Case study

Fourth Biennial Report of Westeros

December 2019

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1. Introduction

Westeros' fourth biennial report (BR4) under the UNFCCC has been prepared in accordance with the UNFCCC biennial reporting guidelines for developed country Parties contained in Decision 2/CP.17 as adopted by the Conference of the Parties at its seventeenth session.

This biennial report provides information on progress made in relation to Westeros' contribution to the joint EU quantified economy-wide emission reduction target, including information on the 2020 target, Westeros' historical GHG emissions, mitigation actions and their effects and projected GHG emissions. Furthermore, the report includes information on Westeros' provision of financial, technological and capacity-building support to Parties not included in Annex I to the Convention.

The BR4 submission also includes relevant common tabular format (CTF) tables contained in decisions 19/CP.18 and 9/CP.21.

2. Information on GHG emissions and trends

Note to participants: Summary information on GHG emissions and trends provided in this chapter of the BR4 is assumed to be consistent with the information in Westeros' greenhouse gas inventory submission in 2019 and with the information in BR CTF table 1. Participants in this training exercise should not review them for consistency. The case study does not include detailed BR CTF tables 1 on GHG emissions and trends but only provides summary of emission trends.

2.1 Summary information on greenhouse gas emissions and trends

In 2017, Westeros' total GHG emissions amounted to 121,800 kt CO_2 eq (excluding LULUCF) and 110,635 kt CO_2 eq (including LULUCF), which increased by 21.8 per cent and 30.2 per cent from their 1990 levels respectively. The values for the Global Warming Potential (GWP) used to convert GHG emissions into the CO_2 eq are from the IPCC Fourth Assessment Report (AR4).

Table 1. presents greenhouse gas emissions and removals for the period 1990-2017.

Table 1. Emission trends: summary (kt CO2 eq)

Year	1990	2000	2010	2015	2016	2017
Sector						
Energy (excluding transport)	60,000	72,000	69,000	72,000	72,540	73,080
Transport	20,000	24,000	23,000	24,000	24,180	24,360
Industry/industrial processes	10,000	12,000	11,500	12,000	12,090	12,180
Agriculture	5,000	6,000	5,750	6,000	6,045	6,090
Forestry/LULUCF	–15,000	–15,000	–12,000	–11,000	–11,083	–11,165
Waste management/waste	5,000	6,000	5,750	6,000	6,045	6,090
Gas						
CO_2 including net CO_2 from LULUCF	57,600	72,600	72,330	77,240	77,820	78,399
CO_2 excluding net CO_2 from LULUCF	75,000	90,000	86,250	90,000	90,675	91,350
CH_4 including CH_4 from LULUCF	17,250	20,250	19,050	19,650	19,798	19,945
CH_4 excluding CH_4 from LULUCF	15,000	18,000	17,250	18,000	18,135	18,270
N_2O including N_2O from LULUCF	5,150	6,150	5,870	6,110	6,156	6,202
N_2O excluding N_2O from LULUCF	5,000	6,000	5,750	6,000	6,045	6,090
HFCs	2,000	2,400	2,300	2,400	2,418	2,436
PFCs	1,000	1,200	1,150	1,200	1,209	1,218
SF_6	1,000	1,200	1,150	1,200	1,209	1,218
NF_3	1,000	1,200	1,150	1,200	1,209	1,218
Total including LULUCF	**85,000**	**105,000**	**103,000**	**109,000**	**109,818**	**110,635**
Total excluding LULUCF	**100,000**	**120,000**	**115,000**	**120,000**	**120,900**	**121,800**

2.1.1 Emission trends by gases

The major GHG in Westeros is CO_2, which accounted for 75.0 per cent of total GHG emissions (excluding LULUCF) in 2017. Emissions of methane (CH_4), nitrous oxide (N_2O) and fluorinated gases accounted for 15.0 per cent, 5.0 per cent and 5.0 per cent respectively. CO_2 CH_4, N_2O and fluorinated gas emissions have all increased by 21.8 per cent during 1990-2017.

2.1.2 Emissions trends by main source and sink categories

Table 1 also presents the impacts of the main sectors on the national trend of GHG emissions. Since 1990, emissions from all sectors have seen a significant increase of 21.8 per cent. The emissions from the energy sector have increased owing to a steady increase of electricity production from coal-fired power plants and an increased demand for heating stemming from colder than usual winters. Emissions from transport have been increasing continuously since 1990 owing to a growing number of cars and intensification of traffic, although the traffic increase has slowed down significantly in recent years. Emissions from other sectors have also followed an upward trajectory owing to increases in population and GDP per capita.

