competitive low carbon economy in 2050

In 2011 the Commission released the Communication "A Roadmap for moving to a competitive low carbon economy in 2050" (COM(2011) 112 final) outlining a strategy to meet the long-term target of reducing domestic emissions by 80 to 95% by 2050 as agreed by European Heads of State and governments. The Roadmap shows how the sectors responsible for Europe's emissions - power generation, industry, transport, buildings and construction, as well as agriculture - can make the transition to a low-carbon economy over the coming decades. The transition towards a competitive low-carbon economy means that the EU should prepare for reductions in its domestic emissions by 80% by 2050 compared to 1990, with cost effective reduction milestones of 40% by 2030 and 60% in 2040. The shift to a resource-efficient and low-carbon economy should be supported by using all resources, decoupling economic growth from resource and energy use, reducing CO2 emissions, enhancing competitiveness and promoting greater energy security. A low-carbon economy will mean a much greater use of renewable sources of energy, energy-efficient building materials, hybrid and electric cars, 'smart grid' equipment, low-carbon power generation and carbon capture and storage technologies. Because more locally produced energy would be used in a low-carbon economy, mostly from renewable sources, the EU would be less dependent on imports of oil and gas from outside the EU. On average, the EU could save € 175 - 320 billion annually on fuel costs over the next forty years. With the shift from fuel expenses (operating costs) to investment expenditure (capital expenditure) in clean technology and clean energy, investment costs will occur in the domestic economy, requiring increased added value and output from a wide range of manufacturing industries (automotive,

[18] See Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC establishing ascheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions, http://eurlex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013PC0722.

power generation, industrial and grid equipment, energy–efficient building materials, construction sector etc.), while fuel expenses for fossil fuel imports which are to a large extent flowing to third countries would be reduced.

Communication *on a policy framework for climate and energy in the period from 2020 to 2030* international agreement applying a single global market-based measure to international aviation emissions,
http://eurlex. europa.eu/legal-content/EN/TXT/?uri=CELEX:52013PC0722

In January 2014, the European Commission published a Communication on a policy framework for climate and energy in the period from 2020 to 2030 (COM(2014)15 final) (European Commission 2014a). This Communication develops a framework for the future EU climate and energy policy and proposes to set a greenhouse gas emission reduction target for domestic EU emissions of 40% in 2030 relative to emissions in 1990. The EU level target will be shared between the EU Emissions Trading System (EU ETS) and what the Member States must achieve collectively in the sectors outside of the ETS. The ETS sector would have to deliver a reduction of 43% in GHG in 2030 and the non-ETS sector a reduction of 30% both compared to 2005. In addition the Commission proposes an EU-level target for the share of renewable energy in the EU of at least 27% in 2030 as well as an energy efficiency target of at least 27% until 2030. While binding at the EU level, there would not be binding renewable targets for Member States individually but the objective would be fulfilled through clear commitments decided by the Member States themselves which should be guided by the need to deliver collectively the EU-level target and build upon what each Member State should deliver in relation to their current targets for 2020. While not foreseeing national-level targets, the 2030 framework proposes a new governance framework based on national plans for competitive, secure and sustainable energy. A stakeholder consultation was carried out in preparation for the 2030 framework. The Communication on the 2030 policy framework follows the Commission's March 2013 “Green Paper on a 2030 framework for climate and energy policies” which was explained in this section of the NIR in the previous inventory submission. The Green paper launched a broadpublic stakeholder consultation on the most appropriate range and structure of climate and energy targets for 2030. The public consultation was conducted between March and July 2013 and also addressed relevant stakeholders from outside the EU. An impact assessment (IA) was conducted for this communication (European Commission 2014b), which gives significant detail on costs and savings achieved on the basis of the proposed policy under different scenarios. All scenarios demonstrate reduced GHG emissions compared to the Reference scenario. All scenarios show reduced energy consumption (both primary and final) compared to the Reference scenario, with more pronounced energy savings and improved energy intensity in scenarios with strong energy efficiency policies, with highest improvements in those scenarios that next to ambitious energy efficiency policies also include a renewables target. Future fuel consumption in the EU will have economic impacts on fuel prices as well as trade effects for fuel exporting countries, therefore the impacts on future fuel use are summarized: With regard to fuel use, the IA analysed that solid fuel consumption declines substantially under all scenarios until 2030. Also oil consumption decreases in all scenarios, but much faster in those with policies that promote transport electrification. Natural gas absolute consumption also declines in all scenarios (in general less harply than oil) but slightly more under the scenarios that include renewable targets. By 2050 in all scenarios natural gas becomes the main fossil fuel. Net energy imports decrease significantly for all scenarios already in 2030 between 4% to 22% below 2010 levels in 2030 and by about 50% in most scenarios in 2050.[19]

[19] For a more detailed analysis and explanation on the scenarios, see the Impact Assessment Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions A policy framework for climate and energy in the period from 2020 up to 2030, available: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014SC0015.

The Communication was discussed by the European Council (EU Member States' heads of state and goverments) on 21-24 March 2014, which requested the Council and the Commission to rapidly develop further policy elements, including mechanisms for fair effort sharing. The "2030 climate & energy framework" was adopted by EU leaders in October 2014. The methodology to set the national reduction targets for the non-ETS sectors, with all the elements as applied in the Effort Sharing Decision for 2020, will be continued until 2030, with efforts distributed on the basis of relative GDP per capita. All Member States will contribute to the overall EU reduction in 2030 with the targets spanning from 0% to -40% compared to 2005. Targets for the Member States with a GDP per capita above the EU average will be relatively adjusted to reflect costeffectiveness in a fair and balanced manner, moreover the availability and use of existing flexibility instruments within the non-ETS sectors will be significantly enhanced in order to ensure cost-effectiveness of the collective EU effort and convergence of emissions per capita by 2030.

The European Council will keep all the elements of the framework under review and will continue to give strategic orientations as appropriate, notably with respect to consensus on ETS, non-ETS, interconnections and energy efficiency. The indicative energy savings target of 27% by 2030 will be reviewed in 2020 having in mind a 30% target. The Commission will continue to have a regular dialogue with stakeholders.

The EU Emissions Trading System (ETS) will remain an important instrument to bring about the transition to a low carbon economy. A market stability reserve (MSR) will be established from 2018 onwards – the placing of allowances in the reserve shall operate from 1 January 2019 – which provides an automatic adjustment of the supply of auctioned allowances based on a pre-defined set of rules with the aim to avoid large supply/demand imbalances in the ETS. The legislative proposal[20], put forward in January 2014 at the same time as the framework for climate and energy policies up to 2030, was approved by the European Parliament on 7 July 2015 and by the Council on 6 October 2015.

As another step in delivering on the EU's target to reduce greenhouse gas emissions by at least 40% domestically by 2030 (with the sectors covered by the ETS having to reduce their emissions by 43% compared to 2005) in line with the 2030 climate and energy policy framework the European Commission presented in July 2015 a legislative proposal[21] to revise the EU emissions trading system for the period after 2020. It mainly includes a more ambitious annual factor to reduce the cap on the maximum permitted emissions. The factor will be changed from 1.74% to 2.2% from 2021 onwards which will lead to an additional emissions reduction in the sectors covered by the ETS of some 556 million tonnes over the decade − equivalent to the annual emissions of the UK.

Regulation *for energy efficiency labelling*

In July 2015 the Commission made a Proposal for a Regulation setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU[22]. This review of the Energy Labelling Directive aims at further exploiting the potential of energy efficiency especially with regard to the EU target of improving energy efficiency by 27% by 2030 compared to 2005. Consequently, it will lead to a moderation of energy demand and a reduction of the energy dependency of the European Union. The proposal follows up n the Energy Union Framework Strategy and intends to replace Directive 2010/30/EU on the indication by

[20] See COM/2014/20 Proposal for a Decision oft he European Parliament and of the Council concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC, http://ec.europa.eu/clima/policies/ets/reform/docs/com_2014_20_en.pdf 85 http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2015/com_2015_0337_en.

[21] 85 http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2015/com_2015_0337_en.pdf

[22] http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2015/com_2015_0341_en.pdf

labelling and standard product information of the consumption of energy and other resources by energy-related products. This proposal is made now following the evaluation of the Directive. Product specific regulations made under the Directive remain in force but will be reviewed. By common energy labelling within the EU customers can obtain accurate, relevant and comparable information on the energy efficiency and consumption of energy-related products wherever they are in the Union.

The Commission carried out an ex-post evaluation of the Energy Labelling Directiveand specific aspects of the Ecodesign Directive, furthermore it carried out an impact assessment accompanying the proposal[23]. The final option chosen was to improve the existing regulatory framework on energy labelling, to require labelled products to be registered in a new database, improve the legal structure by changing the current Energy Labelling Directive to a Regulation, to align it with the market surveillance regulation, and to fund EU joint market surveillance actions.

Third countries are affected, because the A-G energy labelling scheme has been followed as a model in many different countries around the world and some countries have also implemented EU ecodesign regulations[24]. They are also affected through the Agreement on Technical Barriers to Trade which is to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles, while also providing the right to implement measures to achieve legitimate policy objectives.

***15.2* Information on how the EU gives priority, in implementing the commitments under Article 3, paragraph 14, to specific actions**

The EU reports activities that are related to the actions specified in the subparagraphs (a) to (f) of paragraph 24 of the reporting requirements in the Annex to decision 15/CMP.1. However, no decision was agreed yet that these actions form part of the commitment under Article 3, paragraph 14. For some of the actions specified in the reporting requirements, it seems rather unclear how they relate to the minimization of adverse social, environmental and economic impacts resulting from policies and measures to mitigate GHG emissions, e.g. information related to the cooperation activities requested are activities that help both Annex I and Non-Annex I Parties in reducing emissions from fossil fuel technologies, but they do not directly address the minimization of potential adverse impacts in Annex I Parties.

For the purposes of completeness in reporting, the EU addresses all subparagraphs specified in the reporting requirements, however the main ways how the EU is striving to minimize adverse impacts are described in the previous section.

(a) The progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse-gas-emitting sectors, taking into account the need for energy price reforms to reflect market prices and externalitiesAnnex XX

The actions addressed in subparagraph a) also form part of the commitment to implement policies and measures requested under Article 2, paragraph 1(a) (v), however Article 2 specifies that Annex I Parties shall "implement and/or further elaborate policies and measures in accordance with national circumstances, such as progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments." Subparagraph a) in the reporting requirements lacks such objective and therefore seems somewhat inconsistent with the commitment under Article 2. The promotion of research, demonstration projects, fiscal incentives or carbon taxes is

[23] http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2015/swd_2015_0139_en.pdf

[24] http://www.ecofys.com/files/files/ec-2014-impacts-ecodesign-energy-labelling-on-third-jurisdictions.pdf

important instrument to advance the objectives of the Convention, e.g. the use of renewable energies. A progressive reduction of all fiscal incentives or subsidies in all GHG emitting sectors would run counter the objective of the Convention and counter the ability of the EU to meet its commitment under Article 3, paragraph 1 of the Kyoto Protocol. Therefore the EU interprets this reporting requirement in a way consistent with Article 2 paragraph 1(a)(v) that the EU should focus on the progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies that run counter the objectives of the Convention and application of market instruments.

The 2009 Review of the EU Sustainable Development Strategy assesses that *"the Commission has been mainstreaming the progressive reform of environmentally harmful subsidies into its sectoral policies"*. For instance, environmental concerns have been gradually incorporated into the EU Common Agricultural Policy, including "decoupled" direct payments which have replaced price support; environmental cross compliance; a substantial increase in budget for rural development. As part of 2008 Common Agriculture Policy Health Check, additional part of direct aid has been shifted to climate change, renewable energy, water management, biodiversity, innovation; - transparency of agricultural subsidies has improved. It is important to note that in the other areas most subsidies are within the competence of the Member States and not of the EU, within the limits established by EU state aid rules.

EU policies aim to address market imperfections and to reflect externalities. For example the EU has made significant efforts to liberalise the internal energy market and to create a genuine internal market for energy as one of its priority objectives. The existence of a competitive internal energy market is a strategic instrument both in terms of giving European consumers a choice between different companies supplying gas and electricity at reasonable prices, but also in terms of making the market accessible for all suppliers, especially the smallest and those investing in renewable forms of energy.

With the implementation of the EU Emissions Trading Scheme, the EU uses a market instrument to implement the objective of the Convention and its commitment under Article 3, paragraph 1 of the Kyoto Protocol which aims at creating the right incentives for forward looking low carbon investment decisions by reinforcing a clear, undistorted and long-term carbon price signal.

With respect to financial support provided by the Member States to undertakings, the EU Treaty pronounces a general prohibition of "State aid". This concept encompasses a broad range of financial support measures adopted at national or sub-national level (i.e. not at EU level), and which can take various forms (subsidies, tax relieves, soft loans…). The Treaty provides for exceptions to this general prohibition. When State aid measures can contribute in an appropriate manner to the furtherance of objectives of common interest for the EU, and provided that they comply with certain strict conditions, they may be authorised by the Commission. By complementing the fundamental rules through a series of legislative acts and guidelines, the EU has established a worldwide unique system of rules under which State aid is monitored and assessed in the European Union. This legal framework is regularly reviewed to improve its efficiency. EU State aid control is an essential component of competition policy and a necessary safeguard for effective competition and free trade.

State aid reform in the EU aims to redirect aid to objectives of common interest which are related to the EU Lisbon Treaty, such as R&D&I, risk capital measures, training, and environmental protection. Environmental protection, and in particular, the promotion of renewable energy and the fight against climate change, is considered one of the objectives of common interest for the EU which may, under certain circumstances, justify the granting of State aid.

Specific "Community Guidelines on State aid for Environmental Protection"[25] have been established. The Guidelines foresee in particular the possibility to authorise State aid for particular environmental purposes, such as for renewable energy sources or energy saving. The European Commission published on 9 April 2014 the "Guidelines on State aid for environmental protection and energy 2014-2020" that intend to replace the 2008 Guidelines from 1 July 2014 onwards. A public consultation process on these draft guidelines has been conducted between December 2013 and February 2014 (European Commission 2014c). The Guidelines set out the conditions under which state aid measures for environmental protection or energy objectives may be declared compatible with the internal market. This proposal includes a list of environmental and energy measures for which state aid under certain conditions may be compatible with the EU Treaty, covering the following areas:

- Aid to energy from renewable sources o Energy efficiency measures, including cogeneration and district heating and district cooling
- Aid for resource efficiency and in particular aid to waste management
- Aid to Carbon Capture and Storage (CCS)
- Aid in the form of reductions in or exemptions from environmental taxes and in the form of reductions in funding support for electricity from renewable sources
- Aid to energy infrastructure
- Aid for generation adequacy
- Aid in the form of tradable permit schemes
- Aid for the relocation of undertakings

In June 2012, the Commission adopted Guidelines on certain State aid measures in the context of the EU Emissions Trading System (EU ETS). The Guidelines provide a framework under which Member states may compensate some electro-intensive industries, such as steel and aluminium producers, for part of the higher electricity costs expected to result from the application of the harmonised allocation rules to be applied in the EU ETS as from 2013. The rules, subject to state aid scrutiny, ensure that national support measures are designed in a way that preserves the EU objective of decarbonising the European economy and maintains a level playing field among competitors in the internal market. The sectors deemed eligible for compensation include producers of aluminium, copper, fertilisers, steel, paper, cotton, chemicals and some plastics. The Guidelines give a right, not an obligation, to provide subsidies to energy intensive industries.

Carbon leakage means that global greenhouse gas emissions increase when companies in the EU shift production outside the EU because they cannot pass on the cost increases induced by the ETS to their customers without a significant loss of market share to third country competitors. Based on the ETS Directive (2003/87/EC as amended by 2009/29/EC), the Commission shall compile a list of sectors and sub-sectors deemed exposed to significant risk of carbon leakage. Sectors on the list will receive a higher share of free allowances. The criteria and thresholds to determine whether a sector is deemed exposed to carbon leakage or not are defined in Article 10a(13-18) of the ETS Directive and focus on additional costs incurred by the ETS Directive and trade intensity. The calculations are based on official Eurostat data and data collected from Member States. The final carbon leakage list for 2015-19 was adopted by the Commission on October 27th, 2014[26] after the draft list had been published on 5 May 2014 and applies to free allocation for the first time in 2015. According to the ETS Directive, it will be possible to add further sectors to the list if they comply with

[25] Official Journal No C 82, 1.4.2008, p.1

[26] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0746&from=EN

the criteria stated in the Directive, but it will not be possible to remove sectors from the list until is expiration.

The Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments builds on the positive experience with the harmonised rules implemented since 2013, by further developing predictable, robust and fair rules for free allocation of allowances to industry during the fourth trading period (2021-2030) to address the potential risk of carbon leakage in an adequate manner. This includes:

- Revising the system of free allocation to focus on sectors at highest risk of relocating their production outside the EU – around 50 sectors in total.

- A considerable number of free allowances set aside for new and growing installations.

- More flexible rules to better align the amount of free allowances with production figures.

- Update of benchmarks to reflect technological advances since 2008.

Several support mechanisms will be established to help the industry and the power sectors meet the innovation and investment challenges of the transition to a lowcarbon economy. These include two new funds:

- Innovation Fund – extending existing support for the demonstration of innovative technologies to breakthrough innovation in industry.

- Modernisation Fund – facilitating investments in modernising the power sector and wider energy systems and boosting energy efficiency in 10 lower-income Member States.

(b) Removing subsidies associated with the use of environmentally unsound and unsafe technologies

There is no clear definition of environmentally unsound and unsafe technologies; therefore the EU interprets this provision in the context of the Kyoto Protocol that unsound and unsafe technologies would be those increasing GHG emissions.

The phase-out of subsidies to fossil fuel production and consumption by 2010 was one of the objectives in the Communication from the Commission “A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development (Commission's proposal to the Gothenburg European Council, 2001)”.91.

Council Decision 2010/787/EU of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines adopted a new coal regulation enabling Member States to grant State aid to facilitate the closure of uncompetitive mines until 2018, following the expiry of the current Coal Regulation (Council Regulation (EC) N° 1407/2002 of 23 July 2002) on 31 December 2010. The decision includes the following main elements:

- the possibility of continuing to grant, under certain conditions, public aid to the coal industry with a view to facilitating the closure of uncompetitive hard coal mines until December 2018;

- the modalities for the phasing-out of the aid, under which the overall amount of aid granted by a member state must follow a downward trend, in order to prevent undesirable effects of distortion of competition in the internal market. Subsidies will have to be lowered by at least 25% until 2013, by 40% until 2015, by 60% by 2016 and by 75% by 2017;

- the obligation for member states granting aid to provide a plan on intended measures to mitigate the environmental impact of the production of coal; and

- the possibility of allowing subsidies, until December 2027, in order to cover exceptional expenditure in connection with the closure of mines that are not related to production, such as social welfare benefits and rehabilitation of sites.

In March 2015 the European Commission's Directorate-General for Economic and Financial Affairs published an article called "Measuring Fossil Fuel Subsidies"[27] in its Economic Brief which aims to shed some light on the true magnitude and allocation of

fossil fuel subsidies so as to enable comparisons between countries and regions to provide background to policy discussions.

(c) Cooperating in the technological development of non-energy uses of fossil fuels, and upporting developing country Parties to this end;

The technological development of non-energy uses of fossil fuels is not a current research priority in the EU, nor a priority of cooperation with developing countries because the EU is not a major producer of oil and gas. Given the long-term depletion of fossil fuel resources and the decline in coal production, the EU's priority in general is the replacement of the use of fossil fuels by renewable resources and the more efficient use of resources.

(d) Cooperating in the development, diffusion, and transfer of less-greenhouse-gas-emitting advanced fossil-fuel technologies, and/or technologies, relating to fossil fuels, that capture and store greenhouse gases, and encouraging their wider use; and facilitating the participation of the least developed countries and other non-Annex I Parties in this effort;

In March 2005, the EU and China signed an Action Plan on Clean Coal, which included cooperation on carbon capture and storage. The subsequent 2005 EU-China Summit established the EU-China Climate Change Partnership, which includes a political commitment to develop and demonstrate in China and the EU advanced, near-zero emissions coal (NZEC) technology through carbon capture and storage (CCS) by 2020. The first phase of NZEC was completed between 2006 and 2009. Four research and development projects financed by the European Commission and UK involving Chinese and European academic organizations, companies and government bodies made significant progress in identifying options and constraints for CCS in China.

