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COMMISSION STAFF WORKING DOCUMENT
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**

**United in delivering the Energy Union and Climate Action - Setting the foundations for
a successful clean energy transition**

{COM(2019) 285 final} - {SWD(2019) 213 final}

THE GOVERNANCE REGULATION, LEGAL BASIS FOR THE ASSESSMENT OF NATIONAL ENERGY AND CLIMATE PLANS

The Regulation on the Governance of the Energy Union and Climate Action (Governance Regulation)¹ entered into force on 24 December 2018. It sets up a common framework for energy and climate policies in the European Union and its Member States. This governance framework also requires Member States to establish integrated National Energy and Climate Plans² (hereafter the NECPs).

NECPs have to follow a binding template (defined in Annex I of the Governance Regulation). The template spells out in detail the planning provisions to be included in the NECPs. Part 1 of the template is divided into five parts: i) Framework and process for establishing the plan; ii) National objectives, targets and contributions; iii) Policies and measures; iv) A description of the current situation and reference projections; and v) Impact assessments of the policies and measures. Part 2 of the template details the list of parameters, variables, energy balances and indicators to be reported in the analytical basis section of the NECPs.

Member States have to show in their NECP how they will contribute to the achievement of the Energy Union objectives, notably the EU 2030 energy and climate objectives. Those include EU targets of at least 32% for renewable energy and at least 32.5% for energy efficiency as established by the Governance Regulation, Energy Efficiency Directive³ and Renewable Energy Directive⁴ that entered into force in late 2018.

A key element of the governance framework is the iterative process between Commission and Member States, which aims at promoting policy coherence and ensuring that the final NECPs are fit for purpose. The Commission's assessment of the draft NECPs is intended to provide useful and timely feedback to Member States to help finalise NECPs.

This Staff Working Document focuses on the methodology for assessment of national contributions to the EU targets in the areas of renewable energy and energy efficiency as well as for assessing the resulting EU wide greenhouse gas emission reduction, whereas the Commission's overall assessment of the NECPs has a broader scope. The assessment of the interactions and consistency of contributions/targets between different dimensions was challenging in light of limited evidence in the draft NECPs. Consistent use of the same input parameters and application of coherent methodologies for setting national targets and contributions are needed in the final plans in order to ensure that the interlinkages between all Energy Union dimensions are properly taken into account leading to a truly integrated plan.

¹ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

² Also referred to as NECPs in other Commission documents.

³ Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency.

⁴ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

The country-specific assessment of each Member State's draft NECP is contained in a Staff Working Document⁵, provide further information justifying the Commission Recommendations that may address, in particular⁶:

- (i) the level of ambition of objectives, targets and contributions with a view to collectively achieving the Energy Union objectives as well as the level of electricity interconnectivity that the Member State aims for in 2030;
- (ii) policies and measures relating to Member State- and Union-level objectives and other policies and measures of potential cross-border relevance;
- (iii) any additional policies and measures that might be required in the integrated national energy and climate plans;
- (iv) interactions between and consistency of existing and planned policies and measures included in the integrated national energy and climate plan within one dimension and among different dimensions of the Energy Union.

The Commission's assessment of draft NECPs is based on the provisions of the Governance Regulation without prejudice to other legal obligations.

Some of the initiatives set out by Member States in draft and final NECPs may entail State aid. Where relevant, Member States should make sure that policies and measures in their NECPs respect State aid rules. Relevant policies and measures may fall in the scope of the General Block Exemption Regulation or should be notified to the Commission as measures for State aid approval. The assessment of draft NECPs cannot be interpreted as approval (or indication thereof) under State aid rules.

Moreover, Member States need to ensure that policies and measures respect international obligations, for example in the context of WTO Agreements, and are consistent with sound public finances.

⁵ SWD(2019) 231 to 258.

⁶ According to Article 9 of Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

METHODOLOGY FOR THE ASSESSMENT OF THE NATIONAL RENEWABLE CONTRIBUTIONS AS INCLUDED IN THE DRAFT NECPS

1. Summary on the assessment of the national contributions

In accordance to Article 31 of the Governance Regulation, where an ambition gap between the Union's 2030 target and the collective contributions of Member States occurs in the area of renewable energy, the Commission shall issue Recommendations to Member States whose contributions it deems insufficient in order to increase their ambition to ensure a sufficient level of collective ambition.