2.2 National inventory arrangements

The GHG inventory of Westeros is the sum of regional inventory data from the seven kingdoms because implementation of climate change and environment policies fall primarily under the responsibility of those seven kingdoms: The North, The Iron Islands, The Riverlands, The Vale of Arryn, The Westerlands, The Reach, The Stormlands, The Crownlands and Dorne.

The Westeros Climate and Environmental Agency (WCEA) operates as the national compiler of the GHG inventory and is responsible for collecting the regional estimates of GHG emissions/removals and for compiling the seven sets of regional data into one national inventory. The Westeros Climate Commission is the entity responsible for the approval of the Westeros national inventory report.

The main institutions involved in the compilation of the Westeros GHG inventory are:

- The Westeros Climate and Environmental Agency (WCEA), which plays a central role in the technical coordination of the national GHG inventory;
- The Westeros Climate Commission, which is in charge of the approval of the inventory reports;
- Seven kingdoms' environmental agencies which are responsible for delivering their greenhouse gas inventories.

3. Quantified Economy-wide Emission Reduction Target (QEERT)

3.1 Description of target

Westeros, as an EU member State, is committed to contributing to the achievement of the joint EU economy-wide emission reduction target under the Convention of 20 per cent below the 1990 (base year) level by 2020, as formalized in the EU 2020 climate and energy package adopted in 2009.

The EU 2020 climate and energy package includes the EU Emission Trading System (EU ETS) and Effort Sharing Decision (ESD). The legislative package regulates emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 using GWP values from the AR4.

The EU ETS covers mainly point emission sources in the energy, industry and aviation sectors. For the period 2013–2020, an EU-wide cap has been put in place, with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. Emissions from sectors covered by the ESD are regulated by targets specific to each member State and Westeros has a target to reduce its emissions by 10 per cent below the 2005 level by 2020.

Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention.

Westeros plans to use units from the Kyoto Protocol mechanisms as well as new market-based mechanisms to complement implemented mitigation actions in order to achieve the target. The exact number of units from MBMs needed will be known by mid-2021.

For further information please check CTF tables 2(a)-(f).

Table 2. Information on Quantified Economy-wide Emission Reduction Target

Base year/base period	1990
Emission reduction target (% of base year)	20.00
Period for reaching target	BY–2020

Gases covered	**Base year**	**GWP**
CO_2	1990	4th AR
CH_4	1990	4th AR
N_2O	1990	4th AR
HFCs	1990	4th AR
PFCs	1990	4th AR
SF_6	1990	4th AR
NF_3	NA	4th AR
Other	NA	4th AR

Sectors covered	**Included in the target**
Energy	Yes
Transport	Yes
IPPU	Yes
Agriculture	Yes
LULUCF	Yes
Waste	Yes
Other	NA

Role of LULUCF	**Included in the target**
LULUCF in base year level and target	Excluded

4. Mitigation actions and their effects

4.1 Institutional arrangements

A Committee for inter-sectoral coordination of policies and measures for mitigation and adaptation to climate change was established in 2016. This Committee oversees monitoring and evaluation of the implementation and planning of policies and mitigation and adaptation measures in Westeros. Representatives of competent state administration bodies and other relevant institutions were assigned to this Committee, along with agencies and non-governmental organizations. The composition of the Committee, the tasks and the manner of the work of the Committee are established in the National Climate Change Law.

The Commission consists of a Coordination Group and a Technical Working Group, and the Coordination Group evaluates and proposes to the Government the adoption of strategic documents, provides suggestions of the goals, policies and measures, and ways of monitoring the effects of policies and measures; and provide suggestions and support in promoting effective interdisciplinary and synergistic activities, policies and measures

4.2 Cross-cutting mitigation actions

4.2.1 MA1 - EU Emissions Trading System (ETS)

In 2017, the EU ETS covered 250 individual installations in Westeros, accounting for 60,000 kt CO_2 eq or approximately 50 per cent of the national emissions. The mitigation impact in 2020 for installations could be estimated, but the uncertainty of the estimate is very high because the EU ETS is a market-based instrument and projected emissions levels are dependent on the future performance of each of 250 installations and the price of EUA. More importantly, the EU ETS is an EU-wide policy instrument without specific national targets and therefore its contribution should be accounted toward achievement of the EU target.