Phase II of NZEC (planned between 2010 and 2012) will examine the site-specific requirements for and define in detail a demonstration plant and accompanying measures. It will include the technical and cost analysis of different options. Based on this analysis, the site of the power plant as well as the combustion technology (pulverised coal or IGCC), the capture technology and the transport and storage concepts will be determined. Phase II shall also include a detailed roadmap for the construction and operation of the demonstration plant as well as an Environmental Impact Assessment of the demonstration power plant and the carbon storage site. Phase III (to be completed by 2020) should commence thereafter and will see the construction and operation of a commercial-scale demonstration plant in China.

In 2009 the European Commission published a Communication on CCS in emerging developing countries (European Commission 2009b). The Communication sets out the Commission's plans for establishing an investment scheme to co-finance the design and construction of a power plant to demonstrate carbon capture and storage (CCS) technology in China. The Commission has programmed funding of up to €50 million for the construction and operation phase of the project, out of a total of €60 million that has been earmarked for cooperation with emerging economies on cleaner coal technologies and carbon capture and storage.. At the 2009 Summit, China and EU jointly agreed to finalise the feasibility (phase II) of a demonstration plant, and a Memorandum of Understanding was signed between the

[27] http://ec.europa.eu/economy_finance/publications/economic_briefs/2015/pdf/eb40_en.pdf.

European Commission and the Ministry of Science and Technology (MOST). Implementation is on-going. In 2010 Norway joined the initiative. A call for proposals has been launched in 2013 to select the project and conduct pre-feasibility studies.

The EU is cooperating with other Annex I and Non-Annex I Parties (Australia, Brazil, Canada, China, France, Germany, Greece, India, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russian Federation, Saudi Arabia, Serbia, South Africa, United Arab Emirates, United Kingdom and USA) in the "Carbon Sequestration Leadership Forum (CSLF)". The CSLF is a Ministerial-level international climate change initiative that is focused on the development of improved cost-effective technologies for the separation and capture of carbon dioxide (CO2) for its transport and long-term safe storage. The mission of the CSLF is to facilitate the development and deployment of such technologies via collaborative efforts that address key technical, economic, and environmental obstacles. The CSLF will also promote awareness and champion legal, regulatory, financial, and institutional environments conducive to such technologies. In 2010 a Technology Roadmap was released by the Carbon Sequestration Leadership Forum. This road map indicates that significant international progress has been made on advancing carbon capture and storage, but that a number of important challenges remain that must be addressed to achieve widespread commercial deployment of CCS. The 2012 Strategic Plan Implementation Report recognized five new CCS projects bringing the total number of CSLF recognized technology demonstrations to 34, including 24 active projects. A number of meetings and workshops are held each year, such as the 2013 and 2014 CSLF Technical Group Meeting, the 2014 CSLF Policy Group Meeting, the 6th CSLF Ministerial Meeting in 2015 and others. The CSLF Task Force on Reviewing Best Practices nd Standards for Geological Storage and Monitoring of CO2 published an annual report in 2013 that compiles best practice manuals developed across the world, guidelines published related to CCS, and summaries of regulations in place as well as monitoring tools and techniques used in ongoing projects (CSLF 2013a).

The Task force on Technical Challenges in the Conversion of CO2-EOR Projects to CO2 Storage Projects also provided a report in 2013 that concluded that the main impediment in the adoption and deployment of this technology is the unavailability of CO2 at economic prices at the CO2-EOR (enhanced oil recovery) operation sites and the absence of infrastructure to both capture the CO2 and transport it from CO2 sources to oil fields suitable for CO2-EOR (CSLF 2013b). Following up on this the Task Force on Technical Barriers and R&D Opportunities for Offshore, Sub-Seabed Storage of CO2 provides an overview of the current technology status, technical barriers, and research and development (R&D) opportunities associated with offshore, sub-seabed geologic storage of carbon dioxide (CO2) in a 2015 report. Recommendations are the development of public-private partnerships to provide a umber of pre-qualified storage locations and thereby reducing the uncertainty regarding the availability of storage. It is also recommends that an increased level of knowledge sharing and discussion be implemented among the international community to outline the potential for international collaboration in offshore storage. The authors state furthermore that especially during the early phase of CCS, publicprivate partnership is essential to generate large infrastructural works concerning the CO2 transport and that financial incentives as well as funding mechanisms should be implemented. It is furthermore recommended to expand upon modeling efforts to understand CO2 dispersion in an ocean environment (CSLF 2015a).

The Task Force on Supporting Development of 2nd and 3rd Generation Carbon Capture Technologies identified around 30 groups of 2nd and 3rd generation CO2 capture technologies in a report published in 2015. The overview given also shows their potential for energy savings and their possible applications. A central finding of the report is that many technologies are developed by universities or small R&D companies that do not have the facilities, financial resources, and competence, to develop technologies beyond the lab or

small bench scale without external support by thers and access to larger test facilities. The authors recommend that mechanisms are implemented which help to establish cooperation of developers by bi- and/or multi-lateral agreements and funding mechanisms that allow emerging technologies to be tested at another nation's facilities (CSLF 2015b).

(e) Strengthening the capacity of developing country Parties identified in Article 4, paragraphs 8 and 9, of the Convention for improving efficiency in upstream and downstream activities relating to fossil fuels, taking into consideration the need to improve the environmental efficiency of these activities

In the oil and gas industry the upstream sector is a term commonly used to refer to the exploration, drilling, recovery and production of crude oil and natural gas. The downstream sector includes the activities of refining, distillation, cracking, reforming, blending storage, mixing and shipping and distribution.

The EU contributes to strengthening of the capacities of fossil fuel exporting countries in the areas of energy efficiency via the work of the Energy Expert Group of the Gulf Cooperation Council (GCC)[28], in particular in the working sub-group on energy efficiency. As part of the EU's research programme, a project called "EUROGULF" was launched with the objective of analysing EU-GCC relations with respect to oil and gas issues and proposing new policy initiatives and approaches to enhance cooperation between the two regional groupings.

The Commission has started a project with the specific objective to create and facilitate the operation of an EU-GCC Clean Energy Network. The network is to be set up to act as a catalyst and element of coordination for development of cooperation on clean energy. A website was created at http://www.eugcc-cleanergy.net where further information on the EUGCC Clean Energy Network and its recent activities can be found. The Masdar Institute of Science and Technology in Abu Dhabi has been selected as the lead research institution to represent the Gulf Cooperation Council (GCC) in the European Union-GCC Clean Energy Network. A number of discussion groups and training seminars took place, e.g. on solar resource assessment. In January 2013, the EU-GCC Energy Cooperation Conference was held in Abu Dhabi, UAE, as a side event of the "World Future Energy Summit- WFES 2013.

The presentation by the high-level team of attendees from the GCC and Europe highlighted the achievements in areas of mutual interest for the two regions including renewables, energy efficiency and demand-side management, electricity interconnections, carbon capture and storage, as well as natural gas. Some of the concrete outcomes that were summarized 93 The Gulf Cooperation Council covers Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. during the sessions include publications, research work/papers, established partnerships between the GCC and EU, co-operation project ideas, targeted working meetings and training workshops. In 2013 also a Workshop and training seminar on integration of renewables in the grid and on energy efficiency and demand side management was held in Oman and an event related to CCS took place in London. In December 2013, the EU-GCC Energy Experts Group meeting was reconvened. The dialogue focused on energy efficiency and natural gas, and included EU market regulators and the private sector, as well as representatives of the EU-GCC clean energy network. In December 2015, the European Union launched the "EU GCC Clean Energy Network II" (CENII) project aiming at further developing the activities of the Network and at supporting its sustainability over the mid-term.

Energy efficiency activities in the upstream or downstream sector are also candidates for CDM projects. Thus, the development of the CDM under the Kyoto Protocol and the demand of CERs by Annex I Parties under the Kyoto Protocol as well as by operators under the EU

[28] The Gulf Cooperation Council covers Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

ETS have fostered such activities performed by the private sector. Related CDM projects are for example:

- Rang Dong Oil Field Associated Gas Recovery and Utilization Project in Vietnam: The purpose of this project activity is the recovery and utilization of gases produced as a by-product of oil production activities at the Rang Dong oil field in Vietnam with the involvement of ConocoPhillips (UK).

- Recovery of associated gas that would otherwise be flared at Kwale oil-gas processing plant in Nigeria involves the capture and utilisation of the majority of associated gas previously sent to flaring at Kwale OGPP plant. The Kwale OGPP plant receives oil with associated gas from oil fields operated by Eni Nigeria Agip Oil Company.

- Recovery and utilization of associated gas produced as by-product of oil recovery activities at the Al-Shaheen oil field in Qatar.

- Flare gas recovery and utilisation project at Uran oil and gas processing plant in India which is handling the oil and gas produced in the Mumbai High offshore oil field.

- Flare gas recovery and utilisation project at Hazira gas and condensate processing plant in India.

- Flare gas recovery and utilisation project from Kumchai oil field in India.

- Flare gas recovery and utilisation project at the Ovade-Ogharefe oil field operated by Pan Ocean Oil Corporation in Nigeria.

- Flare gas recovery and utilisation project at Soroosh and Nowrooz offshore oil fields in Iran.

- Leak reduction in aboveground gas distribution equipment in the KazTransgaz-Tbilisi gas distribution system in Georgia where leakages at gate stations, pressure regulator stations, valves, fittings as well at connection points with consumers are reduced.

- There are currently 21 Coal Mine Methane Utilization Project in China which use coalmine methane previously released to the atmosphere. Improved energy efficiency in the energy and the transport sector in a more general way is one of the priorities in the EU's development assistance as well as for the EIB (European Investment Bank) and the EBRD (European Bank for Reconstruction and Development). The EIB has also developed other means of financing, such as equity and carbon funds, to further support renewable energy and energy-efficiency projects (see here GEEREF and the Mediterranean Solar Plan, MSP). Related projects and specific activities can be found for example at

http://www.eib.org/projects/topics/environment/renewable-energy/index.htm or http://www.ebrd.com/saf/search.html?type=eia

(f) Assisting developing country Parties which are highly dependent on the export and consumption of fossil fuels in diversifying their economies.

The EU actively undertakes a large number of activities aiming at reducing dependence on the consumption of fossil fuels, in particular the EU supports activities for the promotion of renewable energies and energy efficiency in developing countries contribute to reduction of dependence on fossil fuels, meeting rural electricity needs, and the improvement of air quality. As explained in more detail in the EU's 6th national communication and 1st and 2nd Biennial Report**s** several support programmes exist in this respect. These include:

- *Cooperation with the EU neighbouring countries on renewable electricity production* In order to support the implementation of the Renewable Energy Directive, the Commission will in September 2013 issue guidance to Member States and potential third country partners on the implementation of cooperation and trade in the renewable energy

sector. Cooperation, for example, in deploying solar energy installations in North Africa for domestic consumption as well as export is supported as part of an overall agenda for sustainable growth in a viable regional renewable energy sector. The EU has already supported this development through the "Paving the Way towards a Mediterranean Solar Plan" project as well as member States substantial input into tech Mediterranean solar Plans Technical Working Groups looking at the details of the implementation of closer cooperation. The Mediterranean Solar Plan Project Preparation Initiative (MSP-PPI), an initiative of the European Investment Bank (EIB), together with the European Commission, AFD, KfW, AECID, EBRD and the Union for the Mediterranean, is financed by the EU-funded Neighbourhood Investment Facility, with the aim to accelerate the implementation of renewable energy and energy efficiency projects in 7 Mediterranean partner countries: Algeria, Egypt, Gaza/West Bank, Jordan, Lebanon, Morocco and Tunisia.[29]

An additional study "Bringing Europe and Third countries closer together through renewable Energies" (BETTER) financed by the Commission is further preparing the ground for pilot projects to be put into place.

The European Union, alongside 22 of its Member States, is a member of the International Renewable Energy Agency (IRENA) and as such actively supporting its work, inter alia giving substantial input to the implementation of the UN Secretary's General "Sustainable Energy For All" initiative or conducting renewable energy readiness assessment in Africa, Latin America and the Pacific region. Additionally development cooperation in many areas contributes to technology transfer. The Global Energy Efficiency and Renewable Energy Fund (GEEREF), which is managed by the European Investment Fund (EIF), for example facilitates participation in small-scale private ventures that introduce new technology in the area of renewable energy.

- *Africa, Caribbean and the Pacific (ACP-E) Energy Facility* The ACP-EU Energy Facility is a contribution under the EU Energy Initiative to increase access to energy services for the poor. The Facility was approved by the joint ACPEU Council of Ministers in June 2005, with an amount of € 220 million. The main activity of the Facility is to co-finance projects that deliver energy services to poor rural areas.

The Energy Facility was mainly implemented through a €198 million Call for Proposals which was launched in June 2006. Out of 307 proposals received, 74 projects have been contracted by the end of 2008 for a total amount of €196 million from the Energy Facility, with a total project cost of €430 million. Following the successful implementation of the first EF, it was decided to create a second EF, which has later been extended to include more projects than originally foreseen. Therefore, a total of four Calls for Proposals have been made under the EF: one under the first EF with a budget of EUR 196 million and three under the second EF with a budget of EUR 100 million for the 1st call (launched in November 2009, resulted in the selection of 65 projects for funding), EUR 132 million for the 2nd call (targeting rural electrification) and EUR 15 million for the 3rd call (targeting fragile states). A total of 173 projects were selected to receive support to increase the population’s access to energy, and a total project budget of app. EUR 800 million has been funded by the EU and other donors. Most projects of the first EF have now ended or are about to be finalized. Many of the projects from the second EF first call have also ended or have been extended. The second and third call projects of the second EF are either under implementation or about to start. . Almost 15 million people should benefit of an improved access to energy mostly utilising Renewable Energy technologies. The main activities performed through Energy Facility projects can be classified into three different groups: (1) energy production, transformation and distribution, (2) extension of existing electricity grids and (3) "soft"

[29] http://www.eib.org/infocentre/publications/all/mediterranean-solar-plan-project-preparation-initiative.htm.

activities such as governance, capacity building or feasibility studies. The sources of energy used for electricity generation were mainly renewable energies (77 % of the projects). Only one project using exclusively fossil fuels was funded. In total, € 81 million of commitments have been marked as climate change related under the Energy Facility, covering support to enhance use of renewable energies or increase energy efficiency. A replenishment of the ACP-EU Energy Facility has been decided under the 10th European Development Fund for the period of 2009-2013. Endowed originally with € 200 Million, it focuses on improving access to safe and sustainable energy services in rural and peri-urban areas. The second Energy Facility will also contribute to the fight against climate change by emphasizing the use of renewable energy sources and energy efficiency measures and by taking into account impacts of climate change on energy systems. The new Facility started being implemented by the end of 2009 and funding guidelines were approved in October 2010. The second ACP-EU Energy Facility is one of the instruments implementing the Africa-EU Energy Partnership, which is part of the 2011-2013 Joint Africa-EU Strategy. A specific website for the monitoring of the ACP-EU Energy Facility was created under http://www.energyfacilitymonitoring.eu/.

- *Latin America Investment* Facility *(LAIF)*

The European Commission also established the Latin America Investment Facility (LAIF) in 2010. The European Commission allocated to LAIF for the period 2009-2014 an overall amount of €227.7 million, while the initial allocation for the year 2015 is €30 million.

The primary objective of LAIF is to finance key infrastructure projects in transport, energy, social and environmental sectors as well as to support private sector development in the Latin American region, in particular small- and medium-sized enterprises (SMEs). The main purpose of the LAIF is to mobilise additional financing to support investment in Latin America, encouraging beneficiary governments and public institutions to carry out essential investment in projects and programmes that could not be otherwise financed either by the market or by development Finance Institutions alone.

As part of its efforts to achieve this objective, LAIF pursues three strategic objectives:

- Improving interconnectivity between and within Latin American countries, in particular establishing better energy and transport infrastructure, including energy efficiency, renewable energy systems and the sustainability of transport and communication networks.

- Increasing the protection of the environment and supporting climate change adaptation and mitigation actions.

- Promoting equitable and sustainable socio-economic development through the improvement of social services infrastructure and support for small- and medium-sized enterprises (SMEs).

For the period 2010-2014, 25 projects were approved for grant financing of €190.1 million, representing total lending of approximately €5 billion and total investment cost of approximately €6.3 billion.

- *Global Energy Efficiency and Renewable Energy Fund (GEEREF)*

The European Commission has launched an innovative pilot instrument to involve the private sector. The Global Energy Efficiency and Renewable Energy Fund (GEEREF), launched in 2007, aims to accelerate the transfer, development, use and enforcement of environmentally sound technologies for the world's poorer regions, helping to bring secure, clean and affordable energy to local people. GEEREF invests in regionally-oriented investment schemes and prioritises small investments below €10 million. It particularly focuses on serving the needs of the ACP, which is a group of 79 African, Caribbean and Pacific developing countries. It also invests in Latin America, Asia and neighbouring states of the

EU (except for Candidate Countries). Priority is given to investment in countries with policies and regulatory frameworks on energy efficiency and renewable energy:

- €12.5 million investment in Berkeley Energy's Renewable Energy Asia Fund (REAF) for operationally and economically mature wind, hydro, solar, biomass, geothermal and methane recovery projects in India, Philippines, Bangladesh and Nepal.

- €10 million investment in the Evolution One Fund, dedicated to clean energy investment in Southern Africa (SADC countries).

- Furthermore, GEEREF invested €12.5 million in the Emerging Energy Clean Tech Latin American Fund (CTLAF II), where the main objective is focused on the areas of renewable energy and clean technologies The CTLAF II is a capital fund investing in private companies and was established as the continued success of Cleantech Fund (I) which is now fully made available. The main geographic focus is Mexico, Brazil, Chile, Peru and Colombia and more information is available http://www.emergingenergy.com/).

- A new Fund called DI Frontier Market Energy and Carbon Fund ("DI") under the GEEREF package committed €10 million. The main distinguishing feature is an integrated approach to project development, investment, and carbon trade. The Fund has a focus on Eastern and Southern Africa. Core focus countries include: Kenya, Mozambique, Tanzania, Uganda and Zambia. (more information is available under http://www.frontier.dk/).

- Armstrong Asset Management receives commitment of €10 million from GEEREF for their South East Asia Clean Energy Fund.

- GEEREF has also committed USD 13 million to the Caucasus Clean Energy Fund, managed by Schulze Global Investments which is a private equity fund that invests in small and medium scale hydropower plants in the Republic of Georgia.

- €10.0 million were furthermore committed to the MGM Sustainable Energy Fund, managed by MGM Innova Capital LLC providing equity and mezzanine financing to projects in the demand-side energy efficiency and renewable energy sectors in Colombia, Mexico, Central America and the Caribbean region.

- Additionally, €12 million were committed to SolarArise India Projects Private Limited, an India focused solar asset vehicle.

In the regions where the two funds operate, there is a lack of equity investment available through the market for these types of projects. It is envisaged that GEEREF will invest in regional sub-funds for the African, Caribbean and Pacific (ACP) region, Neighbourhood, Latin America and Asia. Together the European Commission, Germany and Norway have committed about €112 million to the GEEREF over the period 2009-2013, the majority of which is provided by from the EU budget. Further financing from other public and private sources was fundraised by GEEREF increasing the total funds under management to € 222 million as of May 2015. GEEREF invests in private equity funds which, in turn, invest in private sector projects, thereby further enhancing the leveraging effect of GEEREF's investments. It is estimated that, with € 222 million of funds under management, over €10 billion could be mobilised through the funds in which GEEREF participates and the final projects in which these funds invest.