Such process should be informed by the use of the formula set out in Annex II of the Regulation which represents the objective criteria set out in the Governance Regulation, whilst having due regard to other relevant circumstances affecting renewable energy deployment as indicated by the Member States in their draft NECPs.

In assessing the ambition against the formula, the following criteria were used:

$x \leq -4\%$ = significantly below
$-4\% < x \leq -2\%$ = below
$-2\% < x < 0\%$ = slightly below
0% = in line
$0\% < x < 2\%$ = slightly above
$2\% \leq x < 5\%$ = above
$5\% \leq x$ = significantly above

(With x referring to the Member State's renewables shares contribution in the draft NECP.)

The detailed assessment for each Member State is found in staff working documents accompanying the Communication.

In its assessment, the Commission has concluded that 11 Member States submitted contributions in line or above the share resulting from applying the agreed methodology (the formula of Annex II of the Governance Regulation) with Denmark, Estonia, Spain, Lithuania and Portugal putting forward contributions, which are significantly higher than the shares resulting from the formula. 14 Member States submitted contributions below the share resulting from the formula. Several Member States are now called upon to duly reconsider their level of ambition as to ensure that the identified EU "ambition" gap is timely closed with the submission of the final NECPs.

The level of all reference points will have to be adjusted in the final plans to reflect the revised national contribution in line with the requirements of the Governance Regulation (2022: 18% of the total increase in the share of renewables between the Member State's binding 2020 target and its 2030 contribution; 2025: 43%; 2027: 65%).

2. Methodology used to identify national contributions and to calculate the EU-level ambition gap in the area of renewable energy

To assess the existence of an ambition gap at EU-level in the area of renewable energy, the Commission calculated the average of the shares of renewable energy in gross final consumption of energy in each Member State in 2030, weighted by the respective gross final consumption of energy of Member State in 2030, which is the EU-level renewable energy share.

The Communication presents the ambition gap in the form of a “corridor”, which represents conservative surrogate renewable energy shares based on the “EU Reference Scenario 2016” or “With Existing Measures” projections and optimistic surrogate renewable energy shares based on the formula of Annex II of the Governance Regulation.

As regards Member States’ share of renewable energy in Gross Final Consumption of Energy in 2030⁷(GFCoE), the Commission used the following data:

- For Member States providing a contribution in the form of a single share, this share was used.
- For Member States providing their contribution as a range (Austria, Luxembourg), the lower bound of the range was used.
- For Member States providing contributions dependant on the statistical methodology retained for accounting for renewable cooling (Malta, Greece), the lower share was used.
- For Member States providing scenarios without confirming a contribution (Ireland, Sweden) or not providing any contribution at all (United Kingdom), the Commission assumed a contribution. This assumed contribution was:
 - o For the *low bound* of the ambition gap assessment: the lower of (i) the renewable share provided by the Member in its With Existing Measures scenario and (ii) the renewable share shown in the EU Reference Scenario 2016⁸.
 - o For the *high bound* of the ambition gap assessment: the renewable share resulting from applying the formula contained in Annex II of the Governance Regulation.

As regards Member States’ GFCoE in 2030, the Commission used the following surrogate data

- For Member States providing the GFCoE in absolute value following the methodology of Regulation (EC) 1099/2008 and also the recast of the Renewable Directive 2018/2001 (Eurostat “SHARES”⁹ methodology), this value was used.

⁷ https://ec.europa.eu/eurostat/web/products-datasets/-/sdg_07_40;

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_ren&lang=en

⁸ https://ec.europa.eu/energy/sites/ener/files/documents/20160713%20draft_publication_REF2016_v13.pdf

⁹ <https://ec.europa.eu/eurostat/web/energy/data/shares>

- For Member States not providing or confirming the GFCoE in absolute value, the gross final consumption of energy of the EU Reference Scenario 2016 was used for the low bound while the EUCO32-32.5 scenario¹⁰ was used for the high bound.