Therefore, in the case of EU ETS, for the estimation of the mitigation impact it was decided to use the notation key “NA” (not applicable) in the BR CTF table 3.

4.2.2 MA2 – Effort Sharing Decision (ESD)

The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (without aviation that is part of the EU ETS), residential and commercial buildings, agriculture and waste. Under the ESD, Westeros has a target of reducing emissions by 10 per cent below the 2005 level by 2020 for non-ETS sectors. Achievement of this target will be ensured by implementation of sectoral mitigation actions listed below.

In the case of ESD, for the estimation of the mitigation impact it was decided to use the notation key “IE” (included elsewhere) in the BR CTF table 3 to avoid double-counting with individual sectoral policies and measures described below.

4.3 Sectoral mitigation actions

4.3.1 Energy

Energy efficiency

Under the EU energy efficiency directive (2012/27/EU) Westeros set a target of a 10 Mtoe reduction in primary energy consumption by 2020. This will be achieved by the following measures:

- MA3 - Energy efficiency - Energy efficiency standards for new buildings.
- MA4 - Energy efficiency - Program for energy renovation of existing buildings
- MA5 - Energy efficiency - Increasing energy efficiency in industry

Renewable energy

With regard to renewable energy, Westeros committed under the EU renewable energy directive (2009/28/EC) to a target of a 15 per cent share of RES in its gross final energy consumption by 2020. This will be achieved by the following measure:

- MA6 - Renewable energy - Feed-in tariffs for the support of the use of renewable energy sources in electricity generation

4.3.2 Transport

In the transport sector, Westeros is relying on implementation of EU-wide emission performance standards for new passenger cars (MA7) with objective to achieve 130 g CO_2/km by 2015 and 95 g CO_2/km by 2020.

4.3.3 Industrial processes

In industrial processes sector, Westeros is implementing a green maintenance scheme of equipment that contains F-gases (MA8). The main objective is to ban releasing F-gases into the air while collecting, leakage testing, maintenance or servicing of appliances and equipment.

Mitigation impact of this measure is extremely difficult to estimate due to a lack of reliable activity data on the number of appliances and equipment in the country. Westeros has started to develop a national inventory of equipment that contain F-gases but coverage is approximately 50 per cent at the moment.

4.3.4 Agriculture

In the agriculture sector, Westeros is heavily investing in research and development of improvement of N-fertilizer application methods (MA9) by new slow-release fertilizers suitable for growing corn and wheat (fertilizers coated with polymers especially). Research suggests the possibility of reduced need of fertilizer application per hectare with unchanged or increased revenues, including reduced emissions of nitrogen due to soil losses.

At the moment, it is unclear when this measure could be implemented owing to the fact that it is at an early stage of research, and therefore the notation key “NE” was used.

4.3.5 Waste

In the waste sector, the Party is focused on reducing the amount of disposed organic and biodegradable waste by separate collecting system and incineration of organic component of fossil-origin (plastic) with energy recovery. In the period 2013-2020 mitigation impact of these two measures is estimated at 7,000.00 kt CO2 eq.

4.3.6 Other measures

Education

Party is increasing climate change awareness (MA12) among primary and secondary students by introducing mandatory curriculum as part of a science subject in 2015 to raise awareness on climate change impacts, mitigation and adaptation. Due to its nature, it is not possible to estimate the mitigation impact of this measure.

5. Projections

5.1 Introduction

The GHG projections presented here correspond to the scenarios developed by Westeros in the framework of the national long-term 'near-to-zero' emissions development strategy until 2030 with a view to 2050.

The national long-term 'near-to-zero' emissions development strategy was prepared by a core team of national experts from relevant ministries and agencies, supported by experts from various scientific institutions which provided sectoral background data and analyses for energy, industrial processes, agriculture and waste sectors. Projections from LULUCF sector were prepared by the National Forestry Institute using methods that are consistent with the GHG inventory estimates.

According to national legislation, the strategy went through a public hearing process and was finally adopted by the Parliament in December 2017.

5.2 Scope and coverage of projections

Projections are prepared for 3 scenarios:

- 'with measures',
- 'without measures' and
- 'with additional measures'

The starting point for development of the 'with measures' and 'with additional measures' projections is GHG inventory data for 2015. For the 'without measures' scenario, the starting point is 2005.