The EU through Directorate General Development and Cooperation - EuropeAid also supports African, Carribean and Pacific countries in diversifying their economies; however, these activities are not limited to fossil fuel exporting countries, but are open to ACP countries based on Economic partnership agreements (EPAs). EPAs help ACP countries integrate into the global economy and improve the business environment, build up regional markets and promote good economic governance through reinforced regional cooperation in

trade related issues. In 2008 the EU signed a comprehensive EPA with 13 CARIFORUM countries. In January 2009, Côte d'Ivoire and Cameroon have signed interim EPAs. Some ACP partners have signed interim economic partnership agreements with the EU as a first step towards comprehensive regional EPAs. The interim agreements secure and improve ACP access to the EU market and provide for more favourable rules of origin. Negotiations are ongoing with the African and Pacific regions to move from interim agreements to comprehensive regional agreements. The negotiations cover regional trade integration, trade in services, investment and trade-related rules. The strategy for private sector development in the ACP recommends the use of horizontal instruments (applicable to all ACP countries) in five priority areas where the Commission has a good experience and comparative advantages:

1. Improvement of the macroeconomic framework and regulatory environment for enterprise development (Private Sector Enabling Environment Facility of the Business Environment (PSEEF) or BizClim with €20 million for 5 years);

2. Investment and inter-enterprise co-operation promotion activities (PROINVEST - €110 million for 7 years);

3. Facilitation of investment financing and development of financial markets (Investment Facility managed by the European Investment Bank (EIB) as revolving fund with €3,137 billion, completed by the EIB own resources with €2 billion for 2008-2013 and financial envelope of €400 million for the interest subsidies and technical assistance);

4. Support for Small and Medium- sized Enterprises in the form of non-financial services (Centre for the Development of Enterprise (CDE) with €18 million per year, PROINVEST);

5. Support for micro-enterprises and micro-finance (ACP-EU Microfinance Framework Programme with €15 million for 6 years, in collaboration with Consultative Group to Assist the Poor program (CGAP) and investment in debt and equity for banks and microfinance institutions provided by the EIB Investment Facility). More specific information related to these activities can be obtained at: http://ec.europa.eu/europeaid/what/development-policies/interventionareas/epas/epas_en.htm

15.3 EU neighbourhood policy

Through its European Neighbourhood Policy (ENP), the EU works with its southern and eastern neighbours to achieve the closest possible political association and the greatest possible degree of economic integration. Energy policy and diplomacy also plays an important role in ENP especially in relation to the newly established Energy Union.

The Energy Union Communication ("A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy") of 25 February 2015 and the European Council Conclusions of 19-20 March 2015 recognised the importance of the external dimension of the Energy Union and asked for greater engagement on energy and climate diplomacy. In particular, Action Point 15 of the Energy Union Communication states:

- The EU will use all external policy instruments to ensure that a strong, united EU engages constructively with its partners and speaks with one voice on energy and climate.

- The Commission, with the HR/VP, and the Member States will revitalise the EU's energy and climate diplomacy.

- The Commission, with the HR/VP, will develop an active agenda to strengthen EU energy cooperation with third countries, including on renewable energy and energy efficiency.

- The Commission will make full use of the EU's external trade policy to promote access to energy resources and to foreign markets for European energy technology and services.

On 20 July 2015, the Foreign Affairs Council adopted Council Conclusions on EU Energy Diplomacy, which included an EU Energy Diplomacy Action Plan. The Action Plan has four pillars:

6. Strengthen strategic guidance through high-level engagement.
7. Establish and further develop energy cooperation and dialogues, particularly in support of diversification of sources, suppliers and routes.
8. Support efforts to enhance the global energy architecture and multilateral initiatives.
9. Strengthen common messages and energy diplomacy capacities. The EEAS (European External Action Service) works closely with the Commission and the EU Member States to ensure the follow-up of the EU Energy Diplomacy Action Plan.

IRENA is the International Renewable Energy Agency that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international co-operation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA, founded in 2009, promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy, in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity. 145 countries of the world (including the EU) are members of IRENA, 31 more are states in accession. The permanent headquarter is located in Masdar City, Abu Dhabi.

10. Finland

No additional information was provided in Finland’s NIR for 2016.

11. France

France provided the following information in its NIR for 2016.

15.1 Description des externalités potentielles des politiques et mesures de la France

Les parties doivent selon l’article 3.14 du protocole de Kyoto faire en sorte que la mise en oeuvre de leurs politiques nationales dans le cadre du protocole de Kyoto ne nuise pas aux autres parties. De nouvelles actions entreprises ont été menées en 2015.

Impacts des politiques et mesures

Les considérations de l'impact éventuel des politiques et mesures sur les pays en développement font partie intégrante des études d'impact ou des évaluations d'impact sur les propositions législatives de l'UE ou les accords commerciaux, tels que des propositions spécifiques sur l'action climatique ou des mesures sectorielles transfrontalières y compris l'énergie, les transports, l'industrie et l'agriculture.

Concernant les politiques et mesures mises en place dans le cadre de politiques européennes, la France en tant qu’Etat membre de l’Union européenne se doit de transposer le droit européen dans son système législatif. Dans le processus d’adoption de politiques européennes, l’Europe a mis en place un système permettant d’estimer les impacts positifs et

négatifs de celles-ci, dont les effets sur les autres pays dans le cadre des études d'impact (ce système est décrit dans la sixième communication nationale de l'Union Européenne). **La prise en compte de ces études d'impact est un élément clef de la décision finale** sur la définition des politiques et mesures. Ces études permettent de s'assurer que les impacts négatifs d'une politique européenne sur les pays en développement soient minimisés et d'assurer ainsi que les dispositions législatives françaises issues du droit européen respectent bien l'engagement pris dans le cadre du protocole de Kyoto en accord avec l'article 3.14. Toutes ces études d'impact sont rendues publiques sur le site:

http://ec.europa.eu/smart-regulation/impact/ia_carried_out/cia_2014_en.htm

Outre les programmes bilatéraux mis en oeuvre avec différents pays en développement, l'UE participe à des initiatives régionales visant la diversification économique, l'énergie et l'efficacité énergétique renouvelables, ou des problèmes socio-économiques. C'est le cas par exemple du Global Climate Change Alliance, du Plan solaire méditerranéen, ou outil devant faciliter les investissements en Amérique latine, ou du développement de fonds soutenant spécifiquement la production d'énergie propre dans les pays en développement ou en transition.

Le tableau ci-dessous liste les effets directs et indirects estimés de certaines politiques et mesures climatiques de la France.

Tableau 73:
Effets directs et indirects sur les pays en développement des principales politiques et mesures climatiques de la France

	Effets directs			*Effets indirects*		
Mesure	Social	Environnemental	Economique	Social	Environnemental	Economique
EU-ETS			Effet économique potentiellement positif sur les pays extérieurs à l'Union européenne en cas de différence de compétitivité induite par l'introduction d'un signal prix sur le carbone pour les activités économiques européennes		positif - Incitation des firmes internationales sous ETS à développer des procédés plus efficaces au niveau environnemental potentiellement transférables dans les pays en développement	
MDP	Effet positif de maintien ou création potentielle d'emplois locaux dans les pays en développement accueillant des projets	Positif car permet l'implémentation de techniques sobres en carbone dans les pays en développement	Effet positif d'investissements étrangers dans le développement d'infrastructures dans les pays en développement		Négatif - Incitation potentielle pour les pays en développement à ne pas développer d'infrastructures moins émettrices pour générer une importante additionnalité	

	Effets directs		*Effets indirects*		
				environnementale des projets MDP	
Développement des biocarburants	Effet positif de maintien ou création potentielle d'emplois dans les pays en développement exportateurs	effet positif à la condition que des critères de durabilité (cas européen) soient mis en place notamment par rapport au problème de changements d'affectation des sols	Effet positif sur les importations de biocarburants en provenance des pays en développement	Effet potentiellement négatif sur la déforestation et sur la ressource alimentaire Mais mise en place de critère de durabilité des biocarburants via des accords entre la commission européenne et les pays en développement	Effet de diminution de la demande de pétrole et potentielle moindre tension sur les prix des énergies fossiles
Promotion de l'efficacité énergétique	Effet positif de maintien ou création potentielle d'emplois dans les pays en développement exportateurs		Effet positif sur les importations en provenance des pays en développement pour des équipements générant de l'efficacité énergétique	Amélioration de la qualité de l'air dans les pays en développement	Effet de diminution de la demande et potentielle moindre tension sur les prix des énergies fossiles
Promotion des énergies renouvelables	Effet positif de maintien ou création potentielle d'emplois dans les pays en développement exportateurs		Effet positif sur les importations en provenance des pays en développement pour des équipements de production d'énergie renouvelable	Amélioration de la qualité de l'air dans les pays en développement	Effet de diminution de la demande et potentielle moindre tension sur les prix des énergies fossiles
Réglementations en faveur de véhicules faiblement émetteurs en gaz à effet de serre (réglementation sur les émissions, étiquetage des véhicules, bonus/malus automobile)	Effet positif de maintien ou création potentielle d'emplois dans les pays en développement exportateurs		Favorise les importations en provenance des pays en développement de véhicules peu émissifs		Hausse de la demande de matière premières (acier) et potentielle tension accrue sur leur prix Effet de diminution de la demande et potentielle moindre tension sur

	Effets directs	*Effets indirects*	
			les prix des énergies fossiles
Réforme de la Politique Agricole Commune	Effet positif de maintien ou création potentielle d'emplois dans les pays en développement exportateurs	Effet économique potentiellement positif en augmentant la demande dans ce secteur Effet positif sur la qualité des productions des pays en développement	

Renforcement de capacité

Le spectre thématique du renforcement de capacité de la France s'élargit avec les années. Le deuxième rapport bisannuel a été l'occasion de mettre en avant les progrès réalisés en matière d'échanges et de partages sur les cadres et outils d'atténuation et d'adaptation aux effets du changement climatique.

- **L'adaptation au changement climatique et l'intégration des questions climatiques dans les politiques nationales**

La France est engagée dans des projets visant à partager avec les pays en développement, sa propre expérience dans la planification des politiques d'adaptation. La France s'est en effet dotée d'une stratégie d'adaptation dès 2006. En 2011, un plan national d'adaptation a été publié. L'évaluation du plan national a été effectuée en 2015.

Dans ce cadre, la France a participé à plusieurs projets dont celui portant sur les Îles de l'Océan Indien, au travers notamment des suites du projet (ACClimate) qui visait à renforcer les capacités d'adaptation au changement climatique de ses membres. S'appuyant sur les études réalisées, une stratégie régionale d'adaptation a été élaborée conjointement par Acclimate et les pays de la COI.[30] Cette stratégie a été validée en janvier 2013 lors du 28e Conseil des Ministres de la COI. Le projet de coopération se poursuit avec pour objectif de mettre en place un réseau d'échange de données entre les pays de la zone ouest de l'Océan indien (voir le site http://www.acclimate-oi.net/).

Lancé en 2012 et doté d'un budget de 3 millions d'euros sur 3 ans, financé par l'AFD et le FFEM, le projet Africa4Climate vise à renforcer les capacités de quatre pays africains dans la prise en compte des changements climatiques dans leurs politiques nationales. La démarche innovante de ce projet repose sur un recours privilégié à une expertise internationale et nationale en appui aux partenaires locaux. Pour ce faire, Expertise France a mobilisé depuis le lancement du projet une trentaine d'experts spécialisés dans l'analyse et la prise en compte des causes et conséquences des changements climatiques. Africa4Climate a pour objectif de tisser des liens entre les initiatives développées localement et de donner aux autorités les outils et compétences nécessaires à une intégration effective des enjeux liés

[30] La Commission de l'océan Indien (COI) est une organisation intergouvernementale de coopération régionale qui regroupe cinq Etats membres : Comores, France/Réunion, Madagascar, Maurice, et Seychelles.

aux changements climatiques dans les actions qu'elles entreprennent. À plus long terme, Africa4Climate pourrait être adapté dans d'autres pays.

- **Préparation des contributions prévues déterminées au niveau national (INDC)**

En 2015, un effort particulier de la France a été fait concernant les contributions prévues déterminées au niveau national (INDC-CPDN). Mise en place en amont de la COP21, une facilité d'appui à la préparation des INDC sur les pays africains et insulaires, a permis un appui technique et un renforcement des capacités des institutions nationales partenaires dans la préparation de leurs contributions prévues déterminées au niveau national. Une trentaine de pays a ainsi pu bénéficier d'un renforcement de ses capacités.

- **Mise en place d'un système national de rapportage (inventaire de GES, projections, préparation de NAMA's**

La France participe depuis 2014, techniquement et financièrement, aux activités du « cluster francophone » en cofinançant avec la Belgique et l'Allemagne des ateliers de renforcement de capacité à l'intention des pays en développement francophones. Le Cluster francophone est une initiative du Partenariat International sur l'Atténuation et le MRV. Il a été créé en 2013. Il a pour but de permettre des échanges d'informations, d'expertises et d'expériences entre partenaires francophones, pays en voie de développement et pays développés, concernant les inventaires de GES, le développement de NAMA, le processus MRV et la formulation des contributions prévues déterminées au niveau national (INDC en anglais). Plusieurs ateliers ont été organisés entre 2013 et 2015 (voir http://mitigationpartnership.net/cluster-francophone) et un side event de présentation du retour d'expérience de ces ateliers a eu lieu lors de la COP21 de Paris.

Critères de choix des projets MDP

Les critères de choix retenus pour les projets au titre du mécanisme pour un développement propre (MDP) constituent également un moyen de réduire les conséquences néfastes pour les pays en développement. Dans le cadre de mise en place de projets MDP, la France a délivré en 2015 des lettres d'autorisation pour des projets de champs de panneaux solaires et de fermes éoliennes en Inde.

15.2 Ressources financières

Le Comité interministériel de la coopération internationale et du développement (CICID) du 31 juillet 2013 a confirmé que la lutte contre le changement climatique était l'une des priorités de l'action française dans le domaine du développement.

La France fournit une aide financière et une coopération technologique par le biais de nombreux canaux, bilatéraux comme multilatéraux, notamment au travers de l'aide au développement. Ainsi, les actions de la France en matière de financement et de transfert de technologies s'opèrent à de nombreux niveaux, et impliquent de nombreux acteurs : institutions multilatérales, nationales, collectivités territoriales et secteur privé.

Au total, la France a fourni plus de 2,24 Mds€ en 2013 (soit environ 2,98 MdsUSD) et près de 2,77 Mds€ en 2014 (soit environ 3,7MdsUSD) de financements publics pour l'adaptation et l'atténuation des changements climatiques dans les pays en développement.

- <u>Coopération bilatérale</u>

La France est un acteur majeur de l'aide bilatérale au développement dans le domaine du climat avec un champ d'intervention très vaste, un niveau d'expertise reconnu et un engagement financier substantiel.

Elle s'appuie sur un opérateur principal, l'Agence française développement (AFD), ainsi que sur le Fonds Français pour l'Environnement mondial (FFEM), le Fonds d'études et d'aides au secteur privé et les prêts du Trésor concessionnels.

L'AFD, opérateur pivot de l'aide publique au développement bilatérale française, est un acteur financier public de poids engagé depuis plus de dix ans sur le sujet « climat et développement ». Elle s'appuie sur un plan d'action 2012-2016 "climat-développement" parmi les plus ambitieux des bailleurs de fonds et qui repose sur 3 piliers : un objectif chiffré d'engagements annuels "climat" (50% de son activité dans les pays en développement, et 30% pour PROPARCO, sa filiale pour le secteur privé), une mesure systématique de l'empreinte climat des projets qu'elle finance, et une politique de sélectivité en fonction de l'empreinte climat. En 2014 l'activité climat totale du groupe AFD s'élevait à 2,9 milliards d'euros. Le périmètre de rapportage des chiffres climat à la Convention cadre des Nations unies sur les changements climatiques (CCNUCC) ne permettant pas de prendre en compte l'ensemble des activités climat du groupe, la France comptabilise seulement 2,6 mds de financements climat pour l'AFD dans ce cadre.[31] C'est ce chiffre qui est également pris en compte dans le présent rapport.

Le FFEM est un fonds public bilatéral créé en 1994 et constituant l'un des grands instruments au service de la politique française de coopération et de développement en matière d'environnement. Il est reconstitué tous les 4 ans. Pour la période 2011-2014 il avait été reconstitué à hauteur de 95 M€, avec un objectif d'allouer au moins 35 % de ses fonds à la lutte contre le changement climatique. Il a été reconstitué en fin d'année 2014 pour la période 2015-2018 à hauteur de 90 M€. Il consacrera sur la période 35 % sur les changements climatiques, avec un objectif de tendre vers la moitié sur la thématique spécifique de l'adaptation.

Par ailleurs, la direction générale du Trésor du ministère des finances et des comptes publics finance par l'intermédiaire du FASEP (Fonds d'étude et d'aide au secteur privé), des études préparatoires à des projets d'infrastructures destinées à des bénéficiaires étrangers et réalisées par des bureaux d'études français. Afin de favoriser la coopération technique avec les pays émergents dans le secteur de l'environnement, il a été décidé en mai 2009 de mettre en place le FASEP « Innovation Verte » pour soutenir des projets pilotes mettant en oeuvre des technologies environnementales innovantes. 20 projets de ce type ont été mis en oeuvre depuis cette date.

Les secteurs concernés visent essentiellement le développement durable et la thématique du changement climatique (transports de masse, eau et environnement, énergies renouvelables, etc.). Le montant total de crédits FASEP engagés pour des projets en lien avec la lutte contre le changement climatique s'élève à 2,6 M€ en 2014 et 1,8 M€ en 2013.

Enfin, les prêts du Trésor concessionnels (ex-Réserve Pays Émergents, réorganisée au 1er janvier 2015) est un dispositif de prêt d'État à État, très concessionnel (élément-don d'au moins 35 % par rapport à un taux de marché de référence, ces règles étant fixées par l'arrangement de l'OCDE sur les crédits à l'exportation bénéficiant d'un soutien public). Ce prêt d'aide publique au développement permet de financer des projets d'infrastructures dans les pays émergents, essentiellement dans le domaine des transports, de l'eau, de l'environnement et du développement urbain. En 2014, 108 M€ ont été engagés pour des

[31] La Biélorussie, la Turquie et l'Ukraine sont des pays éligibles à l'Aide Publique au Développement mais sont considérés comme des pays développés au sein de la CCNUCC puisqu'ils font partie des pays Annexe I. En conséquence, la France les a exclus du périmètre de rapportage « CCNUCC ». Egalement, tous les territoires français d'outre-mer, même s'ils reçoivent des financements de l'AFD, ont été exclus du rapportage CCNUCC. Enfin, les Fonds délégués à l'AFD ont également été exclus du rapportage CCNUCC afin d'éviter tout double comptage.

projets intégrant un objectif de lutte contre le changement climatique, contre 98,4 M€ en 2013.

Pour la première fois, la France a estimé la finance climat privée mobilisée par ses financements publics et ses actions dans les pays en développement, pour les années 2013 et 2014.

Au total, la finance privée mobilisée est estimée à environ 596 M€ (soit 791 MUSD) en 2013 et à 681M€ (soit 904 MUSD) en 2014.

Les méthodologies utilisées pour les calculs des chiffres rapportés dans le cadre de ce rapport sont explicitées en annexe.

- Coopération multilatérale

Depuis plusieurs années, la France a renforcé son action internationale dans ce domaine, et mobilise des financements importants et croissants pour lutter contre le changement climatique dans les pays en développement, via les principaux fonds climat, se situant parmi les premiers contributeurs mondiaux en faveur du climat.

La France a été l'un des États à l'origine de la création du Fonds pour l'environnement mondial (FEM), principal instrument multilatéral en matière de préservation de l'environnement global. La France apporte au FEM la cinquième contribution sur la période 2011-2014, à hauteur de 215,5 M€ (dont 75 M€ sont dédiés spécifiquement au financement d'actions précoces en faveur d'une gestion durable des forêts).

Enfin, une part importante de l'action de la France est dédiée à sa participation aux Banques de développement et aux fonds multilatéraux de développement, tels l'Association internationale de développement (AID), guichet concessionnel de la Banque mondiale, ou le Fonds africain de développement (FAD), guichet concessionnel de la Banque africaine de développement, et le Fonds asiatique de développement (FAsD). Ces banques et fonds consacrent une partie de leurs ressources à la lutte contre les effets du changement climatique.

Quant aux perspectives pour les années à venir, la France s'est engagée à contribuer à hauteur de 1 milliard de dollars au Fonds Vert pour le climat pour les années 2015-2018. Elle a également versé une contribution de 5M€ 2015 au Fonds d'adaptation.

La France restera le cinquième contributeur au FEM et le financera à hauteur de 300 millions de dollars dans le cadre de sa 6ème reconstitution (mi-2014 à mi-2018). Sur cette période, le FEM a prévu de consacrer 1,26 milliards de dollars à la lutte contre le changement climatique.