¹⁰ EUCO32-32.5 scenario results published in the *Technical note on Member States results of the EUCO32-32.5 scenario* available here: <https://ec.europa.eu/energy/en/data-analysis/energy-modelling/euco-scenarios>

3. Overview of the national renewables contributions

2020 Framework			2030 Framework				
2020			2030 Framework				
						PRIMES Scenarios	
MS	2017	2020 target	MS	RES Formula contribution	Draft NECP	Ref 16	EUCO 3232.5
BE	9.06%	13%	BE	25%	18.3%	16%	22%
BG	18.73%	16%	BG	27%	25%	28%	33%
CZ	14.76%	13%	CZ	23%	20.8%	15%	21%
DK	35.77%	30%	DK	46%	55%	39%	48%
DE	15.45%	18%	DE	30%	30.0%	21%	30%
EE	29.21%	25%	EE	37%	42%	28%	37%
IE	10.65%	16%	IE	31%	Between 15.8% and 27.7%	18%	33%
EL	16.32%	18%	EL	31%	Between 31% and 32%	30%	39%
ES	17.51%	20%	ES	32%	42%	27%	36%
FR	16.3%	23%	FR	33%	32%	26%	29%
HR	27.29%	20%	HR	32%	36.4%	25%	34%
IT	18.27%	17%	IT	29%	30%	24%	32%
CY	9.85%	13%	CY	23%	19%	18%	24%
LV	39.01%	40%	LV	50%	45%	42%	48%
LT	25.84%	23%	LT	34%	45%	25%	32%
LU	7.5%	11%	LU	22%	23%-25%	8%	12%
HU	13.33%	13%	HU	23%	20%	14%	20%
MT	7.17%	10%	MT	21%	Between 10.6% and 13.3%	13%	20%
NL	6.6%	14%	NL	26%	27-35%	16%	22%
AT	32.56%	34%	AT	46%	45-50%	37%	45%
PL	10.9%	15%	PL	25%	21%	18%	27%
PT	28.12%	31%	PT	42%	47%	38%	43%
RO	24.47%	24%	RO	34%	27.9%	30%	36%
SI	21.55%	25%	SI	37%	27%	28%	35%
SK	11.49%	14%	SK	24%	18%	15%	19%
FI	41.01%	38%	FI	51%	50%	49%	52%
SE	54.5%	49%	SE	64%	65%	61%	68%
UK	10.21%	15%	UK	27%	-	17%	28%

4. The role of ambitious contributions in the EU-level “ambition” gap

If all the 17 Member States that put forward contributions below the share resulting from the formula and did not confirm or put forward a contribution were to increase their ambition in line with the formula shares, this would lead to an increase of the EU-level ambition to the level of 33%, i.e. 1 percentage point above the EU-level binding target of 32%. **Such a slim margin reinforces the need for all such Member States to increase their ambition in line with the shares resulting from the formula in order to avoid that an ambition gap emerges from the final national energy and climate plans.**

METHODOLOGY FOR THE ASSESSMENT OF THE NATIONAL ENERGY EFFICIENCY CONTRIBUTIONS AS INCLUDED IN THE DRAFT NECPs

1. Overall conclusions on the assessment of the national contributions

The national contributions provided in the draft NECPs were assessed from the perspective of the effort needed to achieve collectively the EU targets. For this purpose, the level of the proposed contributions was compared to the 2017 statistical data for Primary Energy Consumption (PEC) and Final Energy Consumption (FEC) and to the 2020 national targets. Specific national conditions, described in the plan as affecting future energy consumption trends, were also taken into account. However, information was limited in that respect in the majority of plans.

It is essential that national contributions are set and expressed in line with the existing legislation in order to enable a proper assessment and future monitoring of progress. The final NECPs should also clearly explain how national contributions were set taking into account the cost-effective energy savings potential and any other national circumstances affecting energy consumption levels.

The result of the assessment indicates that only few Member States have proposed at this stage a level of contributions that would seem sufficient: Spain, Italy and Luxembourg for both PEC and FEC, the Netherlands for PEC, France for FEC.