Projections are presented on a sectoral basis covering both ETS installations and ESD sources and for the following GHGs: CO_2, CH_4, N_2O, PFCs, HFCs, SF_6 and NF_3.

Although indirect GHG data are available for historical years in GHG inventory database, there are still a significant number of uncertainties related to future application of abatement technologies, particularly those related to NOx and NMVOC, that prevent the preparation of projections of indirect GHGs.

Projections for the transport sector include emissions related to fuel sold to ships and aircraft engaged in international transport because the share of these emissions in the transport sector of Westeros is relatively small, and some kingdoms do not provide separate data for energy balance due to confidentiality reasons.

The focus of the scenarios is on the implementation of existing policies and measures (PaMs) by 2020 to achieve the EU economy-wide emission reduction target of 20 per cent below 1990 (base year). Therefore, projections cover emissions from both ETS and non-ETS sectors.

5.3 Models, methodologies and key assumptions for projections

5.3.1 Models and methodologies

For the preparation of GHG projections for 'with measures' and 'with additional' measures scenarios, the expert team used a combination of a general equilibrium economic model for

analyzing economic effects at the national level and bottom-up sectoral models developed for the energy and waste sectors.

For the 'without measures' scenario, total GHG projections were estimated by linear extrapolation from the emissions level in 2015 using the average GDP growth in the period 2012-2020 as the main driver.

The methodologies used for the preparation of the GHG projections for the energy and waste sectors are different from those used in the previous NC/BR reports.

Detailed information on models and methodologies used for projections presented in this section can be found in chapter 5 of the 7th National Communication of Westeros that is available on www.wcea/reports/7NC.pdf.we

5.3.2 Key assumptions on factors and activities

GHG projections for 2020 and 2030 are based on several key assumptions, both economy-wide as well as sector-specific.

Table 3 presents the key assumptions, factors and activities used in preparation of projections for two characteristic periods, 2016-2020 and 2021-2030

Table 3. Key assumptions, factors and activities used in preparation of projections

Sector/parameter	2016-2020	2021-2030
Economy-wide		
Average annual GDP growth	3.0%	2.5%
Average annual population growth	1.5%	1.0%
Fossil fuels prices	Fossil fuels prices will stay at the same level	Fossil fuels prices will increase due to carbon pricing
Energy		
Share of renewable energy in final energy consumption	Target is to achieve 20% in 2020 using feed-in tariffs	Target is 30% in 2030; feed-in tariff system will be revised
Energy efficiency improvements	Target is to improve energy efficiency by 20% in 2020	Not available
Fuel mix in public transport sector	Public transport systems (buses) in major cities will shift from diesel oil to compressed natural gas (CNG) and biodiesel. No electric vehicles are envisaged in public transport sector in this period.	Number of personal electric vehicles will generally increase
Industry		
Structure	It is envisaged to gradually shift structure from manufacturing to service-based industries	Not available
Waste		

Waste management practices	Increasing the share of incinerated waste with energy recovery from 0.5% in 2016 to at least 5% of total generated waste in 2020	Not available
Waste quantities	Reducing the quantities of landfilled biodegradable municipal waste by 50% in 2020	Reducing the quantities of disposed biodegradable municipal waste by 75% in 2030

5.3.3 Sensitivity analysis

Sensitivity analysis was not performed for this BR submission.

5.4 'With measures' scenario

'With measures' scenario includes the effects of PaMs that are implemented and adopted by December 2017. The PaMs included in this scenario are:

- Emissions trading system,
- Promotion of renewable energy sources in electricity production by feed-in tariffs for eligible electricity producers,
- Increase of energy efficiency in existing buildings,
- Emission performance standard for CO_2 for new passenger vehicles,
- Replacement of 10 per cent of buses in public transport with electric buses by 2020,
- Separate collection of biodegradable waste with a goal to reduce the quantities of landfilled biodegradable municipal waste by 20 per cent in 2020, and
- Increase technical capacities of waste-to-energy facilities to treat at least 5 per cent of total generated waste in 2020.

Table 4. shows GHG projections in 'with measures' scenario ('WEM').