En plus de ces deux contributions, le Président de la République a annoncé à l'Assemblée Générale des Nations Unies 2015 que la France augmenterait de façon substantielle ses financements climat progressivement, pour atteindre 5Mds€ par an en 2020. L'augmentation de l'aide ne se fera pas simplement sous forme de prêts, mais aussi par l'augmentation des dons, dont le niveau progressera dans les années à venir afin d'être en 2020 supérieur de 370 millions d'euros à ce qu'il est aujourd'hui.

15.3 Transfert de technologie

En plus des canaux bilatéraux et multilatéraux de l'aide publique au développement, la France est également engagée dans de nombreux projets et forums internationaux qui génèrent une coopération technologique de grande ampleur avec une multitude d'acteurs. Cette coopération s'entend comme un transfert au sens large de savoir-faire, de méthodes, ou d'outils, nécessaires à la mise en oeuvre des technologies de la transition bas-carbone.

Le contexte technologique évolue avec le temps. On a vu se développer et se déployer à grande échelle des filières bas-carbone, particulièrement dans le secteur des énergies renouvelables et de l'efficacité énergétique. Les pays sont de plus en plus nombreux à vouloir mettre en oeuvre ces technologies, au Nord comme au Sud, puisqu'on estime à plus de 164

le nombre de pays s'étant dotés d'un objectif de production d'énergie renouvelable,[32] dont la moitié parmi les pays en développement.

Au plan bilatéral, cette coopération passe par le biais de travaux avec l'Afrique notamment, mais également de pays comme le Brésil, l'Indonésie ou la Chine. Il s'agit notamment de coopérations stratégiques dans le domaine des énergies renouvelables et de l'efficacité énergétique.

Dans cette phase de mise en oeuvre des politiques publiques, le secteur privé et la coopération décentralisée jouent un rôle particulièrement important en tant qu'acteurs opérationnels développant sur le terrain les capacités nécessaires à implanter les projets bas-carbone et portant ces transferts de technologie. Les entreprises et collectivités françaises sont particulièrement actives en la matière et développent des projets aussi bien matures qu'innovants dans un nombre grandissant de pays. Le 21 mai 2015, M. Laurent Fabius, Ministre des Affaires étrangères et du développement international, et M. Matthias Fekl, secrétaire d'Etat chargé du commerce extérieur, de la promotion du tourisme et des Français de l'étranger, ont nommé M. Jean Ballandras, Secrétaire général d'AKUO ENERGY, Fédérateur Export « Energies renouvelables ». Celui-ci aura pour mission de promouvoir la filière française des énergies renouvelables à l'international et d'accélérer le déploiement de solutions concrètes sur le terrain. Cette action permettra de renforcer la coopération technologique avec un certain nombre de pays dans le domaine des énergies renouvelables.

Sur le plan multilatéral, la coopération technologique de la France se fait au travers des grands partenariats énergétiques internationaux, comme l'Agence internationale de l'énergie (AIE), et notamment au sein de la plate-forme internationale de l'AIE sur les technologies sobres en carbone établie en octobre 2010, la CEM (Clean Energy Ministerial) ou encore l'IPEEC (International Partnership for Energy Efficiency Cooperation). Dans un contexte plus large d'opérationnalisation de la démarche SE4All (Sustainable Energy for All), la montée en puissance de l'IRENA (International Renewable Energy Agency), agence récente ayant une vocation forte d'appui aux pays et dans laquelle la France est le sixième contributeur, mérite d'être saluée. Il convient également d'évoquer les traités multilatéraux de grande ampleur, au premier rang desquels la Convention cadre des Nations Unies sur les changements climatiques (CCNUCC) permettant l'appui et l'accélération des transferts de technologie et le partage d'expériences, sous laquelle un Mécanisme en faveur du transfert de technologies en appui à l'atténuation et à l'adaptation au changement climatique vers les pays en développement a été créé et est maintenant pleinement opérationnel. Les travaux du PNUE (Programme des Nations Unies pour l'Environnement) ou de la FAO (Food and Agriculture Organisation) favorisent aussi le partage d'expérience et d'outils utiles à la transition bas-carbone.

12. Germany[33]

No additional information was provided in Germany's 2016 NIR compared to its 2014 NIR.

13. Greece[34]

No additional information was provided in Greece's 2016 NIR compared to its 2014 NIR.

[32] REN 21, 2015

[33] Germany was not included in the 2015 compilation, see explanation in footnote 4 above.

[34] Greece was not included in the 2015 compilation, see explanation in footnote 4 above.

14. Hungary[35]

The following additional information was provided in Hungary's NIR for 2016.

The policy framework is laid down in Hungary's National Climate Change Strategy (NCCS) for the period 2008-2025, based on extensive scientific research, a wide public consultation process and impact assessment. The strategy was adopted by the Hungarian Parliament unanimously in early 2008 (Parliamentary resolution 29/2008. (III. 20.) OGY). It has not been modified since then, however its review is currently underway. The NCCS guarantees that in accordance with the principle of integration, climate policy is integrated into development policy as well, safeguarding that emission mitigation projects, cooperation fostering technological transfer and enhanced funding options for climate change related projects will play an integral role among future development projects. Climate research shall be integrated into other scientific studies and research activities and the business sphere shall be involved in climate friendly investments in developing countries.

For the time being Hungary alone does not take part in large scale development projects relating to climate change, however as a Member State, it fully supports the EU's activities in this regard.

15. Iceland[36]

No additional information was provided in Iceland's 2016 NIR compared to its 2014 NIR.

16. Ireland[37]

No additional information was provided in Ireland's 2016 NIR compared to its 2014 NIR.

17. Italy

No additional information was provided in Italy's NIR for 2016.

18. Japan

The following information was updated in Japan's NIR for 2016.

15.1 Overview

Japan takes actions, taking into account the importance to make effort to minimize adverse impacts in accordance with Article 3, paragraph 14. On the other hand, it should be noted that we have difficulty in accurately assessing specific adverse impacts due to the implementation of response measures to address climate change issues. For example, the fluctuations in crude oil prices are caused by balance between supply and demand as well as numerous other factors (e.g., trend in crude oil futures market or economic fluctuation), and

[35] Hungary was not included in the 2015 compilation, see explanation in footnote 4 above.
[36] Iceland was not included in the 2015 compilation, see explanation in footnote 4 above.
[37] Ireland was not included in the 2015 compilation, see explanation in footnote 4 above.

it is uncertain whether there exists a causal link or, if so, to what extent it results from adverse impacts of climate change policy and measures.

In addition, it is necessary to change the perception of response measures in order to address climate change issues effectively, and sustainable development could be the one of the key options. For instance, the introduction of renewable energy leads to improve energy access, prepare for a disaster and create employment through development of a new industry, as well as contributes to reducing GHG emissions. As discussed in Rio+20 and COP, the transition to green economy and the attainment of low-carbon growth are the key elements in order to address climate change and to achieve the sustainable development which strikes a balance between environment and economy. Efforts toward the establishment of low-carbon society should be accelerated throughout the world. Japan proposed "East Asia Low Carbon Growth Partnership" with the aim of promoting low-carbon growth through regional cooperation among the participating countries of the East Asia Summit and presented "A proposal from East Asia Low Carbon Growth Partnership Dialogue - Transformation to Low Carbon Growth –"which contains some good practices towards the low carbon economic growth at a COP21 official side event. In order to facilitate the achievement of an agreement at COP21, Japan announced its new policies of contribution called "Actions for Cool Earth 2.0 (ACE 2.0)" which consists of two pillars: (1) providing support to developing countries worth of 1.3 trillion yen in 2020 and (2) promoting innovation. Japan continues to proactively contribute to the international community in these fields.

15.2 Actions to minimize adverse impacts in accordance with Article 3, paragraph 14

- Technical assistance in the energy and environmental sectors

Japan has provided technical assistance in the field of energy and environment throughout the world and has contributed to the sustainable economic growth of developing countries taking into consideration their needs. For example, Japan has provided cooperation for development and operation of institutions related to energy-saving and renewable energy through capacity building such as inviting trainees from, and sending experts to developing countries including in Middle East region. Moreover, from the view point of deployment of renewable energy in small island nations particularly vulnerable to climate change, Japan, in collaboration with International Renewable Energy Agency (IRENA), invited governmental officials from Asia-Pacific and other small island nations to international workshop in Kuala Lumpur (August 2015) and training program in Tokyo (February 2016) for capacity building and support for developing projects.

- Development of carbon capture and storage (CCS) technologies

Recognizing that CCS is an important technology for global warming countermeasures, Japan has been implementing large-scale demonstration projects toward practical use of CCS by around 2020, as well as researches and developments on cost reductions and safety improvements. In addition, from 2014FY, Japan has been implementing feasibility studies for an evaluation of environmental impacts in the CO2 capture process and a shuttle ship transportation and injection system and surveys to identify potential CO2 storage sites in waters surrounding Japan.

19. Latvia

Latvia provided the following information in its NIR for 2016.

Latvia as Annex I country provides the following information how Latvia is striving, under Article 3, paragraph 14, minimize adverse social, environmental and economic impacts on

developing countries in accordance with the guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol (Decision 15/CMP.1, paragraph 24).

Latvia is acting together with other Parties in the EU to fulfil the commitments under the Protocol.

As reported by the *Energy Development Guidelines 2016-2020*, future energetics policy will be built according to the following principles: integration of the EU energetics and climat policy's targets in the national policy, regional cooperation with the Baltic Sea countries, Energy accessibility for users with a relatively low level of income, GHG emission reduction-oriented sustainable policy.

Parties included in Annex I that are in the position to do so, shall incorporate information on how they give priority, in implementing their commitments under Article 3, paragraph 14, to the following 6 actions, based on relevant methodologies referred to in paragraph 11 of decision 31/CMP.1.

(b) The progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse-gas-emitting sectors, taking into account the need for energy price reforms to reflect market prices and externalities

Energy sector

As already mentioned in the last years' report, Latvia agreed on the long term strategy for energy until 2030 – a competitive energy for society, focusing also on sustainable energy. The main target of the Strategy is to promote competitive economy by creating balanced, effective, economically, socially and environmentally justified and market-based energy policy.

- According to 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, Latvia has got one of the highest individual targets for the share of renewable energy by 2020, namely 40% from total gross final energy consumption. In 2013, the rate was already about 37.1 %, what positioned Latvia on number 2 in the EU after Sweden. In 2014, this rate was already 38, 65%.

- The share of renewable energy in the transport sector must reach at least 10% by 2020 of gross final energy consumption for transport (in 2010 it comprised 3.3%, in 2011 – 3.2%, in 2012 – 3.1%). One of the ways how to reach this target is the use of electric vehicules. Latvia is starting to work on the infrastructure of electric vehicule charging stations: Electromobility development plan 2014-2016 has been approved by the Cabinet of Ministers on 26 March 2014 (order Nr. 129). Taking into account the estimated number of registred electric vehicles in the country, it would be necessary to install about 235 such charging stations. Till 2020 Latvia has several plans also about the electrification of the public transport system, essentially in the capital Riga, including railway electrification.

- Alternative energy is a crucial source of energy for the future. Based on the consultation of stakeholders and national experts, as well as the expertise reflected in the Communication from the Commission of 24 January 2013 entitled 'Clean Power for Transport: A European alternative fuels strategy', hydrogen was identified as one of the principal alternative fuels with a potential for long-term oil substitution. The use of hydrogen could be an effective solution because of the abundant water resources in Latvia. In respect of the DIRECTIVE 2014/94/EU, the Municipality of Riga has joined the Hydrogen Fuel cells and Electro-mobility in European regions (HvER) and participates to several international projects, including the creation of a hydrogen fuel station in the capital of Riga. Several national-level programs in research on hydrogen fuel cells have been launched in cooperation with the local universities.

- On 1st January 2015, the electroenergy market was opened also for households, as it is required by the amendments of the Energy Market Law of 20 March 2014. Along with the opening of the electricity market for households, the market came to approximately 847 300 users, represneting about 90% of the total amount of users. Not all households in the price of electricity are longer subsidiesed. The reduced price of electricity is provided at the most vulnerable groups of society – poor or low income families (persons), families with disabled children, persons with disabilities, and the first group of large families (the electricity price diference is subsidized).

- Latvia has introduced a national support mechanism for renewable energies – mandatory procurement and guarenteed payement for the installed electrical capacity. Costs incurred in support of RES or high-efficiency cogeneratrion production of electricity are covered by Latvian electricity end-users in proportion to their consumption of electricity as in the price is included mandatory procurement components (OIK). It is projected that the OIK will increase till 2017 when the state support is going to expire. In order to maintain the support for producing the energy from RES or high-efficiency cogeneration installations, and to leave the OIK at the 2013 level, (26.79 EUR/MWh), Subsidized Energy Tax (SEN) is in force since 1st January 2014. It can be applied till the 31st December 2017. This tax is laid down ir 3 different rates: 15% for natural gas cogeneration plants, 10% for RES –using stations, 5% for stations that have particular conditions.

Environmental taxes

Environmental taxes are intended to grow in the years to follow: according to European Comission *Study on Environmental Fiscal Reform Potential in 14 EU Member States,* the potential revenue generated from the increase of the environmental taxes could reach 2.47% from the Latvian GDP by 2025, comparing to 2.42% in 2012.In the therms of money, it could reach 642 millions of euros by 2025 (real 2014 terms).

- Any emission of air pollutants (including CO2) which is outside of transferred allowances is taxed according to the Natural Resources Tax Law. A number of these rates have increased steadily since 2007. CO2 from stationary technological installations (except those covered by exemptions outlined in the Law on Pollution 405) 2014 rate: €2.85 per tonne; 2015 rate: €3.50 per tonne; PM10 (not containing heavy metals): 2014 rate: €51.22 per tonne; 2015 rate: €75.00 per tonne.

- Since the 1st January 2014, there is an additional tax on the sale of coal, coke and lignite. If the thermal input is known, the tax is €0.30 per GJ; and if the thermal input is unknown, the tax is €8.54 per tonne.

(c) Removing subsidies associated with the use of environmentally unsound and unsafe Technologies.

No changes in subsidies for environmentally unsound and unsafe technologies have been identified in 2014.

(d) Cooperating in the technological development of non-energy uses of fossil fuels, and supporting developing country Parties to this end

The technological development of non-energy uses of fossil fuels is not a priority for Latvia at this moment.

(e) Cooperating in the development, diffusion, and transfer of less-greenhouse-gas-emitting advanced fossil-fuel technologies, and/or technologies, relating to fossil fuels, that capture and store greenhouse gases, and encouraging their wider use; and facilitating the participation of the least developed countries and other non-Annex I Parties in this effort.

Each year there is a new Assitance Development Plan worked out by the Ministry of Foreign Affairs. Latvian priority countries in the development assistance for 2014 were UE East partnership countries (Belarus, Georgia, Moldova and Ukraine) and the Central Asia countries (Kyrgyzstan, Tajikistan and Uzbekistan).

In 2014, the budget funding for the bilateral development assistance was 213 813 EUR. With this budjet funding, there has been a continuation to the cooperation project between the Ministry of Environmental protection and Regional development of Latvia (MEPRD) and the Republic of Moldova (mentioned in the last year's report) in the field of regional planning. Taking into account the positive results of the Moldova's North Region development program, what is now an example program for other regions of the country, the cooperation in 2014 was financed in the same amount as in 2012 and 2013.

According to the Assitance Development Plan for 2014, there has been a call for grant project proposals to finance bilateral cooperation projects in the Latvian priority countries in the UE East partnership countries and Central Asia. In 2014, the financal support for these projects was 70 000 EUR.

2014 was also the preparation year for the Latvian Presidency in the EU Council and for the European Thematic year, which was devoted to the development assistance theme. There has been some participation of the Environmental NGO sector.

Latvia is interested to participate in the implementation of international and regional level cooperation plans in the energy sector. There is an active cooperation in the scientific sector on a regional and EU level.

- As a member of the European Union, Latvia is also taking part in the work of the Energy Community, beeing a part of its objective to improve the environmental situation in relation with the energy supply.

- Latvian partners are implicated in the European Comission supported program „Intelligent Energy Europe" (IEE) Project Transparense. Its objective is to increase the transparense of the Energy performance certificates (EPC).

- Latvia has a good cooperation with Norway. To increase "green" business competitiveness, including the competitiveness of enterprises and the "green" innovation, "a project called "Green innovation" has been implemented with the financement of the Norwegian Financial Mechanism during 2009-2014. The program was implemented by the program intermediary - Ministry of Economics of Latvia in cooperation with Investment and Development Agency of Latvia (LIAA) and a donnor-country program partner - the Royal Norwegian state-owned enterprise "Innovation Norway" (Innovation Norway).

(f) Strengthening the capacity of developing country Parties identified in Article 4, paragraphs 8 and 9, of the Convention for improving efficiency in upstream and downstream activities relating to fossil fuels, taking into consideration the need to improve the environmental efficiency of these activities.

There is no direct action taken in the context of cooperation with developing countries in the energy sector. Nevertheless, Latvia is continuing to make efforts in the increase of local origin energy fuels, strengthening its energetical independance while reducing the potential negative impact of the imported fossil resources.

In 2013 local energy provided 34.9% of the total primary energy consumption. Most of them were RES - wood biomass, hydro, wind, biogas, biofuels and local energy resources - peat, waste. There is still a potential for peat extraction energy and for waste use in the production of energy.

The rest of the part or 65.1% of energy resources in 2013, among which the most important were oil and natural gas, were imported from the Baltic region, the EU and third countries,

including from Russia. Natural gas was supplied only from Russia, which accounted for 26.9%. Imported energy from other countries than Russia or EU countries is about 0,4%, and it is electricity.

(g) Assisting developing country Parties which are highly dependent on the export and consumption of fossil fuels in diversifying their economies.

There have been no direct assistance projects in 2014 to diversify developing countries' economies, although, Latvia is taking part in these actions by working in connexion with such international organizations like OECD. Latvia has started its way to OECD since the invitation to start negotiations on 30 May 2013. Joining OECD will also increase Latvia's responsabilities in the field of renewable energy. OECD Environment Policy Committee and its subgroups were assessed in the context of compliance with the Latvian 44 OECD policy instruments applicable to the broader environmental policies, like energy choice, air pollution control, energy use in households and the production sector, environmental mitigation, environmental aspects of development cooperation and others. MEPRD and other public authorities are actively involved in the OECD Environment Policy Committee subgroup of Climate, investment and development, and other subgroups. Becoming member of OECD, Latvia could also have the possibility to join the International Energy Agency.

In 2014, Latvia devoted 0.08% of the gross national income (GNI) or about ~ 18.4 million for the development assistance. Each year, Latvia accounts for the Official Development Assistance (ODA) by using OECD's Development Assistance Committee guidelines.

20. Liechtenstein[38]

No additional information was provided in Liechtenstein's 2016 NIR compared to its 2014 NIR.

21. Lithuania

Lithuania provided the following information in its NIR for 2016.

Lithuania continues to finance various projects which minimize the adverse social, environmental and economic impacts of the developing countries.

From 2014 the Ministry supports bilateral development cooperation projects in the field of climate change according to the new legislation – the *Law on Development Cooperation and Humanitarian Assistance* (approved by the Parliament) and *Directions for the Politics of Development Cooperation in 2014-2016* (approved by the Government). Each year Ministry's *Commission on development cooperation and humanitarian aid* announces calls for project concepts/applications and selects the most distinguished climate related projects. Requirements for projects and all procedural issues are laid down in the *Manual on the implementation of development cooperation activities by state and municipal institutions and agencies*, approved by Decision No. 278 of the Lithuanian Government (dated 26 March 2014).

The first call for implementation of renewable energy projects in developing countries was announced in 2014. The Agreement on the implementation of a development cooperation project (in Malaysia) was signed with the Lithuanian company BOD group, producer of

[38] Liechtenstein was not included in the 2015 compilation, see explanation in footnote 4 above.

innovative solar cells, on 26th November 2015. Total project value amounts to 222.3 thous. Eur, the subsidy amount is 145 thous. Eur.

In the end of 2015, the new call for the submission of new development cooperation projects was announced. The total subsidy amount for projects is 350 thous. Eur. By the end of 2015 the Ministry of Environment has received 3 applications. The winning projects will be announced in 2016.

In 2015 the Ministry of Environment not only increased its support to development cooperation projects, but also pledged a contribution to the Green Climate Fund.