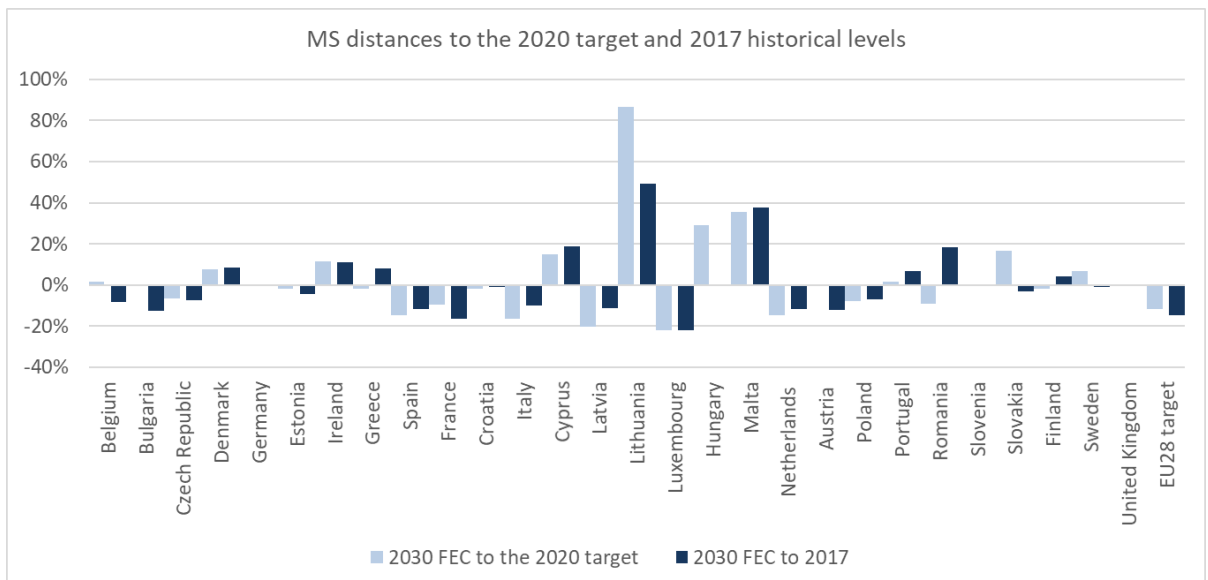
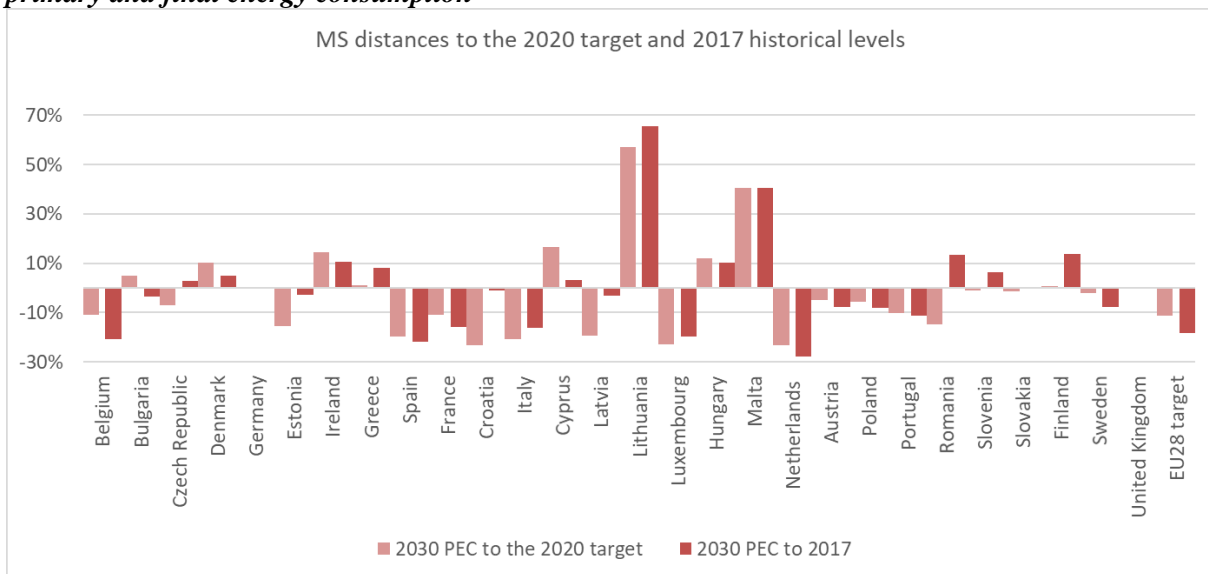
The level of efforts is rather modest for Austria, Poland for both PEC and FEC, Belgium, France, Portugal, Sweden for PEC, Czechia, Latvia, the Netherlands for FEC.