Table 4. GHG emission 'with measures' scenario by sector and by gas

'WEM' (kt CO_2 eq)	1990	2015	2020	2030
Sector				
Energy (excluding transport)	60,000	72,000	57,600	44,800
Transport[1]	20,000	24,000	14,400	11,200
Industry/industrial processes	10,000	12,000	9,000	7,000
Agriculture	5,000	6,000	4,500	3,500
Forestry/LULUCF	–15,000	–11,000	–8,000	–7,000
Waste management/waste	5,000	6,000	4,500	3,500
Gas				
CO_2 including net CO_2 from LULUCF	57,600	77,240	58,220	44,380
CO_2 excluding net CO_2 from LULUCF	75,000	90,000	67,500	52,500
CH_4 including CH_4 from LULUCF	17,250	19,650	14,700	11,550
CH_4 excluding CH_4 from LULUCF	15,000	18,000	13,500	10,500
N_2O including N_2O from LULUCF	5,150	6,110	4,580	3,570

N_2O excluding N_2O from LULUCF	5,000	6,000	4,500	3,500
HFCs	2,000	2,400	1,800	1,400
PFCs	1,000	1,200	900	700
SF_6	1,000	1,200	900	700
NF_3	1,000	1,200	900	700
Total including LULUCF	**85,000**	**109,000**	**82,000**	**63,000**
Total excluding LULUCF	**100,000**	**120,000**	**90,000**	**70,000**

[1] Projections for transport sector includes emissions related to fuel sold to ships and aircrafts engaged in international transport owing to the fact that share of these emissions in transport sector is relatively small.

5.5 'Without measures' scenario

'Without measures' scenario generally implies a development of sectoral GHG emissions in line with overall population growth, economic development, market trends and consumer's habits without government interventions, but assuming the application of new, technologically advanced products and services that will be driven by market demand and rising energy prices, such as electric vehicles in public transport sector, energy audits in industry and improving energy efficiency by roof and wall insulation in buildings.

Table 5. shows historic emissions to 2015 and GHG projections in 'without measures' scenario ('WOM') in 2020 and 2030.

Table 5. GHG emission 'without measures' scenario by sector and by gas

'WOM' (kt CO_2 eq)	1990	2015	2020	2030
Sector				
Energy (excluding transport)	60,000	72,000	83,200	89,600
Transport	20,000	24,000	20,800	22,400
Industry/industrial processes	10,000	12,000	13,000	14,000
Agriculture	5,000	6,000	6,500	7,000
Forestry/LULUCF	–15,000	–11,000	–15,000	–16,000
Waste management/waste	5,000	6,000	6,500	7,000
Gas				
CO_2 including net CO_2 from LULUCF	57,600	77,240	80,100	86,440
CO_2 excluding net CO_2 from LULUCF	75,000	90,000	97,500	105,000
CH_4 including CH_4 from LULUCF	17,250	19,650	21,750	23,400
CH_4 excluding CH_4 from LULUCF	15,000	18,000	19,500	21,000
N_2O including N_2O from LULUCF	5,150	6,110	6,650	7,160
N_2O excluding N_2O from LULUCF	5,000	6,000	6,500	7,000
HFCs	2,000	2,400	2,600	2,800
PFCs	1,000	1,200	1,300	1,400
SF_6	1,000	1,200	1,300	1,400
NF_3	1,000	1,200	1,300	1,400
Total including LULUCF	**85,000**	**109,000**	**115,000**	**124,000**
Total excluding LULUCF	**100,000**	**120,000**	**130,000**	**140,000**

5.6 With additional measures' scenario

'With additional measures' scenario includes effects of PaMs that are implemented and adopted as well as those which are under discussion and planned to be implemented at the end of 2019 or beginning of 2020. The key additional planned PaMs included in this scenario are:

- installation of a pilot carbon capture and storage (CCS) facility in an existing coal-fired power plant,
- increased share of battery electric vehicles (BEV) in road transport, and
- non-selective catalytic reduction of N_2O in nitric acid production.