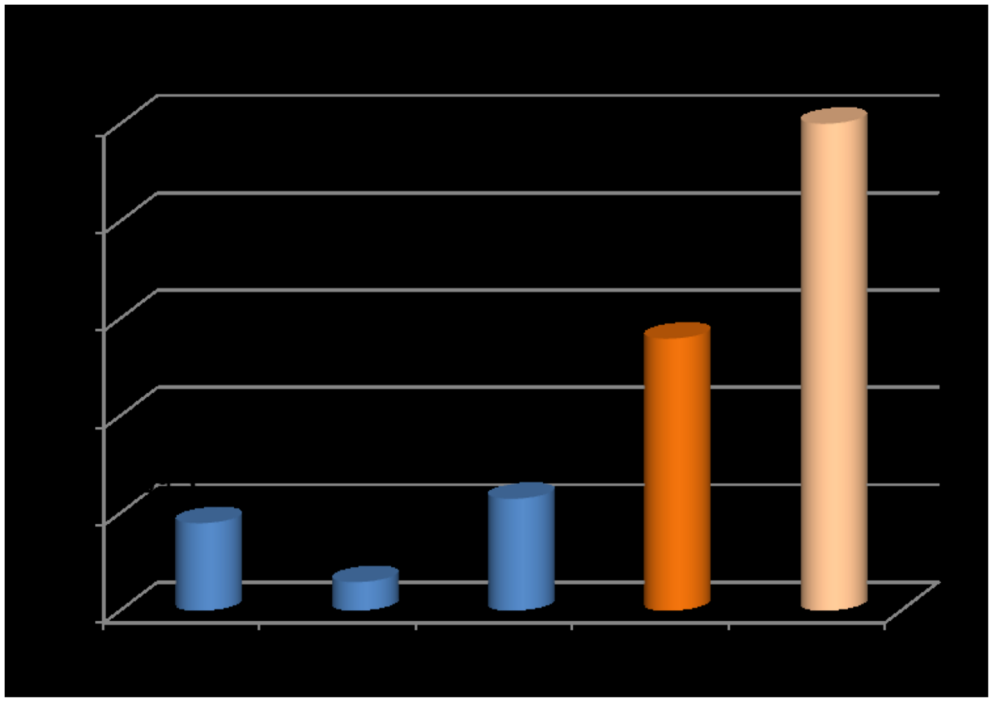
In 2015 Lithuania has contributed 50 000 EUR to the EIB's Eastern Partnership TA Trust Fund, which directs a large part of its funds towards the Climate Action (approx. 70% of the fund are directed for climate-related purposes).

The table below summarizes the data on international climate finance provided by Lithuania in 2015:

Thous. EUR	*Type of support*	*Recipient of support*	*Provider of support*
100**	Multilateral	Green Climate Fund	Ministry of Environment
350**	Bilateral	Development cooperation projects (project selection ongoing)	Ministry of Environment
50**	Multilateral	EPTATF - Eastern Partnership Technical Assistance Trust Fund, administered by the European Investment Bank	Ministry of Finance

* planned total project value, including beneficiary's own contribution (disbursement in 2015-2016)
** preliminary figures

The figure below displays increasing annual figures of international climate finance provided by Lithuania (in thous. EUR):



* Preliminary figures

22. Luxembourg[39]

No additional information was provided in Luxembourg's 2016 NIR compared to its 2014 NIR.

23. Monaco[40]

As of 28 October 2016, Monaco did not submit its NIR for 2016.

24. Netherlands[41]

No additional information was provided in the Netherlands' 2016 NIR compared to its 2014 NIR.

25. New Zealand

The following information was updated in New Zealand's NIR for 2016.

Most of this information is similar to that provided in the 2015 Inventory submission. However, it has been updated to reflect the progress of existing projects and the commencement of new projects in the past year.

15.1 Overview

[39] Luxembourg was not included in the 2015 compilation, see explanation in footnote 4 above.
[40] Monaco was not included in the 2015 compilation, see explanation in footnote 4 above.
[41] Netherlands was not included in the 2015 compilation, see explanation in footnote 4 above.

…

In September 2015, the international community adopted the Sustainable Development Goals (SDGs), including Goal 7, which calls for a substantial increase in the share of renewables and will ensure access to affordable, reliable, sustainable and modern energy for all. Along with the Paris Climate Change Conference (COP21), held in Paris, France, and the work undertaken under the umbrella of the Decade of Sustainable Energy for All (SE4ALL) renewable energy is of increasing significance to transform lives and economies.

Small Island Developing States continue to increase their uptake of renewable energy, which is a critical element of their long-term sustainable development efforts. The New Zealand Aid Programme has been supporting a major push to increase the uptake of renewable energy in the Pacific and reduce the region's reliance on imported diesel.

15.2 Market imperfections, fiscal incentives, tax and duty exemptions and subsidies

…

New Zealand has been working in several international fora to promote the global reform of inefficient fossil fuel subsidies. In April 2015, New Zealand jointly hosted a ministerial dialogue on fossil fuel subsidy reform with the United States and World Bank in the margins of the 2015 World Bank–International Monetary Fund Spring Meetings. The event was an opportunity to hear first-hand accounts from countries about their experiences with reform, and to understand the tools and initiatives available to support reform. At the Spring Meetings, New Zealand and other members of the 'Friends of Fossil Fuel Subsidy Reform', together with France and the United States, also launched a Fossil Fuel Subsidy Reform Communiqué calling for accelerated action to eliminate inefficient fossil fuel subsidies as a major contribution to climate change mitigation.

At the COP21 Leaders Day in November 2015, New Zealand Prime Minister John Key presented the United Nations Framework Convention on Climate Change Executive Secretary Christiana Figueres with the Fossil Fuel Subsidy Reform Communiqué on behalf of the 40 governments and hundreds of businesses and influential organisations that endorsed it. The high-profile event attracted world leaders and significant media attention. The Communiqué remains open for endorsement as a rallying point for further action (refer www.fffsr.org). Later in COP21, New Zealand, along with other Friends of Fossil Fuel Subsidy Reform and the International Institute for Sustainable Development Global Subsidies Initiative, jointly organised an event entitled 'Fossil Fuel Subsidies and Climate Change: National action and international phase out'. The event outlined the inclusion of subsidy reform within country Intended Nationally Determined Contributions (INDCs) and implications for emissions reductions, among other related topics.

New Zealand is also helping to build capacity for the reform of inefficient fossil fuel subsidies within Asia-Pacific Economic Cooperation (APEC) member economies. In December 2015, New Zealand, along with the United States, co-sponsored an APEC workshop in Honolulu to share best practices to facilitate the implementation of subsidy reforms and use of peer review to ensure that these reforms address inefficiencies within the sector.

New Zealand supports the APEC Inefficient Fossil Fuel Subsidy Reform Peer Review Mechanism. New Zealand was one of the first APEC economies to volunteer to undertake an APEC peer review of New Zealand's fossil fuel policies. New Zealand put forward for peer review a comprehensive set of policy measures that directly or indirectly support fossil fuels. The review expert panel in-country visit took place in March 2015. This provided a useful 'health check' for New Zealand policies, and the international review panel did not identify any inefficient subsidies that encourage wasteful consumption. New Zealand has also participated in the peer review panels for Peru and the Philippines.

…

15.3 Removal of subsidies

(No update)

15.4 Technological development of non-energy uses of fossil fuels

(No update)

15.5 Carbon capture and storage technology development

(No update)

15.6 Improvements in fossil fuel efficiencies

…

The New Zealand Aid Programme maintains a focus on energy efficiency and the transition away from fossil fuel dependency to clean efficient, affordable and reliable energy generation. Introducing clean and affordable energy technologies is a high priority for the Pacific region. On average, 10 per cent of the region's gross domestic product is expended on imported fossil fuel, and 80 per cent of electricity generation depends on the combustion of diesel.

Following the New Zealand Government and the European Union Pacific Energy Summit in 2013, New Zealand has exceeded its original $65 million commitment and committed at least $100 million for 25 energy projects in eight countries (Samoa, Cook Islands, Tuvalu, Kiribati, Solomon Islands, Tonga, Vanuatu, Papua New Guinea). In 2015/16, projects to implement renewable energy resources, particularly solar energy for remote island communities, have been completed in Samoa, the Cook Islands and Tuvalu, alongside wider regional technical assistance programmes focused on capacity building, asset management and energy sector reform.

One case study is New Zealand's commitment to a major energy programme in Tonga. Working closely alongside development partners, New Zealand is supporting the practical implementation of Tonga's 10-year Energy Roadmap, to improve Tonga's energy sector efficiency and energy self-reliance. Part of New Zealand's NZ$23.2 million (US$15.6 million) commitment from 2013–18 is focused on improving efficiency and access through upgrading Tonga's power distribution network, as well as the feasibility of using wind as a renewable energy resource.

A further case study is a solar energy project in Samoa. New Zealand has commissioned a 2.2 megawatt solar system in Apia, as well as two further photovoltaic (PV) systems. The three PV projects will save 1.1 million litres of diesel worth WST3.4 million (nearly US$1.31 million), provide enough power for 4,400 households and contribute an additional 4.5 per cent renewable capacity.

In 2015, New Zealand was on the Council of the International Renewable Energy Agency (IRENA), an intergovernmental organisation that aims to promote the widespread use of all forms of renewable energy. New Zealand is involved with several of IRENA's work programmes in the Pacific and further afield. New Zealand is also a member of other multilateral institutions that play a role in the energy sector, for example, the International Energy Agency and APEC.

15.7 Assistance to non-Annex I Parties dependent on the export and consumption of fossil fuels for diversifying their **economies**

(No update)

26. Norway[42]

Norway provided the following information in its NIR for 2016.

Norway is involved in several initiatives that contribute to technology transfer and capacity building to developing countries in shifting the energy mix away from fossil fuels to more renewable energy systems. These initiatives are reported here as relevant activities under Article 3.14 of the Kyoto Protocol.

Putting a price on greenhouse gas emissions

Most international analysis point to pricing emissions as the most important policy instrument to combat climate change. Carbon pricing motivates initiatives to reduce emissions, finance climate measures and stimulates development of new technology. Norway participates in the Carbon Pricing Leadership Coalition.

In its economic, energy and environmental policies Norway therefore strives to pursue an approach where prices reflect costs, including for externalities. The reflection of the costs of externalities with respect to emissions of greenhouses gases is undertaken through levies and participation in an emissions trading scheme. Following the expansion of the European Emissions Trading System (EU-ETS) system in 2013, more than 80 per cent of the domestic emissions are subject to prices through mandatory surrender of allowances, payment of CO2 tax, or both. A description of the structure of levies on energy commodities, as well as design of the emissions trading scheme, can be found in chapter 4 of the sixth National Communication (NC 6).

Norway believes that the best way to reduce emissions on a global scale in line with the two degree target is to pursue pricing of greenhouse gas emissions at a global scale. In principle a global price would be the most efficient way to ensure cost effectiveness of mitigation actions between different countries and regions and secure equal treatment of all emitters and all countries. This would help minimize adverse impacts of mitigation.

Norway has consistently supported the development of markets for emissions reductions through its carbon credit procurement program and through various international activities organized by the World Bank and ICAP (International Carbon Action Partnership). The procurement of emissions credits from developing countries contributes to global emissions reductions and to the transfer of technology and knowledge to developing countries.

Norway decided to voluntarily overachieve its Kyoto commitment in the first period (2008-2012) by ten percent, and has procured and cancelled about 21 million credits from the Clean Development Mechanism and Joint Implementation in order to achieve this; see Norway's true up period report.[43]

For the second commitment period, Norway is a compliance buyer. The procurement program currently targets acquisition of 60 million CERs from the CDM. Norway is buying from projects facing the risk of being terminated due to low prices in the carbon market, as well as from new projects.

For more information on the Norwegian procurement program, see chapter 5.4 of Norway’s sixth National Communication under the United Nations Framework Convention on Climate Change and www.climateneutralnorway.com.

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[42] Norway was not included in the 2015 compilation, see explanation in footnote 4 above.

[43] http://unfccc.int/files/kyoto_protocol/reporting/true-up_period_reports_under_the_kyoto_protocol/application/pdf/true-up_period_report_norway_2015.pdf.

Changes in 2015:

Some changes being price level adjustments were made in 2015, in particular for diesel and HFCs/PFCs. Regarding state participation in the market for emissions reductions in 2015, Norway finalized procurement for the first commitment period and processes related to overachievement, and advanced the procurement pursuant to the second commitment period.

Unsafe and unsound technologies

Several multi-national companies have industrial facilities located in Norway that uses fossil fuels for non-energy sources (feedstocks), such as the metal producers (aluminum and ferroalloys use coal as reduction materials), producers of fertilizers (utilizing natural gas for ammonia) and petrochemical industry. These companies take part in the global technological development on non-energy use of fossil fuels, i.a. through R&D projects which can be co-funded by public sources, and they implement new technologies in their facilities both in developed and developing countries. However, Norway does not have ongoing government financed projects explicitly related to the technological development of non-energy uses of fossil fuel in developing countries. 2015 did not see significant changes in this situation.

Cooperation on carbon capture and storage

Due to its large mitigation potential, Norway has prioritized the development of carbon capture and storage as a mitigation option. As a petroleum producer Norway strives to reduce the emissions from the production and refining of petroleum. The national carbon capture and storage projects already in operation, the Sleipner and Snøhvit projects, are in the petroleum sector. Norway has taken steps to disseminate information and lessons learned. These efforts are made both through international fora such as the Carbon Sequestration Leadership Forum and Clean Energy Ministerial, and through bilateral cooperation with both developing and developed countries. The results from the Sleipner Project are made available to interested parties.

The Norwegian Parliament has endorsed an action plan for dissemination of information on carbon capture and storage as a mitigation option. Four geographical areas have been given priority: Southern Africa, Indonesia, China and the Gulf States (Saudi Arabia, Kuwait, The United Arab Emirates and Qatar). In November 2011, the Norwegian Ministry of Petroleum and Energy and the Administrative Centre for China's Agenda 21 of the People's Republic of China entered into an agreement on the funding of the China-EU Cooperation on Near Zero Emission Coal Project Phase IIA, under which Norway has allocated 1.6 million euros. Norway has supported the South African centre for carbon capture and storage over the last six years and in 2013-14 Norway supported the South African Pilot CO2 Storage Project with NOK 32 million through The World Bank CCS Trust Fund (see below). Norway also supports studies of opportunities for realization of carbon capture and storage in Mozambique. In Indonesia, Norway supports a carbon capture and storage pilot at the Gundih gas field on Java. The 4 Kingdom Initiative with the Kingdom of Saudi Arabia, the United Kingdom and the Kingdom of the Netherlands are exploring alternative uses for CO2 and serve as an informal forum where government representatives and technical experts from the four kingdoms meet, share their experiences and explore potential areas of cooperation.

Norway has co-funded The World Bank CCS Trust Fund for Capacity Building with a total of 113,5 million NOK since 2009 which is prioritizing CCS pilot projects in South Africa (see above) and Mexico. Norway is also co-funding The Carbon Sequestration Leadership Forum's Capacity Building Trust Fund for CCS. The Norwegian Ministry of Petroleum and Energy has supported the development of a Clean Development Mechanism (CDM) methodology applicable to carbon capture and storage to facilitate implementation of demonstration projects in developing countries. This methodology is not project specific but meant to be a template for all CCS projects.

In addition, the Norwegian petroleum company Statoil ASA, which operates the Norwegian storage projects, is a partner in the Algerian carbon capture and storage project in Salah.

The Technology Centre Mongstad started operation in May 2012. Two different capture technologies - amine- and the ammonia-based CO2 capture, are being tested. The technology centre is designed to have a capture capacity of 100,000 tonnes of CO2 per year. The size of the facility, its flexibility and its design allow different types of tests to be performed. It has access to flue gas produced by the thermal power station and the cracking plant at the oil refinery. The CO2 content of the gases from these sources is 3.5% and 13% respectively. Both sources of flue gas can be piped to both the amine- and the ammonia-based CO2 capture plants. In addition, the facility is able to adjust the concentration of CO2 in the flue gas by enriching exhaust gas from the thermal power station with captured CO2. This allows testing of the CO2 captured from flue gases with different concentrations of CO2. The technology centre is therefore able to test CO2 capture technologies which are relevant to both coal and gasfired power stations, as well as refineries and other industrial operations. The South African energy company Sasol is a partner in the Technology Centre Mongstad.

In 2014 the Norwegian government presented its strategy for carbon capture and storage. The strategy encompasses a wide range of activities including research, development and demonstration, work on the realization of large-scale demonstration facilities, transport, storage and alternative use of CO2 and efforts to promote carbon capture and storage internationally. The Government's strategy also includes measures to support international knowledge-sharing and CCS deployment in developing countries and emerging economies.

The work on developing a CDM methodology applicable for carbon capture and storage, supported by the Norwegian Ministry of Petroleum and Energy, was finalized in 2014. Once the deliverables are reviewed and approved by the stakeholders the methodology will be presented for the CDM Executive Board.

There have been no significant changes to these policies and activities in 2015.

Cooperation with developing countries related to fossil fuels – "Oil for Development"

The Norwegian Oil for Development (OfD) initiative, which was launched in 2005, aims at assisting developing countries, at their request, in their efforts to manage petroleum resources in a way that generates economic growth and promotes the welfare of the whole population in an environmentally sound way. A description of the OfD program can be found at http://www.norad.no/en/thematic-areas/energy/oil-for-development.

The operative goal of the program is "economically, environmentally and socially responsible management of petroleum resources which safeguards the needs of future generations."

Petroleum plays an important role in an increasing number of developing countries. Oil and gas hold the promise of becoming vital resources for economic and social development. Unfortunately, in many cases it proves difficult to translate petroleum resources into welfare for the people. Decades of experience in the oil and gas sector has given Norway valuable expertise on how to manage petroleum resources in a sustainable way. The Norwegian expertise can be useful for developing countries with proven petroleum resources, or countries that are in the exploration phase.

OfD takes a holistic approach meaning that management of petroleum resources, revenues, environment and safety are addressed in a coherent manner. Norwegian public institutions enter into long-term agreements with public institutions in partner countries. Assistance is directed towards three main outcomes: 1) policy makers set goals, define and assign responsibilities, 2) the authorities regulating the petroleum sector carry out their assigned responsibilities and 3) policy makers and regulatory authorities are held accountable for their management of the petroleum sector.

OfD assistance is tailor-made to the particular needs of each partner country. It may cover the designing and implementing legal frameworks, mapping of resources, environmental impact assessments, handling of licenses, establishing preparedness to handle accidents and oil spills, health, safety and environmental legislation, petroleum fiscal regimes and petroleum sovereign wealth fund issues as well as initiatives to promote transparency and combat corruption.

A Steering Committee formulates strategic direction, guidelines and priorities for the OfD. The Steering Committee consists of the Ministry of Foreign Affairs (Chair), the Ministry of Petroleum and Energy, the Ministry of Finance and the Ministry of Climate and Environment. The OfD secretariat resides in the Norwegian Agency for Development Cooperation (Norad). The OfD secretariat is responsible for coordination and implementation of the program. Norwegian embassies play a key role in the program, as they have extensive development cooperation responsibilities. Key implementing institutions are the Norwegian Petroleum Directorate, the Norwegian Environment Agency, the Petroleum Safety Authority, the Norwegian Coastal Administration and the Norwegian Tax Administration. A range of consultancies, research institutions and international organizations are also involved. Furthermore, several national and international NGOs are contributing to the OfD initiative. These organizations are in particular involved in building civil society capacity on issues related to governance and petroleum activities in OfD partner countries. Moreover, Norway gives priority to the Extractive Industries Transparency Initiative (EITI). OfD also cooperates with Statistics Norway and coordinates its activities with the Office of the Auditor General of Norway.

There has been no major changes to these policies and activities in 2015.

Cooperation with developing countries related to renewable energy – “Clean energy for Development”. Energy has been at the core of Norway’s development assistance policy for several years. There has been a steady increase in funds allocated to clean energy activities during recent years, both within multilateral and bilateral development assistance. For various reasons priorities of the ODA changed significantly in 2015. Overall spending to clean energy for development was reduced and amounted to about NOK 1100 million in 2015, including funds disbursed through Norfund.