Member States with a rather low level of ambition include Bulgaria, Estonia, Croatia, Slovakia for both PEC and FEC, Czechia, Latvia for PEC, Finland, Belgium and Sweden for FEC.

Remaining Member States indicated a very low level of ambition, as the measures proposed would not prevent an increase in energy consumption. To this group belong Denmark, Ireland, Greece, Cyprus, Lithuania, Hungary, Malta and Romania for both PEC and FEC, Slovenia for PEC, Portugal for FEC.

The assessment is not provided for the UK and Germany, which did not express in their draft plan a national contribution to the EU energy efficiency goal, which result in their plan being mostly limited to the description of current policies.

Figure 2 and 3: Differences of the 2030 contributions from the 2020 targets and 2017 data, for primary and final energy consumption



Source: Information from the draft plans and provided by MS, EU Commission calculations.

2. Status of the national contributions and use of surrogates for the countries without national contribution

Not all Member States provided their contributions for energy efficiency in the plans. Notably, Germany and the UK have not indicated any national contributions for energy efficiency. Germany stated that the contribution would be formulated in the Final Plan, based on the national energy efficiency strategy, which is currently under preparation. Following the provisions of the Governance Regulation (Article 31), to assess whether the sum of the national contributions is sufficient to the achievement of the EU goal for 2030 (EU gap assessment), surrogate data were used for the countries for which a contribution was missing. To take into account the uncertainties about the contributions from those countries, a range

defined by two surrogate data was selected and used in the assessment, instead of a single value. The higher value of the range for final and primary energy consumption represents a figure compatible with business-as-usual conditions, while the more ambitious and lower values in absolute terms reflect a contribution compatible with the collective EU goal. Surrogate data were selected among different sources, from projections resulting from modelling exercises (Primes Reference scenario and EU32325) and from values derived from statistical data.

For those countries which have indicated their national contributions in section 2.2. of the plans (National objectives and targets. Dimension energy efficiency), in some cases corrections had to be made to the values submitted. The main reasons were recalculations of contributions expressed in energy intensity or inconsistencies in the application of the statistical definition of primary or of final energy consumption (e.g. PEC covered non-energy use, ambient heat was included or international aviation was in- or excluded, the latter still requiring further clarifications). Table 1 indicates the national contributions considered for this assessment.

Table 1: Overview of the main corrections made and use of surrogate data

Member State	National contributions (Mtoe)		Corrections made or use of surrogate data
	PEC	FEC	
Belgium	39.0	33.1	
Bulgaria	17.7	8.7	Values corrected following exchanges at technical level
Czechia	41.3	23.7	
Denmark	18.6	15.8	
Germany	201-251.7	156.5-197.4	Surrogates from EU modelling
Estonia	5.5	2.7	Assumed FEC figure from WAM
Ireland	15.9	13.0	Assumed figures from the scenario based on REF2016 assumptions
Greece	25.0	18.1	
Spain	98.2	74.4	
France	201.8	124.9	Values corrected following exchanges at technical level
Croatia	8.2	6.9	Values corrected following exchanges at technical level
Italy	125.0	103.8	Values corrected following exchanges at technical level
Cyprus	2.6	2.2	
Latvia	4.3	3.6	
Lithuania	10.2	8.0	Values corrected following exchanges at technical level
Luxembourg	3.5	3.3	Assumed less ambitious figures from the range, PEC calculated using the methodology for FEC
Hungary	27.0	18.6	Values corrected following exchanges at technical level
Malta	1.2	0.9	

Netherlands	46.6	44.5	
Austria	30.0	25.0	Assumed less ambitious figures from the range
Poland	90.9	66.2	Values corrected following exchanges at technical level
Portugal	20.2	17.7	
Romania	36.7	27.5	
Slovenia	7.1	3.9-4.9	Surrogates from EU modelling
Slovakia	16.2	10.8	
Finland	36.1	26.2	
Sweden	42.5	32.3	Values corrected following exchanges at technical level
United Kingdom	145-168.1	109.5-126.7	Surrogates from EU modelling

Source: Information from the draft plans and provided by MS, EU Commission calculations.