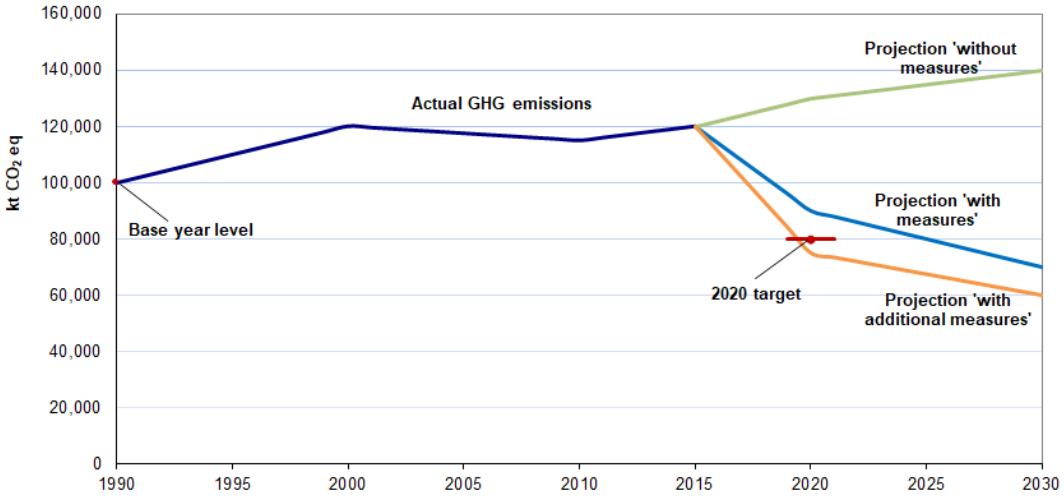
Table 6 shows GHG projections in 'with additional measures' scenario ('WAM').

Table 6. GHG emission 'with additional measures' scenario by sector and by gas

'WAM' (kt CO_2 eq)	1990	2015	2020	2030
Sector				
Energy (excluding transport)	60,000	72,000	48,000	38,400
Transport	20,000	24,000	12,000	9,600
Industry/industrial processes	10,000	12,000	7,500	6,000
Agriculture	5,000	6,000	3,750	3,000
Forestry/LULUCF	–15,000	–11,000	–8,000	–7,000
Waste management/waste	5,000	6,000	3,750	3,000
Gases				
CO_2 including net CO_2 from LULUCF	57,600	77,240	46,970	36,880
CO_2 excluding net CO_2 from LULUCF	75,000	90,000	56,250	45,000
CH_4 including CH_4 from LULUCF	17,250	19,650	12,450	10,050
CH_4 excluding CH_4 from LULUCF	15,000	18,000	11,250	9,000
N_2O including N_2O from LULUCF	5,150	6,110	3,830	3,070
N_2O excluding N_2O from LULUCF	5,000	6,000	3,750	3,000
HFCs	2,000	2,400	1,500	1,200
PFCs	1,000	1,200	750	400
SF_6	1,000	1,200	750	400
NF_3	1,000	1,200	750	400
Total including LULUCF	**85,000**	**109,000**	**67,000**	**53,000**
Total excluding LULUCF	**100,000**	**120,000**	**75,000**	**60,000**

GHG projections for 'WEM', 'WAM' and 'WOM' scenarios are presented in the figure 1. below.

Figure 1. GHG emission projections by Westeros



6. Provision of financial, technological and capacity-building support to developing country Parties

In light of national and international best practices on transparency, accountability and reporting, as well as recommendations from Development Assistance Committee (DAC) to Westeros and various commitments made by Westeros in this context, the Institute for Cooperation, as the coordinating entity for development cooperation, currently provides the Integrated Information System on Westeros' Cooperation. This involves providing on-line information about Official Development Assistance (ODA), both in aggregate terms (global data) and per project, both in EUR and in USD, relating to a fixed period of time.

6.1 Provision of "new and additional" resources

Westeros made a commitment to mobilize 0.15 per cent to 0.20 per cent of its GNI as ODA allocated to Least Developed Countries (LDCs) by 2030. It also endorsed the commitment derived from the 2014 ministerial-level meeting of the Development Assistance Committee (OECD/DAC) to focus the support from member countries on countries most in need (which includes Fragile States, Least Developed Countries and Small Island Developing States).

In the absence of an international definition accepted by all Parties of 'new and additional' financing, Westeros has decided to consider the framework set out below.

The Westeros Carbon Fund (WCF) was established in 2006 with the aim of "supporting the shift towards a low-carbon competitive economy through funding or co-funding of measures which contribute to meeting the commitments of the Westeros under the Kyoto Protocol and other international and Community commitments in the field of climate change".

In 2010, it was decided that the WCF (currently the Environmental Fund), as an additional source of funding complementary to the conventional ODA, would also support development cooperation projects in the field of climate change. This decision was a response to the need to implement commitments undertaken by Westeros at international level, in the context of so-called 'fast start' initiative as well as the fact that the budget traditionally allocated to development cooperation was not able to accommodate yet another financing burden. Thus,

since 2011, WCF has funded development cooperation projects whose main focus is climate change (both mitigation and adaptation, including institutional capacity-building and technology transfer). Development financing through the WCF is considered ODA. However these resources are independent and are derived entirely from stand-alone income of the Fund.