Six core countries receive most of the funding (Ethiopia, Liberia, Mozambique, Nepal, Tanzania, and Uganda), but the Initiative is also engaged on a smaller scale in around 10 other countries.

Increased focus on energy issues and their importance in the climate agenda, coupled with a significant increase of funds allocated to energy related activities within Norwegian development assistance, required better coordination of Norwegian efforts. The Clean Energy for Development Initiative was launched in 2007 to address these challenges, with the following overarching goal:

“To increase access to clean energy at an affordable price based on the long-term management of natural resources and efficient energy use. It is also intended to contribute to sustainable economic and social development in selected partner countries and to international efforts to reduce greenhouse gas emissions.”

Source: “Clean Energy for Development Initiative – Policy Platform”

Through the Clean Energy for Development Initiative Norwegian funds contribute to poverty reduction by supporting various types of rural electrification like hydro power plants, solar power, transmission lines, and through support of more efficient wood fuel - or charcoal stoves.

Key features of the Initiative:

- In order to reach the goals set forth in the Clean Energy for Development Initiative, funds are often utilized to assist in developing a well functioning framework of institutions, policies, rules and regulations in the energy sector. Capacity building and institutional strengthening is therefore of great significance for the overall Norwegian energy efforts. In several of the countries where Norway engages in the energy sector, assistance and expertise from key partners is crucial to support the capacity building and institutional strengthening activities.

- The Clean Energy for Development Initiative is accommodating the private sector in various ways. The main tools for direct support to the private sector are the funding mechanisms of the Norwegian Investment Fund for Developing Countries (Norfund), The Norwegian Export Credit Guarantee (GIEK) and Norad's Section for Private Sector Development. Public-private partnerships are essential, and support is also given to infrastructure projects (e.g. transmission lines), capacity building, regulatory reforms and research projects to facilitate for private investments and improve the investment climate.

- Results management is a priority within the Clean Energy for Development Initiative; to ensure and communicate the effects of development programs/projects and to develop best practice systems. Projects and programs develop results management systems and logical models to create a basis for evaluating effects of the intervention. The various programes and activities are reviewed and assessed regularly. Smaller scale reviews are undertaken throughout the project cycles as part of their results management systems, while larger scale assessments are undertaken in a more strategic manner.

Changes in 2015: For various reasons priorities of the ODA changed significantly in 2015. Overall spending to clean energy for development was reduced and amounted to about NOK (x00) million in 2015. In 2015, the activities previously reported under Energy+ have been incorporated into the Clean Energy for Development portfolio.

1 Gigaton Coalition

Renewable energy and energy efficiency programs in developing countries are making great strides *towards* closing the gap in greenhouse gas emissions required to reach the goal of limiting global warming to 2 degrees Celsius. However, most of these efforts have neither been measured nor reported. In order to highlight the importance of their contribution to closing the emissions gap,

The 1 Gigaton Coalition will support countries to measure and report reductions of greenhouse gas (GHG) emissions resulting from their activities and initiatives in the energy sector. The 1 Gigaton Coalition is initiated and supported by the Government of Norway, and is coordinated by the United Nations Environment Programme (UNEP).

The 1 Gigaton Coalition is a voluntary international framework to increase efforts to measure and report reduced GHG emissions resulting from renewable energy and energy efficiency initiatives and programs, particularly in developing countries. According to UNEP, the gap between the GHG emission reductions required in 2020 and the present pledges made by countries, is about 8 - 10 GtCO2e/year on a global scale to stay on track to comply with the 2 degrees goal. About 3 – 4.5 GtCO2e of emissions can be avoided by realizing the full potential for renewable energy and energy efficiency globally. Initially, The 1 Gigaton Coalition aims to measure and report GHG emissions reductions resulting from renewable energy and energy efficiency initiatives and programs of 1 GtCO2e by 2020, to help mobilize action to reduce the emissions gap.

The 1 Gigaton Coalition will help countries measure and report on achieved reductions of GHG emissions resulting from supported renewable energy and energy efficiency initiatives and programs. It will help increase the visibility of on-going national programs and initiatives

from donors for deployment of renewable energy and energy efficiency in developing countries. More and better information on achieved GHG emissions savings, would also improve planning and financing opportunities.

Following its announcement at the UN Secretary General‘s Climate Summit on 23rd September in New York, the Norwegian Government and UNEP in collaboration with other partners formally launched ”The 1 Gigaton Coalition” on 10 December 2014 at COP20 in Lima. The coalition proceeded with its activities in 2015 launching its inaugural report 6 December (see www.1gigatoncoalition.org).

Following its announcement at the UN Secretary General‘s Climate Summit on 23rd September in New York, the Norwegian Government and UNEP in collaboration with other partners formally launched ”The 1 Gigaton Coalition” on 10 December 2014 at COP20 in Lima.

27. Poland[44]

Poland provided the following information in its NIR for 2016.

According to chapter I.H of the annex to the decision 15/CMP.1 below Poland provides new information on how it is implementing its commitment under Article 3.14 of the Kyoto Protocol related to striving to implement its commitment under Article 3.1 of the Kyoto Protocol in such a way as to minimize potential adverse social, environmental and economic impacts on developing countries.

In 2014 the climate related activities, supported by the Ministry of Foreign Affairs in frames of bilateral co-operation, were realised covering 1.3 million EUR. About 51% of those funds was assigned to infrastructure projects, the remaining part supported activities aimed at capacity building. These projects were realised among others in the following countries: Armenia, Azerbaijan, Georgia, Kirgizstan, Tajikistan, Moldova, Ethiopia, Nigeria, Kenya, Uganda, Somalia. The projects cover climate change adaptation actions as well as mitigation ones in the areas of: irrigation and sewage treatment systems, energy efficiency and renewable energy sources or waste selection and treatment. The capacity building projects cover among others: education on environmental protection and limitation of deforestation, sustainable development at the local scale, flood warning systems.

28. Portugal

No additional information was provided in Portugal’s NIR for 2016.

29. Romania[45]

No additional information was provided in Romania’s 2016 NIR compared to its 2014 NIR.

30. Russian Federation[46]

The Russian Federation provided the following information in its NIR for 2016.

[44] Poland was not included in the 2015 compilation, see explanation in footnote 4 above.
[45] Romania was not included in the 2015 compilation, see explanation in footnote 4 above.
[46] Russian Federation was not included in the 2015 compilation, see explanation in footnote 4 above.

10. Дополнительная информация согласно пункту 1 статьи 7 Киотского протокола

Таблица 10.10

Анализ ключевых категорий для деятельности согласно статье 3.3 и любых видов деятельности согласно статье 3.4

		Критерии, используемые для определения ключевой категории		
Ключевая категория выброса или поглощения	*Газ*	Связанные категории в кадастре парниковых газов являются ключевыми	Вклад категории больше чем наименьшая категория, рассматриваемая в качестве ключевой кадастре парниковых газов (включая сектор ЗИЗЛХ)	Иное
Управление лесным хозяйством	CO2	Лесные земли, остающиеся лесными землями (управляемые леса)	Да	Поглощение составляет 95,8% от суммы абсолютной оценки выбросов / поглощения

10.4 Сведение к минимуму неблагоприятных последствий в соответствии с

пунктом 14 статьи 3 Киотского протокола

При выполнении принятых национальных обязательств по ограничению антропогенных выбросов и повышению абсорбции парниковых газов Российская Федерация учитывает поло жения пункта 14 статьи 3 Киотского протокола о сведении к минимуму неблагоприятных со-циальных, экологических и экономических последствий для Сторон, являющихся развиваю- щимися странами. Основными направлениями деятельности по сведению к минимуму небла гоприятных социальных, экологических и экономических последствий для развивающихся стран являются:

– смягчение антропогенного воздействия на климатическую систему благодаря разработке и осуществлению целенаправленных национальных политики и мер; – экспорт в развивающиеся страны энергетических ресурсов меньшей углеродоемкости и компенсация выбросов парниковых газов, связанных с производством или добычей, подготовкой и транспортировкой экспортируемых энергоресурсов;– содействие развитию альтернативной энергетики в развивающихся странах посред ством передачи технологий, возведения и компоновки объектов энергетики с исполь зованием российского оборудования и материалов, обучения персонала навыкам работы на возведенных объектах, а также компенсация выбросов парниковых газов, связанных с производством и транспортировкой в пределах Российской Федерации экспортируемых материалов и оборудования;

– укрепление потенциала в развивающихся странах благодаря подготовке и переподготовке специалистов в области охраны окружающей среды, метеорологии и климатологии, а также в области техники и технологий. В целях смягчения антропогенного воздействия на климат в 2013 году Правительством РФ принят ряд постановлений по оптимизации деятельности энергетического сектора. С 1 января 2012 г. вступило в силу Постановление Правительства РФ от 08.01.2009 г. №7 «О мерах по стимулированию сокращения загрязнения атмосферного воздуха продуктами

сжи- гания попутного нефтяного газа на факельных установках». Постановление устанавливает повышенную плату за выброс вредных веществ, сверхлимитное сжигание попутного нефтя- ного газа и вводит дополнительный повышающий коэффициент к этой плате при отсутствии средств измерения и учета, подтверждающих фактический объем образования, использова- ния и сжигания на факельных установках попутного газа. В целях оптимизации использова- ния попутного нефтяного газа Правительство РФ приняло Постановление от 08.11.2012 г. №1148 «Об особенностях исчисления платы за выбросы загрязняющих веществ, образую- щихся при сжигании на факельных установках и (или) рассеивании попутного нефтяного газа». Этим постановлением устанавливается предельно допустимое значение показателя сжигания и (или) рассеивания попутного нефтяного газа в размере не более 5% объема, добытого попутного нефтяного газа. В соответствии с указанными постановлениями, с 1 января 2013 г. плата за выбросы загрязняющих веществ, образующихся при сжигании на факельных установках и (или) рассеивании попутного нефтяного газа свыше 5% производится в пятикратном размере. Благодаря принятым мерам, в 2014 г. уровень полезного использования попутного нефтяного газа достиг 86%, что на 6% превышает аналогичный показатель 1990 года.

Российская Федерация практически полностью обеспечивает себя энергоресурсами за счет внутренней добычи. Часть добытых энергоресурсов экспортируется.2847 При этом выбросы парниковых газов от операций по добыче, подготовке и транспортировке экспортируемых нефти и природного газа, а также утилизации нефтяного (попутного) газа учитываются в национальном кадастре и, соответственно, их сокращение является обязательством Российской Федерации.

Поставки российского природного газа способствуют внедрению в странах-импортерах современных технологий в энергетическом секторе и обеспечивают сокращение потребле-

ния углеродоемких видов топлива (каменный уголь и нефть), снижая, таким образом, выбросы в атмосферу парниковых газов, в первую очередь, CO2. Экспорт природного газа в развивающиеся страны Юго-Восточной Азии и Тихоокеанского региона будет производиться по двум направлениям: западному – из Западной Сибири и восточному – с месторождений Восточной Сибири, Дальнего Востока и Сахалина. В 2011 г. введен в эксплуатацию магистральный газопровод Сахалин – Хабаровск – Владивосток, который предполагается использовать в том числе и для экспортных поставок газа в Китайскую народную республику (КНР) и Республику Корея. В 2014 г. заключен контракт о поставке 38 млрд. м3 российского природного газа в КНР по восточному маршруту с 2019 г. в течение 30 лет с возможностью увеличения поставок до 60 млрд. м3. Вместе с тем, в 2014 г. подписано Рамочное соглашение о поставках 30 млрд. м3 природного газа в КНР по западному маршруту в течение 30 лет.48 В настоящее время также обсуждается экспорт в Республику Корея 10 млрд. м3 природного газа по западному маршруту.49 С целью расширения географии поставок природного газа в направлении Азиатско-Тихоокеанского региона в конце 2014 г. инициирован проект газопровода «Сила Сибири» мощностью 61 млрд. м3 газа в год.50

В 2013 г. был подписан долгосрочный контракт с Сербией на поставки до 5 млрд. м3, в рамках которого в 2014 г. было экспортировано 1,36 млрд. м3 газа. В 2014 г. также были осуществлены поставки природного газа в Молдову (2,8 млрд. м3), Армению (1,8

47 Основные данные по экспорту энергоресурсов за 2013г. приведены в приложении 4 к настоящему докладу.

48 http://www.gazpromexport.ru/strategy/markets/.

49 http://www.kommersant.ru/doc/2469727.

50 http://www.gazpromexport.ru/partners/china/.

млрд. м3), Грузию (0,3 млрд. м3),32 Боснию и Герцеговину (161 млн. м3) и Македонию (46 млн. м3).51 Увеличивается экспорт сжиженного природного газа (СПГ). К 2013 г. проект «Сахалин- 2» вышел на полную мощность, обеспечивая поставки СПГ объемом 1 млн. Тонн в Республику Корея.52 В 2013 г. компания «Новатек» приступила к реализации проекта по производству СПГ, в рамках которого достигнута договоренность о поставке 3 млн. т СПГ в КНР. С 2014 г. вступил в силу долгосрочный контракт с ПАО «Газпром» на поставку 2,5 млн. т СПГ в Индию.53 СПГ также экспортируется в Кувейт, Аргентину, ОАЭ, Египет и КНР. Наряду с природным газом, Российская Федерация осуществляет экспорт сырой нефти. Осуществляя поставки сырой нефти в развивающиеся страны, Российская Федерация содействует устойчивому развитию экономики этих государств. В соответствии с долгосрочным соглашением о сотрудничестве между Российской Федерацией и КНР, в рамках строительства нефтепроводной системы «Восточная Сибирь – Тихий океан» (ВСТО) построен отвод в КНР. Объем экспорта нефти по ВСТО по итогам 2014 г. увеличился до 308 млн. тонн, что на 9,5% превышает аналогичный показатель 2013 года. 54 В 2013 г. «Роснефть» заключила дополнительный контракт с КНР сроком на 25 лет о поставке 365 млн. т нефти. Кроме КНР, в 2014 г. российская нефть экспортировалась в Республику Корея (3,6 млн. т), Тайланд (1,4 млн. т), Филиппины (1,3 млн. т), Сингапур (1,1 млн. т), Индонезию (0,08 млн. т), Тайвань (0,2 млн. т) и Малайзию (1,6 млн. т).55

Российская Федерация также осуществляет поставки электроэнергии в страны Азиатско-

Тихоокеанского региона. При этом выбросы парниковых газов, связанные с производством и передачей электроэнергии, происходят в Российской Федерации. В 2014 г. поставки элек троэнергии в КНР составили 3,37 млрд. кВт·ч.56

Одним из направлений сотрудничества Российской Федерации с развивающимися стра-

нами в области снижения углеродоемкости энергетики и предотвращения измененияклимата является ядерная (атомная) энергетика. Проекты АЭС реализуются на основе новейших российских технологий в области атомной энергетики. Возведение и компоновка энергоблоков в рамках проектов производится с использованием российских материалов и оборудования, выбросы парниковых газов от производства и частичной транспортировки которых учтены в главах «Промышленные процессы» и «Энергетика» национального кадастра парниковых газов Российской Федерации. В КНР уже введена в эксплуатацию первая очередь Тяньваньской атомной электростанции (АЭС) – два энергоблока мощностью по 1000 МВт каждый. Тяньваньская АЭС является крупнейшим проектом экономического и технического сотрудничества Российской Федерации и КНР. В 2013 г. началось строительство 2-й очереди станции — третьего и четвертого энергоблоков мощностью по 1050 МВт. В 2011 – 2013 гг. введены в эксплуатацию энергоблоки АЭС в Иране и Индии, мощностью 1000 МВт и 917 МВт, соответственно. Намечены работы по строительству АЭС во Вьетнаме, Армении, Иордании и Египте.57 Следует отметить, что одновременно со строительством Российская Федерация осуществляет обучение

51 www.gazpromexport.ru.

52 http://www.km.ru/economics/2012/10/09/ekonomika-i-finansy/694369-gazprom-zaklyuchil-dogovor-opostavkakh-szhizhennogo.

53 www.gazpromquestions.ru/foreign-markets/.

54 http://www.nefttrans.ru/news/import-nefteproductov-v-kitay-v-2014-godu-snizilsya-na-24-2.html.

55 Ru.reuters.com/article/companyNews/idRUL8N2LV20151127.

56 www.ampravda.ru/2015/01/28/054730.html.

57 http://www.atomstroyexport.ru/.

местного персонала навыкам работы на построенных объектах и переданном оборудовании.

Модернизация производства представляет собой практический инструмент снижения выбросов парниковых газов в различных секторах экономики. Ключевую роль в модернизации производства, а также принятии управленческих решений, направленных на смягчение негативного воздействия на климат, играют высококвалифицированные специалисты. Российская Федерация осуществляет подготовку иностранных студентов по многим специальностям, включая, в первую очередь, технические и технологические специальности различных направлений, а также экономические, юридические и прочие. В настоящее время за счет средств федерального бюджета в российских высших учебных заведениях обучаются студенты из 150 стран, в том числе из развивающихся стран.58

Ежегодно Правительство Российской Федерации осуществляет оплату обучения иностранных граждан из развивающихся стран и стран СНГ специальностям гидрометеорологического профиля на безвозмездной основе. Подготовка специалистов и повышение их квалификации (обучение в аспирантуре) осуществляется в профильных высших учебных заведениях. В системе высшего профессионального образования разработаны учебные программы, по которым осуществляется преподавание основ метеорологии, климатологии, систем сбора и обработки климатической информации, методов оценки состояния и прогнозирования изменений окружающей среды и климата. Координацию образовательной деятельности осуществляет Учебнометодическое объединение в области гидрометеорологического образования (далее УМО), созданное Минобрнауки России на базе Российского государственного гидрометеорологического Университета.59 В настоящее время в Российской Федерации обучаются студенты из Армении, Бенина, Бутана, Вьетнама, Ирака, Йемена, Кении, Киргизии, Конго, Кот-Д'Ивуара, Молдовы, Монголии, Таджикистана, Танзании, Туркменистана, Узбекистана, Чада и других развивающихся стран.

31. Slovakia[60]

No additional information was provided in Slovakia's 2016 NIR compared to its 2014 NIR.

32. Slovenia[61]

Slovenia provided the following information in its NIR for 2016.

Under Article 3.1 of the Kyoto Protocol and UNFCCC Decision 31/CMP.1, Annex I Parties shall report on how they are striving to implement the commitments, together minimizing adverse social, environmental and economic impacts on developing country Parties. And according to the BR reporting guidelines (2/CP.17) Annex I party is encouraged to provide, to the extent possible, information on the assessment of the economic and socialconsequences of response measures.

Annex I countries, including Slovenia, implement measures in the framework of the Kyoto Protocol, aimed at substantially reducing greenhouse gas emissions and contributing to

58 http://ria.ru/education/20121128/912582328.html.

59 http://umo.rshu.ru/content/group.

60 Slovakia was not included in the 2015 compilation, see explanation in footnote 4 above.

61 Slovenia was not included in the 2015 compilation, see explanation in footnote 4 above.

climate change mitigation. The implementation of increasingly stringent environmental legislation and other measures aimed at fulfilling this obligation might be associated with arange of side effects. It is not excluded that potentially associated adverse economic effects could affect some developing and least developed countries having less capacity for adequate remedial response measures. The magnitude of these potential impacts is conditioned by the selection of the policy measures, their stringency, the size of the economy implementing the measures, as well as the characteristics of the possibly affected developing countries.

As a Member State of the European Union, Slovenia, designs and implements most of its policies in the framework of EU directives, regulations, decisions and recommendations. To ensure that all relevant possible impacts are taken into account, the EU has establishedprocesses that assess the economic and social consequences of climate policy measures. For the development of new policy initiatives through legislative proposals by the EuropeanCommission, an impact assessment system have been established in which all proposals are examined before any legislation is passed. It is based on an integrated approach whichanalyses both benefits and costs, and addresses all significant economic, social andenvironmental impacts of possible new initiatives.

When adopting national measure Slovenia is mindful of the principle that its policies and measures to reduce greenhouse gas emissions are designed in a way to have no, or minimum, adverse impacts on developing countries, particularly on the least developed ones. One of the examples in this regard is the possibility of carbon leakage which would entail in countries which have lower environmental standards. Slovenia is promoting the implementation of measures that ensure that carbon leakagewould not take place. As regards fiscal policy instruments, no significant impact on third countries is expected from the already implemented fiscal policies and therefore no specific policies to offset any negative effects have been considered. Negative effects are also potentially linked with the increased promotion of biofuels, as increased demand and subsequent production of biofuels may be linked to rising commodity prices and potentially induced land use change, however taking into account the low quantities of biofuels in use in Slovenia, we do not expect any negative effects neither on forests destruction nor contribution to the rising world prices of agricultural commodities.