3. Methodology for the assessment of the EU ambition gap¹¹

The EU ambition gap was determined by summing up the national contributions (Table 2) and comparing the value obtained with the absolute levels of the EU energy efficiency target for final and primary energy consumption, as illustrated in Table 2. Given that the national contributions for three countries make use of a range of surrogate data, the gap is also expressed as a range, which goes from a minimum to a maximum level. The span of the range is substantial, and this depends also from the fact that the countries covered with surrogate data represent around 30% of the EU total energy consumption.

Table 2: EU gap calculation

	PEC (Mtoe)	FEC (Mtoe)
EU28 target (A)	1273.0	956.0
Total national contributions	971.2	711.8
Total national contributions + Lower surrogate range (B)	1316.2	981.7
Total national contributions + Higher surrogate range (C)	1391.0	1040.8
Gap - lower end (B-A)	43.2	25.7
Gap - higher end (C-A)	118.0	84.8

Source: Information from the draft plans and provided by MS, EU Commission calculations.

¹¹ Article 31 of the Governance Regulation states that “Where a gap [] occurs in the area of energy efficiency, the Commission shall, in particular, evaluate the relevant circumstances listed in Article 6(2), information provided by Member States in their integrated national energy and climate plans, results from modelling exercises in relation to future trends in energy consumption and other complementary analysis as appropriate.”

4. Methodology for the assessment of the national contributions

For energy efficiency, the Governance Regulation indicates that the Commission shall evaluate the specific elements described in the plan by MSs to justify the level of their national contribution as well as modelling results and any other complementary analysis (Article 31). Two criteria have been used for the assessment based on the following data sources:

- The 2017 statistical data of primary and final energy consumption: it was considered that national contributions, to be on a pathway compatible with the collective efforts necessary to achieve the 2030 goal, should reduce energy consumption from the year 2017, keeping in mind that the EU as a whole should reduce it by 18,4% and 14,8% respectively for PEC and FEC compared to 2017 data;
- The 2020 national targets for energy efficiency: given that the EU 2030 goal would require additional efforts in comparison to the 2020 target (by more than 11% in comparison to the Union's 2020 target), it was considered that, similarly, national contributions should follow the same direction, and earmark an increase in ambition in relation to the 2020 commitments;

The national contributions were compared to the values corresponding to those criteria, and on the basis of their distance to them, they were assessed following a scale going from very low to sufficient. Even if the EU average is not automatically considered as the right level of efforts at Member States level, it was used as an approximate benchmark for comparing the proposed level of ambition by Member States. These criteria have been preferred over the available EU modelling results, which at the moment do not fully reflect all national circumstances affecting primary and final energy consumption – a factor to be taken into account in the evaluation of energy efficiency contributions as foreseen by the Governance Regulation. It is also important to note that this assessment is based on the assumption that the national contributions should add up to the EU target i.e. the ambition gap is to be covered by Member States contributions.

The level of ambition was assessed as:

- **sufficient** if a national 2030 contribution represented a higher reduction in energy consumption than at the EU level,
- **modest** if a reduction was lower than at the EU level but higher than 5 %,
- **low** if a reduction was in the range 0-5% or there was a small increase for one criterion,
- **very low** if values for both criteria increased.

Furthermore, the recent trends until 2017 and the ambition of the 2020 targets have also been considered when assessing the level of a reduction, meaning that the two criteria are not always of equal weight.

It is important to emphasise that this is a rather technical assessment not fully taking into account national circumstances, which have been rarely elaborated Member States. As most of the draft plans have had little justification of their level of ambition, it was not possible at this stage to apply qualitative criteria in a consistent manner.

The results are shown in **tables 3 and 4**.