However, it is worth emphasizing the importance of the two above-mentioned financial instruments in taking climate change in particular to a higher level of priority in the context of the Strategic Concept of Westeros Cooperation for 2014-2020.

6.2 Assistance to developing country Parties that are particularly vulnerable to Climate Change

The Westeros ODA features a regular and strong geographical concentration in the PALOP countries (Portuguese-speaking African countries) and in Timor-Leste, in line with the principle of geographical concentration set out in the Strategic Concept of Portuguese Cooperation for 2014-2020, which can be found at http://www.instituto-camoes.pt/images/cooperacao/rcm_17_2014.pdf . This trend, which was very strong in 2010 and 2011, with the PALOP and Timor-Leste together having received respectively 80 per cent and 90 per cent of bilateral ODA, fell in 2012 to 78 per cent and increased again in 2013 and 2014 (87 per cent). As of 2017 the share of the PALOP countries and Timor-Leste in the bilateral ODA has been following a decreasing trend.

In 2018, the main beneficiaries of bilateral ODA were, in descending order, Mozambique, Cape Verde, São Tome and Príncipe, Timor-Leste, Guinea-Bissau and Angola.

Until 2018 the geographical priorities of the Westeros cooperation in the field of climate change were focused on the PALOP countries and Timor-Leste, all of whom belong to the group of the most vulnerable countries (Least Developed Countries, Small Island Developing States and/or in Africa). This priority is also in line with the strong focus of the Westeros ODA on the Least Developed Countries and Fragile States.

Westeros, as a member country of the OECD/DAC, reports ODA finance flows in compliance with the rules of the Creditor Reporting System (CRS).

Applying the Rio markers, which include climate change mitigation and adaptation, means the use of a scoring system of three values, according to which the ODA amount reported within the DAC/CRS is screened and marked as:

I. Targeting the Convention as a 'principal' objective (score "2"): when the objective (climate change mitigation or adaptation) is explicitly stated as fundamental in the design of, or the motivation for, the activity, and promoting the objectives of the Convention is thus stated in the activity documentation as one of the principal reasons for undertaking it. In other words, the activity would not have been undertaken that particular way, had it not been for that specific objective.
II. As a 'significant' objective (score "1"): when the objective (climate change mitigation or adaptation) is explicitly stated but it is not the fundamental driver or motivation for designing or undertaking the activity. The activity has other prime objectives, but it has been formulated or adjusted to help meet the relevant climate concerns, particularly in the field of climate change mitigation and adaptation.

III. Not targeting the objectives of the Convention (score “0”): it means that the activity was examined but found not to target the objective (climate change mitigation or adaptation) in any significant way.

It is therefore on the basis of the procedures described above that the amounts provided in the tables below are calculated and reported, i.e. the finance flows of ODA which contribute to the objectives of the UNFCCC, in particular for the period reported in the context of this national communication (from 2012 to 2016).

Climate-related ODA is not significant when compared to the total amount of ODA owing to the strategic priorities established, which focus primarily on areas such as education, health, security and justice, with a view to sustainable development and fight against poverty. However, following the OECD/DAC recommendations, Westeros has sought to develop, wherever possible, the integration of environmental and climate change issues in the activities targeted at other sectors.

In its effort to strengthen its work on fighting climate change and reinforcing resilience, Westeros is involved, together with other EU Member states, in the implementation of projects in the form of delegated cooperation (on behalf of the EU). In this respect, Westeros has been implementing in Timor-Leste since 2013, together with GIZ and the Ministry of Agriculture and Fisheries (MAF), the EU Support Programme for Climate Change, which aims at contributing to the sustainable well-being of rural communities in Timor-Leste and strengthening the capacity of people living in selected sub-districts and vulnerable to climate change to address the effects of climate change through the sustainable management of natural resources and the improvement of their life choices by using local development mechanisms. The beneficiaries are MAF–Timor-Leste and small primary producers (including agricultural livestock husbandry). For more detailed information on this programme, please refer to the EU National Communication or http://www.gccatl.eu/. The information on the amount of this financial support is available in the EU National Communication, with the total amount being EUR 4 million.