33. Spain

No additional information was provided in Spain’s NIR for 2016.

34. Sweden

No additional information was provided in Sweden’s NIR for 2016.

35. Switzerland

No additional information was provided in Switzerland’s NIR for 2016.

36. Ukraine

Ukraine provided the following information in its NIR for 2016.

Ukraine, being a party not included in Annex 2 to the UNFCCC and being an economy in transition, has no relevant financial commitments under paragraphs 3-5, Article 4 of the

Convention. However, realizing the need to stabilize and improve the ecological condition of the Earth, ensure sustainable development and assist developing countries, Ukraine, to the extent possible, seeks to help the countries that are particularly vulnerable to effects of climate change by improving the qual-ity and quantity of energy efficiency measures.

Ukraine is a country where the economy is heavily dependent on exports, imports, and consumption of fossil fuels and associated energy-consumimg products. Taking into account the above-mentioned, Resolution of the Cabinet of Ministers of Ukraine of 24.07.2013 No. 1071 approved the Energy Strategy of Ukraine for the period up to 2030 (hereinafter - the Energy Strategy), according to which the key objectives of the energy sector development in Ukraine are identified:

- Creating conditions for reliable and high-quality meeting the proposal of energy products at the lowest total cost, in an economically justified way;
- Enhancing energy security of the country;
- Improving efficiency of energy consumption and use;
- Reducing the technogenic impact on the environment and ensuring civil protection in the field of technological safety of the fuel and energy complex (FEC).

Based on these goals, the key tasks and directions of implementation of the Energy Strategy of Ukraine are:

1. Forming an integral and active control and regulation in the fuel and energy sector, developing competition in energy markets;

2. Progressive liberalization and development of competition in energy markets and markets of related services;

3. Creating preconditions for substantial reduction of energy-consuming of the economy by introducing new technologies, advanced standards, modern systems of control, management, and accounting, transportation and consumption of energy products, and development of market mechanisms to stimulate energy conservation;

4. Increasing extraction and production of domestic energy resources, taking into account the economy of production, as well as increasing the amount of energy and energy resources produced from alternative and renewable sources of energy;

5. Diversification of external sources of supply of energy products;

6. Achieving a balanced economically reasonable pricing policy regarding energy products, which should ensure coverage of the costs of their production and delivery to the final consumer, as well as creation of appropriate conditions for reliable operation and stable development of the FEC enterprises;

7. Creating conditions to attract private investment into the FEC, as well as new technologies and modern experience of effective practices;

8. Regulatory support the implementation of Ukraine's fuel and energy sector development ob-jectives, taking into account the existing domestic legislative framework, commitments un-der international treaties, as well as requirements of the European energy legislation.

Ukraine makes its contribution to strengthening its capacities in the field of climate change prevention in developing countries by training qualified specialists in the fields of ecology, climatology, meteorology, and energy efficiency. The training is conducted at universities and graduate schools under the relevant international treaties. In addition to training specialists from developing countries, training of undergraduate and graduate students from CIS countries is being performed. The leading role in this process is played by the following universities of Ukraine:

- Odessa State Environmental University (specialized);
- Taras Shevchenko National University of Kyiv;
- V.N. Karazin Kharkiv National University;
- National Aviation University (Kyiv);
- Donetsk National Technical University;
- National Technical University of Ukraine "KPI";
- Sumy State University;
- National University of Life and Environmental Sciences of Ukraine (Kyiv);
- Yuriy Fedkovych Chernivtsi National University;
- National Forestry University of Ukraine (Lviv);
- Lviv Polytechnic National University;
- Taurida National V.I. Vernadsky University;
- National University of Water and Environmental Engineering (Rivne);
- Kherson State Agricultural University.

Odessa State Environmental University includes the Hydrometeorological Institute in its structure, as well as Ecological and Economy Faculty and Faculty of Environmental Protection.

This higher education institution provides training in the areas of hydro-meteorology, ecology, environmental monitoring, nature protection organization, water biological resources, manage-ment of natural resources, computer technology, etc. in accordance with modern requirements and at the level of the best European and world standards. Among its graduates, there are lots of prominent scientists, environmental researchers, managers of meteorological departments of Ukraine and CIS countries, of various developing countries. There is the option of completing the course of post-grad-uate (doctoral) studies in eight specialties of sciences.

The University includes (operating):

- doctoral specialized scientific council D 41.090.01 offering the possibility of obtaining the scientific degree of Candidate (Doctor) of sciences in the fields of: 11.00.07 "Land Hydrology, Water Resources, Hydrochemistry" and 11.00.09 "Meteorology, Climatology, Agricultural Meteor-ology";
- Specialized scientific council K 41.090.02 offering the possibility of obtaining the scien-tific degree of Candidate of sciences in the fields of: 11.00.08 "Oceanology" and 11.00.11 "Construc-tive Geography and Rational Use of Natural Resources".

According to official data from the website of the Ministry of Education and Science of Ukraine, namely the document "The network of specialized scientific councils as of 15.05.2015", the validity (mandate) of these specialized scientific councils lasts till 26.09.2015 in accordance with Decree of the Ministry of Education and Science, Youth, and Sports of Ukraine of 26.09.2012 No. 1049.

For more detailed information, please visit the website of the Ministry of Education and Science of Ukraine: http://www.mon.gov.ua/activity/education/atestacziya-kadriv-vishhoyi-kvalif-ikacziyi/napryamok-3.html.

Taras Shevchenko National University of Kyiv has the Department of Geography, which trains specialists in rational use of natural resources and environmental protection, aerospace envi-ronmental monitoring, geography, geoecology, geomorphology, meteorology.

National Technical University of Ukraine "Kyiv Polytechnic Institute" trains at its structural subdivisions as the "Institute for Energy Saving and Energy Management" and the Heat Power De-partment specialists for the electricity and fuel and energy complexes, construction of urban under-ground structures, and environmental protection. These specialists are able to develop, design, and operate energy facilities and systems, to create modern systems of eco-energy management operating under modern energy-saving technologies, to monitor the ecological status of industrial enterprises on the basis of the extensive application of information and computer technologies. The graduates work as experts on energy efficiency, provide consulting and engineering services, work as energy auditors and inspectors in the energy sector, managers and leading experts of structural divisions of enterprises and organizations in the electricity sector, fuel and energy complex, mining, construction and operation of urban underground structures, facilities conducting ecological monitoring.

Under these professions, approximately 700 foreign students from developing countries that are Parties to the UNFCCC are being trained.

Sumy State University is working closely with universities of China. Moreover, students from Russia study by the respective specializations.

It is necessary to note an important role of Ukraine, represented by the Ukrainian Hydrome-teorological Institute, National Academy of Sciences and State Emergency Service of Ukraine (UkrRHMI), in the global network of the climate change monitoring system.

The role of Ukrainian engineering companies in spreading in other countries of the technol-ogies of using alternative energy sources, in particular, use of biofuels, becomes noticeable. For ex-ample, LLC SRC Biomass implemented a project within the Clean Development Mechanism, "Con-struction of a CHP at OJSC "Tirotex", Tiraspol, Moldova", which is the most ambitious project in the Republic of Moldova on power generating from alternative energy sources. It is intended to stop separate production of heat and electricity from fossil fuels by building 8 co-generation units operat-ing on gas cycle internal combustion engines.

The project fully covers the need for heat energy of the textile enterprise SE "Tirotex", the electricity generated is sold to the united power grid of the Republic of Moldova, replacing more carbon-consuming electricity generated by heat power plants.

It should also be noted that Ukrainian enterprises, companies, and organizations are active in the field of hydropower project implementation, especially small hydropower development, con-struction of PLs in the Republic of Tajikistan. http://tajikistan.mfa.gov.ua/ua/ukraine-tj/trade. More-over, the possibility of participation of Ukrainian companies in implementation of Ukraine's plans for construction of electric power facilities in the Republic of Kazakhstan is being considered http://ka-zakhstan.mfa.gov.ua/ua/ukraine-kz/trade.

The Socialist Republic of Vietnam (SRV), together with the Ukrainian party, is implement-ing projects on modernization of HPP equipment, under design and construction of other energy sec-tor facilities. Scientific and technical cooperation between the two countries is based on the Agree-ment between the governments of Ukraine and Vietnam on scientific and technical cooperation, as well as the Agreement between the National Academy of Sciences of Ukraine and the National Center for Natural Sciences and Technology. http://vetnam.mfa.gov.ua/ua/ukraine-tj/trade. According to data of the State Statistics Service of Ukraine as of 01.01.2014, the total investment of Ukraine into the economy of Vietnam was 1.3 million USD, which corresponds to 0.1% of Ukraine's total invest-ment into foreign economies.

Ukraine is considering the Agreement of Cooperation between the Government of Ukraine and the Government of Algerian People's Democratic Republic in the field of agriculture. It covers exchange of experience and documentation, establishment of research structures in the agronomic sector and forestry, exchange of genetic and biological material for management of natural resources. The Government of Algeria is also interested in development of alternative energy sources, including solar energy, thermal and biological energy http://algeria.mfa.gov.ua/ua/ukraine-dz/trade. In general, African countries are seen as potential recipients of scientific and technical assistance from Ukraine in the field of CHP maintenance and electricity as a whole.

37. United Kingdom of Great Britain and Northern Ireland

The United Kingdom of Great Britain and Northern Ireland provided the following information in its NIR for 2016.

15.1 GENERAL OVERVIEW

The UK is committed to action aimed at minimising the impacts on developing countries from climate change, including any adverse impacts resulting from action taken to mitigate climate change as outlined in Article 3, paragraph 14 of the Kyoto Protocol.

The Paris Agreement reached at the 21st UNFCCC Conference fo Parties in Paris in December 2015 takes a significant step towards reducing, on a global scale, the emissions that cause climate change. The UK fully supports the Paris Agreement and played an integral role, alongside the EU and its Member States, in the negotiations. In addition to driving forward efforts to keep average global temperature rise to well below 2°C and to pursue efforts to 1.5°C, the Agreement also sets a long term goal of net zero emissions in the second half of the century.

Integral to the agreement is the recognition of the role of both developed and emerging economies in helping the poorest and most vulnerable to curb emissions whilst developing, and protecting themselves from the worst effects of climate change. The Agreement establishes a new long term goal to strengthen adaptation and resilience and reduce vulnerability to climate change. The UK, through deployment of the International Climate Fund (ICF), supports millions of the world’s poorest people to better withstand weather extremes and rising temperatures and build their capacity to take mitigation action.

The Paris Agreement sends a clear signal to businesses and investors that the shift to the low carbon economy is global and irreversible and gives confidence to drive the scale of investment needed. Low carbon opportunities can unlock markets in countries around the world and support poorer and more vulnerable countries to develop sustainably, but we must also be alert to any negative impacts of this transition and make efforts to prevent adverse effects and improve the exchange of evidence-based information to inform our understanding of the effects.

The UK continues to pursue climate initiatives that have been mentioned in previous inventory reports and national communications and this chapter is not an exhaustive list but instead outlines recent examples of what the UK is doing to support developing countries to adapt to climate change, build capacity to curb their emissions and develop sustainably as well as those efforts aimed at understanding the impacts of mitigation action on developing countries and how to minimise any adverse impacts.

This chapter has been updated for the 2015 NIR submission. Substantive changes include:

- An update on EU activities in 1.2.2;

- An update on the general overview section in 1.1;
- An update on the international 2050 calculator work in 1.2.1;
- An update on UK climate finance commitments beyond 2016 in 1.2.3;
- Added new programme examples; UK Climate Investments, Green Mini-Grids Africa, Carbon Initiative for Development and Green Climate Fund in 1.2.4;
- Updated programme examples; Climate Public Private Partnership (CP3), Climate Investment Funds and NAMA Facility in 1.2.4;
- Removed programme examples; Green Africa Power and Partnership for Market Readiness in 1.2.4. These are still active ICF programmes and have only been removed from this chapter in order to demonstrate different examples of ICF programmes;
- Updated section on research collaboration in 1.2.5;
- Updated programme examples; Climate Innovation Centres and Climate Development Knowledge Network in 1.2.5;
- Added new programme example – Africa Risk Capacity in 1.2.8; and
- Updated programme example – Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) in 1.2.8.

15.2 UNDERSTANDING IMPACTS OF RESPONSE MEASURES

Understanding the impacts of response measures is a key step to be able to minimize the adverse impacts. The UK continues to undertake assessments, reviews and analysis projects to better understand the impacts its policies could have on developing countries, and how they could be addressed. Consequently, the UK takes these findings and seeks to apply them in UK and within the EU community in order to minimize adverse impacts in accordance with article 3, paragraph 14. Recent examples of areas where ongoing research and action is taking place are outlined below.

15.2.1 UK research, reports and analysis

The UK has undertaken research to determine the extent of impacts of response measures and uses this information to implement policies in a way that takes into account the impacts of response measures on all developing countries. Examples of ongoing work include:

To support the UK 2050 Pathways Analysis DECC developed a 2050 Energy and Emissions Calculator model. The Calculator is a tool that helps strengthen the level of debate on energy issues in the UK. The Department of Energy and Climate Change (DECC) is now supporting countries around the world to develop their own calculators to explore their options to reduce greenhouse gas emissions and help tackle energy challenges.

- The DECC 2050 team has directly supported teams in India, Indonesia, Brazil, Mexico, Colombia, Nigeria, South Africa, Vietnam, Thailand and Bangladesh, through an International Climate Fund project. Nine of these ten countries have now published finished calculators online. The teams trained by DECC are now sharing their knowledge with other developing countries, for example the Colombian team have been supporting new teams in Ecuador and Peru. Many developed countries have also adopted the model, for example Japan, Australia and Austria;
- There is evidence that they are starting to have a policy impact. For example, three countries (India, Colombia and Nigeria) used their calculators to help develop their Intended Nationally-Determined Contributions (INDCs) for the UNFCCC conference in Paris, and India is using it to develop their new national energy policy. Many countries are also keen to use their calculators to communicate with stakeholders and the general public.

For example, South Africa has developed a simplified version for use in schools, which is being added to their national curriculum; and

- DECC, working in collaboration with a number of other organisations, has built a Global Calculator, which enables users to explore the options for reducing global emissions, and the impact of climate change associated with them. Please see the Global Calculator website for more information on the project (www.globalcalculator.org). Since its launch in January 2015, the website has had over 60,000 hits, and the tool itself over 24,000.

The UK Department of Transport has and continues to lead work into understanding Indirect Land Use Change (ILUC) impacts from biofuels. Examples include:

- A study in 2011 which considered the potential for regional (i.e. sub-national, national and supranational) approaches to avoid ILUC from biofuels production. This work highlighted potential actions that may reduce ILUC, and assessed the potential to measure and monitor any such regional level actions to avoid ILUC[62]; and

- In 2013 the Department of Transport published a report on the sustainability of feedstock[63].

The UK Department for the Environment, Food and Rural Affairs (Defra) has funded and continues to fund research looking at embedded emissions and sustainable production and consumption, in particular:

The development of an embedded carbon emissions indicator. The aim of this project is to monitor greenhouse gas emissions associated with UK consumption, including those relating to trade flows. This work will provide a high level analysis of the UK national "carbon footprint", and in particular will assess the emissions which are embedded in products which the UK imports and exports[64].

This year's output from the monitoring, which is published in the Official Statistics Release, can be found online[65].

15.2.2 Within the EU

The UK is an active participant within the EU and played a leading role in achieving agreement of the EU target to cut domestic EU greenhouse gas emissions (GHG) by at least 40% on 1990 levels by 2030. This forms the basis of the Intended Nationally Determined Contribution (INDC) of the EU and its Member States. The early release of the EU's ambitious INDC was crucial to securing INDCs from 187 countries, representing around 95% of global emissions for the Paris Agreement. The UK and the EU were also influential in securing mechanisms in the Paris Agreement to ensure global climate ambition into the future.

The EU2030 GHG target keeps the EU's domestic emissions on the least-cost path to meeting its 2050 goal of reducing EU emissions by between 80-95% on 1990 levels, which is consistent with a global transition to limiting average temperature increases to under 2°C. The target also represents the largest reduction on 1990 emissions of any major emitter and will leave the EU with the lowest per capita emissions of any large developed economy.

62 https://www.gov.uk/government/publications/biofuel-research.

63 https://www.gov.uk/government/publications/biofuel-research.

64 http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17729&FromSearch=Y&Publisher=1&SearchText=emissions&GridPage=7&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description.

65 http://www.defra.gov.uk/statistics/environment/green-economy/scptb01-ems/.

The EU 2030 climate and energy framework also contains a 27% renewables target, which is binding at the EU level, and an indicative EU level energy efficiency target of 27%. The UK successfully argued for the inclusion in the framework of a guarantee that these goals will not be translated into nationally-binding targets. This gives EU Member States the flexibility to use the full range of low and lower carbon technologies and find the most cost-effective path to decarbonising their economies. The 2030 framework builds upon the EU2020 package, agreed by EU leaders in 2007 and enacted in 2009, which agreed climate and energy targets for 2020.

Existing EU policies and measures for limiting emissions include the following:

- The EU Emissions Trading System (EU ETS) is the EU's main vehicle for reducing CO2 emissions from the power, industrial and aviation sectors. The UK is a leading proponent of reform of the EU ETS. The UK was influential in securing a strengthening of the European Commission's proposal for a Market Stability Reserve (MSR). We also continue to promote and promoting wider changes to the system post-2020, to ensure that the system can continue to deliver emissions reductions as cost effectively as possible;

- The EU Effort Sharing Decision (ESD) set targets for 2020 for emissions reductions or growth limits in those sectors of Member States' economies not covered by the EU ETS (excluding Land Use, Land Use Change and Forestry, LULUCF). For the UK, the target to reduce emissions in the non-ETS is 16% below 2005 levels by 2020. For the EU as whole, the 2020 reduction target is 10%; and

- The EU energy efficiency framework includes a number of directives spanning all sectors of the economy. The directives include the Energy Performance of Buildings Directive, Energy Efficiency Directive, Ecodesign and Energy Labelling directives, as well as vehicle emission performance standards. These legislative requirements drive progress towards the EU's non-binding target to reduce primary energy consumption by 20% by 2020 which was agreed as part of the EU2020 package. The UK is currently on track to over-achieve against the 2020 target and the supplementary targets established by the Energy Efficiency Directive.

15.2.3 Actions to minimize adverse impacts in accordance with Article 3, paragraph 14

The UK Government supports the historic agreement reached in the 21st UNFCCC Conference of Parties in Paris in December 2015. The Paris Agreement is a significant step forward on our path to limiting global temperature rises to below 2°C, and agrees to pursue efforts towards 1.5°C. The Agreement also recognises the role of both developed and emerging economies in helping the poorest and most vulnerable to curb emissions whilst developing, and protect themselves from the worst effects of climate change. The transition to a low carbon world requires support to developing countries in their domestic efforts to mitigate and adapt to climate change and to develop their own low carbon economies.

The UK has taken action to minimize adverse impacts in accordance with article 3, paragraph 14 through its International Climate Fund (ICF), which is providing £3.87bn of climate finance from 2011 to 2016. This funding is focused on helping the poorest people adapt to the effects of climate change, helping to encourage low carbon development, and protecting the world's forests and the livelihoods of the people who depend on them.

In September 2015, the Prime Minister announced that the UK will significantly increase our climate finance (to at least £5.8 billion) over the next five years, so that in 2020 the UK's annual climate finance will be double that in 2014. This commitment and the ICF demonstrates the UK's commitment, alongside other developed countries, to jointly mobilise $100bn of public and private finance a year by 2020.

1.2.4 The International Climate Fund

The ICF aims to demonstrate that building low carbon, climate resilient growth at scale is feasible and desirable. Additionally, it is intended to support climate negotiations, particularly through providing support for adaptation in poor countries, supporting developing countries in international climate talks and building an effective international architecture. The ICF also recognises that climate change offers real opportunities to drive innovation and new ideas for action, and create new partnerships especially with the private sector to support low carbon climate resilient growth. Detailed information on the ICF, including on the projects that it is supporting, can be found through our website.[66] Some examples of the types of projects that are supported by the fund follow.