Table 3: National contributions for primary energy consumption

Member State	2017 data (Mtoe)	Target for 2020 (Mtoe)	Contribution for 2030 (Mtoe)	Compared to 2020 (%)	Compared to 2017 (%)	Assessment
Belgium	49.1	43.7	39.0	-10.8%	-20.6%	Modest
Bulgaria	18.3	16.9	17.7	4.9%	-3.5%	Low
Czechia	40.1	44.3	41.3	-6.9%	2.9%	Low
Denmark	17.7	16.9	18.6	10.3%	5.0%	Very low
Germany	298.3	276.6	-	-	-	
Estonia	5.6	6.5	5.5	-15.4%	-2.7%	Low
Ireland	14.4	13.9	15.9	14.6%	10.5%	Very low
Greece	23.1	24.7	25.0	1.2%	8.1%	Very low
Spain	125.6	122.6	98.2	-19.9%	-21.8%	Sufficient
France	239.5	226.6	201.8	-10.9%	-15.7%	Modest
Croatia	8.3	10.7	8.2	-23.1%	-1.2%	Low
Italy	148.9	158.0	125.0	-20.9%	-16.1%	Sufficient
Cyprus	2.5	2.2	2.6	16.6%	3.1%	Very low
Latvia	4.5	5.4	4.3	-19.5%	-3.1%	Low
Lithuania	6.2	6.5	10.2	57.3%	65.5%	Very low
Luxembourg	4.3	4.5	3.5	-23.0%	-19.7%	Sufficient
Hungary	24.5	24.1	27.0	12.0%	10.3%	Very low
Malta	0.8	0.8	1.2	40.5%	40.5%	Very low
Netherlands	64.5	60.7	46.6	-23.3%	-27.8%	Sufficient
Austria	32.5	31.5	30.0	-4.8%	-7.8%	Modest
Poland	99.1	96.4	90.9	-5.7%	-8.2%	Modest
Portugal	22.8	22.5	20.2	-10.2%	-11.3%	Modest
Romania	32.4	43.0	36.7	-14.7%	13.3%	Very low
Slovenia	6.6	7.1	7.1	-1.0%	6.2%	Very low
Slovakia	16.1	16.4	16.2	-1.3%	0.1%	Low
Finland	31.7	35.9	36.1	0.7%	13.9%	Very low
Sweden	46.1	43.4	42.5	-2.1%	-7.9%	Modest
United Kingdom	177.0	177.6	-	-	-	
EU28	1561.0		1273.0	-11.4%	-18.4%	

Source: Information from the draft plans and provided by MS, EU Commission calculations.

Table 4: National contributions for final energy consumption

Member State	2017 data (Mtoe)	Target for 2020 (Mtoe)	Contribution for 2030 (Mtoe)	Compared to 2020 (%)	Compared to 2017 (%)	Assessment
Belgium	36.0	32.5	33.1	1.8%	-8.2%	Low
Bulgaria	9.9	8.6	8.7	0.4%	-12.3%	Low
Czechia	25.5	25.3	23.7	-6.6%	-7.2%	Modest
Denmark	14.6	14.7	15.8	7.5%	8.5%	Very low
Germany	218.7	194.3	-	-	-	
Estonia	2.9	2.8	2.7	-1.9%	-4.2%	Low
Ireland	11.8	11.7	13.0	11.5%	10.9%	Very low
Greece	16.8	18.4	18.1	-1.6%	8.0%	Very low
Spain	84.2	87.2	74.4	-14.7%	-11.6%	Sufficient
France	148.9	138.1	124.9	-9.6%	-16.1%	Sufficient
Croatia	6.9	7.0	6.9	-1.6%	-1.1%	Low
Italy	115.2	124.0	103.8	-16.3%	-9.9%	Sufficient
Cyprus	1.9	1.9	2.2	15.2%	18.8%	Very low
Latvia	4.0	4.5	3.6	-20.1%	-11.1%	Modest
Lithuania	5.3	4.3	8.0	86.8%	49.4%	Very low
Luxembourg	4.2	4.2	3.3	-22.1%	-21.9%	Sufficient
Hungary	18.5	14.4	18.6	29.0%	0.4%	Very low
Malta	0.6	0.6	0.9	35.4%	37.7%	Very low
Netherlands	50.3	52.2	44.5	-14.7%	-11.6%	Modest
Austria	28.4	25.1	25.0	-0.3%	-12.0%	Modest
Poland	71.0	71.6	66.2	-7.6%	-6.7%	Modest
Portugal	16.6	17.4	17.7	1.7%	6.9%	Very low
Romania	23.2	30.3	27.5	-9.2%	18.6%	Very low
Slovenia	4.9	5.1	-	-	-	
Slovakia	11.1	9.2	10.8	16.7%	-3.1%	Low
Finland	25.2	26.7	26.2	-1.6%	4.2%	Very low
Sweden	32.6	30.3	32.3	6.7%	-0.7%	Low
United Kingdom	133.3	129.2	-	-	-	
EU28	1122.3		956.1	-11.6%	-14.8%	

Source: Information from the draft plans and provided by MS, EU Commission calculations.