6.3 Provision of financial resources

Regarding climate change in particular, the amounts of financing considered, especially those that have been assigned score 2, are still heavily influenced by the ‘fast start’ initiative, so it can be inferred that the decrease of finance flows of approximately 82.5 per cent in 2018, compared to 2015 and 2016, results from the progressive completion of the cooperation projects funded in this context. These projects were carried out primarily in the PALOP countries and Timor-Leste. This significant decrease is also influenced by the fact that there has been less use of concessional credit lines, in particular, the one granted to Cape Verde for imports of goods and services within the scope of projects in the areas of renewable energy, environment and water.

7. Support to transfer of technology

7.1 Support to the Technology mechanism

The Climate Technology Centre and Network (CTCN) is the operational arm of the technology mechanism under the UN Framework Convention on Climate Change, which also serves the Paris Agreement. Since the establishment of the CTCN, Westeros has been its major donor. The CTCN promotes the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries. Over 100 requests from developing countries have been/are in the process of receiving technical assistance to provide

technology solutions, capacity building and advice on policy, legal and regulatory frameworks tailored to the needs of individual countries.

7.2 Private Finance Advisory Network (PFAN, UNIDO)

Private Finance Advisory Network (PFAN) is a multilateral cooperative activity that identifies and nurtures promising, innovative clean and renewable energy projects by bridging the gap between investors, clean energy entrepreneurs and project developers. PFAN is one of few actors in the climate finance field addressing the barriers for small and medium enterprises (SMEs) in developing countries and emerging economies, by leveraging private sector investment with a small amount of public funding. PFAN was developed by the Climate and Technology Initiative established at the first Conference of the Parties to the UNFCCC in 1995 under an implementing agreement with the International Energy Agency. The UN Industrial Development Organization and The Renewable Energy and Energy Efficiency Partnership have taken over the hosting of the PFAN initiative.

7.3 The Clean Energy Ministerial

Westeros is a member of the Clean Energy Ministerial (CEM). CEM is a high-level global forum for promotion of policies and programmes that advance clean energy technology, for sharing the lessons learned and best practices, and for encouraging the transition to a global clean energy economy. Initiatives are based on areas of common interest among participating governments and other stakeholders. The CEM focuses on three global climate and energy policy goals: Improving energy efficiency worldwide; Enhancing clean energy supply and; Expanding clean energy access. The main object is to improve policies and enhance deployment of clean energy technologies. Focused dialogue can accelerate the global clean energy transition. CEM initiatives focus on empowering energy decision-makers around the world with up-to-date information and tools they need to improve the policy environment for clean energy. This low-cost, high-impact technical work also facilitates international coordination that amplifies each government's clean energy deployment efforts.

7.4 Mission Innovation

Westeros has participated in Mission Innovation since the start of the initiative in November 2015. Today, 22 countries and the European Union participate in the initiative. Mission Innovation aims to reinvigorate and accelerate public and private global clean energy innovation with the objective to make clean energy widely affordable. Each participating country will seek to double its governmental and/or state-directed clean energy R&D investment over five years. New investments will be focused on transformational clean energy technology innovations that can be scalable to varying economic and energy market conditions that exist in the participating countries and in the broader world. By 2020, Westeros will seek to double the already considerable public resources devoted to developing and demonstrating clean energy technologies and solutions. This means increased efforts on renewable energy technologies, energy efficiency and carbon capture and storage. Important stakeholders will be the Research Council of Westeros (RCW) and our two state energy enterprises, Enova and Gassnova, as well as energy research institutions and the private sector. Westeros has always given a high priority to the development, use and deployment of environmentally sound technologies. Mission Innovation will put the world on a faster route to the point where we can secure energy access for all, while at the same time curbing global emissions of greenhouse gases.

8. Capacity Building

Table 9 of Westeros' BR4 CTF tables provides ten up-to-date examples of capacity-building support from 2016. While the UNFCCC asks Parties to report on capacity-building support, there is an absence of an agreed methodology. The majority of Westeros' overseas support programmes are administered by Westeros Aid and include some level of capacity building. Over the 2013 – 2016 period in particular, Westeros' Climate Smart Agriculture for smallholder farmer projects in Ethiopia provided capacity building support at government level, while enhancing food security and improving nutrition and household resilience.

The examples included in Table 9 reflect a specific focus on training individuals and groups in engaging with climate change activities and on building institutional capacity.