In 2015, DECC launched UK Climate Investments, a joint venture with the UK Green Investment Bank. UK Climate Investments will invest up to £200m of UK climate finance over three years in renewable energy and energy efficiency projects in developing countries. It will target three regions; East Africa, South Africa and India. It will make transformational deals with the private sector, increasing the energy supply and security in those countries through clean technology. We estimate it will make carbon savings of 32Mt CO2e, create around 3000 jobs and lever £360m of private investment.

Through the Climate Public Private Partnership (CP3), the UK as an anchor investor helped to establish two commercially run private equity funds, IFC Catalyst Fund and Asia Climate Partners that invest in low-carbon development sub-funds and projects in developing countries. The IFC AMC Catalyst Fund reached a final fund size of US$417.75 million in June 2014- one of the biggest (if not the biggest) emerging markets climate private equity fund of funds. The UK is an $80m anchor investor. Asia Climate Partners achieved first close in November 2014 on $391.2 million and will invest in India, China and the rest of developing Asia. The fund will make largely direct investments in resource efficiency sectors (energy, water, transport, technology, agribusiness), but may also make some fund investments.

The UK is providing £75m into Green Mini-Grids Africa (GMGs), this programme aims to increase energy access in Africa through creating expanding deployment of clean energy mini-grids51. There are 3 main projects within this programme: GMGs Kenya; GMGs Tanzania; and a GMGs Africa Regional Facility. The impact is to transform the green mini-grids (GMGs) sector in Africa in line with International Energy Agency projections that 40% of universal electricity access by 2030 will be most economically delivered in this way. The outcome is creating a critical mass of experience and evidence of GMGs success in two countries, couple with improved policy and market conditions for investment in mini-grids regionally. It is expected that the 135 GMGs in operation will provide 44MW of installed capacity create 500 new jobs and deliver increased public and private capital flows into GMGs in Africa.

A £15m grant over 2012-2018 will support the growth of Silvopastoral Systems (SPS) in Colombia to reduce greenhouse gas emissions, improve the livelihood of farmers, protect local forests and increase biodiversity. Agriculture is one of the biggest sources of greenhouse gas emissions in Colombia and many other developing countries, and a key driver of deforestation. Addressing this fact, the UK and partners are working with cattle ranchers to improve degraded grazing land by using SPS. This means managing the land in a different way: planting trees, shrubs, fodder crops and living fences and conserving existing forest. Participating small farmers, the majority of whom are living in conditions of rural poverty,

[66] https://www.gov.uk/government/publications/international-climate-fund/international-climate-fund
51 Mini-Grids are village or district level electrical distribution networks serving the needs of communities too distant and dispersed to be economically connected to the grid in the near to medium term - but densely populated enough to offer economies of scale in power delivery compared with individual home systems. Green Mini-grids (GMGs) are mini-grids powered by either fully renewable or hybrid (mixed renewable and fossil fuel) generation.

are able to raise more, healthier cattle on their existing land using SPS, increasing their income and reducing the need to clear forest. This project aims to convert 28,000 hectares of grazing land to SPS, saving around 5.7MtCO2e over an 8 year period (with 2MtCO2e attributable to the UK), and create a strategy for increasing the use of SPS in Colombia and beyond.

The UK is aiming to improve access to carbon finance in least developed countries by investing £50 million in the World Bank's Carbon Initiative for Development (Ci-Dev). Through Ci-Dev the UK supports some of the poorest countries to participate in the international carbon market – using the Clean Development Mechanism, Ci-Dev helps finance clean energy projects for households and communities, particularly in Africa. Ci-Dev aims to bring clean energy to 2.9m people through solar home systems, clean cook-stoves, biogas and micro-hydropower. The project works with local project developers, teaching them how to aggregate many projects at household or community level, calculate and get payment for the carbon that can be saved. By aggregating many small projects in this way, communities even in the poorest countries can tap into carbon and offset markets to pay for the clean energy technology that will improve their health and livelihoods.

To date the UK has contributed an estimated £1.8 billion to the Climate Investment Funds, over £1bn of which has come from the ICF. These funds include 4 key programmes that help 72 developing countries pilot low-emission and climate resilient development. The Clean Technology Fund (CTF) is an example of one of these programmes, which is supporting large scale low carbon investment plans in 19 developing countries. The CTF will also deliver significant development benefits, such as increased energy security, reduced local air pollution, and job opportunities. This is demonstrated in South Africa[67], where the Kaxu concentrated solar power plant, the first such plant to be built in a developing country, went online in 2015. The plant is now providing power to 80,000 people in South Africa. Concentrated Solar Power (CSP) has huge and currently underexploited potential – it could deliver 11% of global electricity by 2050 – and this is just one of a number of CTF investments (underway and planned) in this technology. $1.2 billion from the CTF will contribute to development of over 1.2 GW of concentrated solar power across MENA (Middle East and North Africa), Chile, India and South Africa - around a third of the total global installed capacity of CSP.

The Green Climate Fund (GCF) is set to become the world's principal multilateral climate fund, with a mandate to make 'an ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change'. Total pledges to the GCF stand at $10.2bn, of which the UK pledged £720m ($1.2bn). The GCF has formally reached 'effectiveness' meaning it can now take funding decisions, as well as accrediting 20 implementing entities to date. The fund will finance mitigation and adaptation activities in developing countries, and engage with the private sector. The GCF is expected to achieve transformational on-the-ground results and develop a portfolio of low carbon programmes, which the UK expect to reduce emissions by generating and expanding access to low-emission energy. The GCF will aim to balance resources between mitigation and adaptation, with a 'significant allocation' to the private sector facility. The GCF will aim to allocate at least half of its resources for adaptation to particularly vulnerable countries, including Small Island Developing States (SIDS), Least Developed Countries (LDCs) and Africa. Adaptation programmes will focus on increasing the resilience of those most vulnerable to the impacts of climate change. It is estimated that the UK contribution will help at least 7 million people to cope with the impacts of climate change.

[67] https://www.climateinvestmentfunds.org/ cif/sites/climateinvestmentfunds.org /files/CTF_TFC.12_6_Update_of_CTF_Investment_Plan_for_South_Africa_.pdf.

The UK has committed up to £60 million of finance from the ICF to support developing countries to develop both the technical and institutional knowledge necessary to enable the deployment of CCS technologies. The UK has agreed to fund £35m and £25m respectively to Asian Development Bank and World Bank Trust Funds to support CCS capacity building projects. Financial support would be channelled toward a range of projects in China, South Africa, Indonesia and Mexico with the aim of ensuring sufficient political support is created to pave the way for full scale demonstration and ultimately the deployment of CCS.

The Nationally Appropriate Mitigation Actions (NAMA) Facility was launched by the UK and German governments in December 2012. The UK has committed £75 million to the NAMA Facility[68] with the German government matching the UK's contribution. The Facility will fund the most transformational parts of NAMA plans. NAMAs are concrete projects, policies, or programmes that shift a technology or sector in a country onto a low-carbon development trajectory. This project will focus on those parts of the projects that are stretching and aspirational, that are pushing to do much more than business as usual to mitigate the impacts of climate change. The NAMA Facility is currently supporting 12 projects across a range of sectors and geographies. For example in Costa Rica the facility is supporting a 'low carbon coffee' project that will contribute to the empowerment of farmers and millers to develop sustainable livelihoods, will maintain employment for up to 150,000 jobs during the harvest period and may create a positive impact on the standard of living of more than 400,000 people.

15.2.4 Knowledge transfer

Knowledge transfer can help accelerate the development and deployment of low-carbon and climate resilient technologies to help developing countries mitigate and adapt to climate change.

The UK supports the Technology Mechanism (TM), as agreed at COP16 in Cancun 2010, and is already involved with several knowledge transfer initiatives. In addition to the UK's long standing involvement in initiatives such as the Climate Technology Initiative, recent actions in this area include:

- The UK is providing £24m of support for Climate Innovation Centres (CICs) in developing countries. These centres support local SMEs to innovate and deploy locally-relevant climate technologies that help reduce/avoid greenhouse gas emissions; and improve the resilience of the population. Services provided by CICs include business advisory and training, market intelligence, access to facilities, seed financing and government advisory. ICF funding is supporting CICs in Kenya, Ethiopia and Vietnam as well as the design of up to 11 new CICs and the establishment of a global network to facilitate cross-learning and to make individual CICs more interconnected and efficient;

- Climate and Development Knowledge Network (CDKN) provides approximately £119m from the ICF to developing countries to share knowledge and build the capacity building of developing country decision-makers to design and deliver climate compatible development policies and programmes. The CDKN does this by providing access to high quality, demand-led technical assistance, and channelling the best available knowledge on climate change and development to support policy and implementation processes at the country and regional level. CDKN has four priority thematic areas which helps prioritise its work across its three focus regions (Africa, Asia and Latin America). These are:
    - Climate compatible development (CCD) strategies and plans;
    - Improving developing countries access to climate finance;

[68] The European Commission (€15m) and Denmark (€10m) are also donors to the NAMA Facility.

- Strengthening resilience through climate-related disaster risk management (DRM); and
- Supporting climate negotiators from the Least Developed Countries.

The UK has good monitoring and evaluation systems in place, as recognized in the Independent Commission for Aid Impact review of the ICF. We are seeking to strengthen these and to place learning and transfer of knowledge at the heart of the ICF through an ICF Monitoring, Evaluation and Learning (MEL) programme. The MEL will support the generation and use of evidence and knowledge from across the ICF. It will produce practical data-gathering tools where none exist; results and evidence of ICF achievements and effectiveness; learning and knowledge to support continual improvements in project selection and design, and to help inform the design of future funds and programmes, for example, the Green Climate Fund.

15.2.5 Research collaboration

Enhancing global collaboration on research, development and demonstration (RD&D) will be essential to ensure innovation and take-up of climate technologies in developing countries. The UK is cooperating in the technological development of non-energy uses of fossil fuels, and doing so in partnership and supporting developing countries. We are exploring opportunities to support RD&D 'gap-filling' activity on climate technologies (both for mitigation/low carbon development and adaptation activities).

The UK has signed up to Mission Innovation – a clean energy R&D programme that aims to stimulate significantly increased public and private global clean energy innovation. As part of our commitment to the goals of Mission Innovation; the UK has set out plans to double our central government spending on clean energy technology research, development and demonstration programmes.

Examples of this commitment to collaborative research are 2010-2011 projects on low carbon technology transfer to China and India that the Department of Energy and Climate Change supported. The main focus of the studies was to provide new empirical evidence to low carbon innovation in developing countries to inform international policy development. Both studies featured a range of low carbon technologies and examined the factors that influence innovation and technology transfer, including technological capacity, access to intellectual property rights and the role of policy frameworks.

The Department of Energy and Climate Change (DECC) in collaboration with Department for International Development (DFID) and the Engineering and Physical Sciences Research Council (EPSRC), on behalf of the Research Councils UK (RCUK) are jointly funding a programme of research in the field of energy and international development. Understanding Sustainable Energy Solutions in Developing Countries (USES) is the first major joint call between DFID, DECC and EPSRC. With a focus on research that will improve our understanding of the opportunities and challenges associated with scaling up sustainable access to modern energy services in developing countries, the Programme has been established to help build the evidence base that supports how the UK will spend its International Climate Fund (ICF).

The programme is supporting 12 projects between UK and developing country institutions. It is hoped that this will deliver high quality research that addresses key development challenges in one or more of the following five areas: bioenergy; solar; decentralised generation; urban and transport; and energy efficiency.

International engagement is a significant part of the Avoiding Dangerous Climate Change Research Programme (AVOID). For example the first phase of the programme investigated technology options for reducing CO2 emissions from the energy sector in India and China in order to meet a national 2050 emissions target consistent with limiting global temperature

rise to below 2°C, and shared these results with Indian and Chinese officials at international workshops. The second phase of AVOID was commissioned in early 2014 and will involve a 2-year work programme including extensive engagement with international researchers and officials on a range of issues including regional climate impacts, feasibility of energy sector decarbonisation and the potential role of land-use in both mitigating and contributing to climate change.

The UK is playing a key role on promoting knowledge sharing and capacity building in developing countries on Carbon Capture & Storage (CCS). The UK has committed up to £60 million of finance from the International Climate Fund (ICF) to raise the level of understanding of CCS within emerging economies – including China, South Africa, Indonesia and Mexico – leading to the establishment of necessary policy frameworks, technical know-how and incentive structures to support CCS demonstration and ultimately accelerate the deployment of CCS. The UK will support a range of capacity building projects, including: i) preparation and implementation of early-stage full scale integrated CCS pilot demonstration projects by financing CCS planning & pre-investment, capital costs for CCS units and components, and CCS related post-completion & operation activities; ii) development of geological site characterisation intended for integrated full scale CCS projects, both at the pilot and commercial demonstration scales to maximise knowledge on both near-term and future storage capacities; and iii) pilot and demonstration activities aimed at reducing the cost of the technology application across the CCS chain. It is expected that the UK's funding will lead to full scale demonstration projects in developing countries, and ultimately accelerate the deployment of CCS.

The UK continues to jointly lead with Australia the Carbon Capture Usage or Storage (CCUS) initiative under the Clean Energy Ministerial, involving governments of both developed and developing nations. The UK is active in a number of multilateral organisations such as the Carbon Sequestration Leadership Forum (CSLF) which aims to promote the deployment of CCS worldwide in both developed and developing countries. In addition, in April 2013 the UK co-hosted the third 4 Kingdoms Initiative workshop with the government of Norway, bringing together representatives of four oil-producing countries to drive efforts to reduce the economic losses of CCS through alternative uses for CO2.

The UK will provide £35m in 2015/16 to the CGIAR consortium of 15 agriculture research centres. Research conducted by the CGIAR has underpinned global agriculture development since the green revolution. Over 60% of modern plant varieties grown in developing countries have CGIAR ancestry and 30% of global yield growth between 1965 and 1998 can be attributed to plant genetic improvement by the CGIAR. A significant part of the UK support to the will develop the next generation of technology which has the potential to lead to further increases agriculture productivity, improve the resilience of small-holder agriculture and improve the nutrition and food security of poor people in developing countries.

15.2.6 Capacity Building projects on Renewable Energy & Energy Efficiency

The UK is cooperating in the development, diffusion and transfer of less greenhouse-gas emitting advanced fossil-fuel technologies, and/or technologies relating to fossil fuels that capture and store greenhouse gases, and encouraging their wider use; and through capacity building projects is facilitating the participation of the least developed countries.

The UK is supporting the development of low carbon technology and the increased use of renewable energy to ensure that developing countries can move to a low carbon future that supports economic growth. The UK is a signatory to the International Renewable Energy Agency (IRENA) which is an intergovernmental treaty organisation set up in 2009 to promote a rapid transition to the widespread and sustainable use of renewable energy technologies internationally. The UK has been playing an active part in IRENA, for example by chairing its Policy and Strategy Committee to help develop the agency's work programme

for 2012 (which includes activities on Policy Advisory Services and Capacity Building) and its mid-term strategy. Similarly, the UK (both DFID and DECC) contributions to the Climate Investment Funds also support capacity building in these areas.

The UK is working within the International Partnership for Energy Efficiency Co-operation (IPEEC) with key developed and developing countries to share experience and learn from each other's policy successes and failures, and identify opportunities for collaborative work to address issues of mutual interest or concern, where such international action can add value to domestic efforts/expertise. A work programme has been developed encompassing a range of activities covering appliance standards and labels, sustainable buildings, financing mechanisms, data collection and indicators, energy management, transport, and capacity building activities. Much of this work is also being taken forward within the G20's Energy Efficiency Action Plan which IPEEC is co-ordinating.

It is important to tackle both the supply and the demand side to achieve sustainable low carbon energy. In the 5th National Communication the UK illustrated its continued involvement with multi-lateral partnerships such as the Renewable Energy and Energy Efficiency Partnership, which has the objective of accelerating the deployment of renewable energy and energy efficiency technologies in developing countries as a means of reducing carbon emissions, increasing energy security, and improving access to sustainable energy. It does so primarily through funding small scale capacity building projects, and to date it has funded 150 projects.

15.2.7 Capacity building projects on adapting to climate change

The UK Government is working to ensure that UK climate support addresses both the causes and effects of climate change. The world's poorest people are hit hardest by the impacts of climate change with crops lost to floods and drought, homes damaged by floods and threatened by rising sea levels, and lives lost to extreme weather events. They are the most vulnerable and least able to adapt. The UK is providing practical help to the most vulnerable and assisting the development of local capacity.

Examples include:

- Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) is a £140m programme to support countries that are at most risk of climate extremes (e.g. droughts, storms, floods and landslides), will focuses on the Sahel – Senegal, Burkina Faso, Chad, Mali, Mauritania and Niger - and DFID focal countries identified as at most risk, including: Burma, Nepal Ethiopia, South Sudan, Sudan, Uganda, and Kenya. £30m of the programme is dedicated to developing capacity on response to climate related disasters and improve policies and institutions on DRR, and climate adaptation;

- African Risk Capacity (ARC) – The ARC is a sovereign insurance pool to which the UK has provided an initial tranche of £30m. The ARC offers parametric insurance (where payouts are made as soon as a pre-agreed trigger occurs signifying an insured extreme weather event)[69] to enable countries to respond quickly after extreme weather events and scale up social safety nets and other assistance so that people are not without food or having to sell assets. The insurance currently covers droughts, and is expected to expand to floods, tropical cyclones and other hazards. Mauritania, Niger, Senegal and Kenya have purchased insurance and are members, with more countries expected to join in coming years. ARC insurance policies currently cover 1.9 million men and women who are guaranteed an early response in the event of a drought. The UK has set aside a further £60m to scale up ARC to

[69] The value of ARC payouts is linked to the estimated/modelled response costs required for that level of event.

provide cover to more people and for more climate risks, alongside a £10m package of support designed to assist countries to participate in ARC; and

- £10m Climate Development for Africa (ClimDev) is designed to build capacity and expertise to tackle climate change. ClimDev is Africa's first regional climate information services programme, with ICF support focused on the establishment and operations of the Africa Climate Policy Centre based at the UN Economic Commission for Africa (UNECA) in Addis Ababa, In addition ICF country programmes all have capacity building components to help developing countries effectively plan and implement climate strategies. For example the £15 million Strategic Climate Institutions Programme (SCIP) builds organisational capacity within the Ethiopian Government, civil society and the private sector to strengthen Ethiopia's capacity to manage climate risks and opportunities. In Nepal the £25m Climate Change Support Programme (NCCSP) provide capacity building support to central ministries and has a particular focus on strengthening local government capacity, as key implementers of climate change adaptation responses.

15.2.8 Energy Market Reforms – responding to energy market imperfections

Launched under the last Government, Electricity Market Reform (EMR) introduced two key mechanisms – Contracts for Difference (CFD) and the Capacity Market, designed to incentivise the investment required in the UK's energy infrastructure and deliver low carbon energy and reliable supplies, while minimising costs to consumers

The Energy Act 2013 received Royal Assent in December 2013. The Energy Act includes the provisions for EMR:

- **Contracts for Difference (CfDs)** – long-term contracts to provide stable and predictable incentives for companies to invest in low-carbon electricity generation;

- **Capacity Market** – to provide security of electricity supply, by ensuring sufficient reliable capacity is available, including provisions to allow Electricity Demand Reduction to be delivered;

- **Conflicts of interest** and **contingency arrangements** – to ensure the institutions which deliver these schemes are fit for purpose;

- **Investment Contracts** – a form of early CfD entered into by the Secretary of State, designed to enable early investment in advance of the CfD regime coming into force;

- **Transitional arrangements for renewables** – to ensure that existing investments under the Renewables Obligation (RO) remain stable; and

- **An Emissions Performance Standard (EPS)** – to limit the carbon emissions from the most polluting fossil fuel power stations, i.e. unabated coal.

EMR has now delivered, with the first two capacity auctions held in December 2014 and 2015 and the first Contracts for Difference (CFD) auction round completing in March 2015, with 25 contracts signed by developers amounting to 2GW of new renewable energy across England, Scotland and Wales1. A total of £315m of contracts were offered to five technologies including two new offshore wind farms, 15 onshore wind farms and five new solar projects.