METHODOLOGY USED IN THE ASSESSMENT OF THE EU WIDE GREENHOUSE GAS EMISSION REDUCTION RESULTING FROM THE DRAFT NECPS

1. Methodology for the assessment of the EU total greenhouse gas emissions reduction

Aggregated total greenhouse gas emissions reductions, excluding emissions and absorptions from land use, land use change and forestry (LULUCF), and including emissions from outgoing international aviation, have been estimated based on Member States' information included in the draft plans:

- Where economy-wide 'With Additional Measures' (WAM) projections were available, these were used to represent the impact of existing and planned measures. This was the case for sixteen Member States (Belgium, Croatia, Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Poland, Portugal, Romania, Slovakia, Spain, United Kingdom). Denmark did not provide a WAM but a point estimate for additional reductions in 2030 compared to the scenario with existing measures.
- Economy-wide national greenhouse gas emissions reduction targets were used for two Member States that did not provide WAM projections but did provide a target excluding LULUCF (Germany, Netherlands).
- Where this was not available, projections With Existing Measures (WEM) were used. This was the case for eight Member States (Austria, Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Sweden).
- For the remaining two Member States (Malta and Slovenia), the EU Reference Scenario 2016 Projection was used for gap filling.
- 1990 base year emissions were extracted from the EEA data viewer (on 29/05/2019).

Five Member States provided 2030 projections for international aviation (Belgium, Denmark, Hungary, Latvia, Slovakia). For the other Member States EU Reference Scenario 2016 projections were used for this sector (deducting 2017 domestic aviation emissions using inventory data as extracted from the EEA data viewer to avoid double counting). As check for uncertainties, if instead historic growth rates from the period 1990-2017 were applied on the 2017 international aviation inventory data, estimations show results close to the -40% greenhouse gas emission target but a risk that it would not be achieved.

While this method is open to a number of uncertainties, it still represents a relatively conservative estimate of planned greenhouse gas reductions and ambition, because for eleven Member States an ambition reflecting just the current measures was used (WEM or EU Reference Scenario 2016).

Table 5: Overview of 2030 projected greenhouse gas emission estimates

Member State	1990 emissions (Mt CO₂-eq.)	2030 estimation (Mt CO₂-eq.)
Belgium	150	108
Bulgaria	103	55
Czechia	200	111
Denmark	72	42
Germany	1263	589
Estonia	41	17
Ireland	56	58
Greece	106	74
Spain	293	245
France	557	330
Croatia	32	22
Italy	522	339
Cyprus	6	9
Latvia	27	11
Lithuania	49	22
Luxembourg	13	11
Hungary	94	57
Malta	2.3	2.0
Netherlands	226	123
Austria	80	76
Poland	475	369
Portugal	61	41
Romania	249	119
Slovenia	19	16
Slovakia	73	39
Finland	72	42
Sweden	73	48
United Kingdom	810	399
EU28	5723	3377

Source: Information from the draft integrated national energy and climate plans, Greenhouse Gas Emission Inventories, EU Reference Scenario 2016, Commission calculations.

2. Methodology for the assessment of the EU emissions reduction in non-ETS sectors

Member States have binding national 2030 targets for sectors not covered by the EU Emission Trading System (ETS), and a number of flexibilities how to achieve them. The estimate of the EU wide aggregated non-ETS greenhouse gas emission reductions resulting from the policies and measures in the draft NECPs focuses on the sectors covered by the Effort Sharing Regulation. For Land Use, Land Use Change and Forestry, too limited quantitative data in line with the accounting rules of the LULUCF Regulation is available in the draft plans to consider the related flexibilities. The following Member State specific projections for 2030 effort sharing sector emissions were used, depending on which projections were available:

- Wherever available in the draft NECPs, the With Additional Measures projections for effort sharing sectors, which reflect the combination of existing and planned policies

and measures, were used. This is the case for twelve Member States (Belgium, Croatia, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Poland, Romania and Spain). Denmark did not provide a WAM but a point estimate for additional reductions in 2030 compared to the scenario with existing measures. For Finland no precise figures are provided in the draft plan, hence a rough estimate based on the provided graphical information is used.

- For twelve Member States, the With Existing Measures projections for effort sharing sectors were used, as no quantification of planned policies and measures has been provided yet in the draft NECP (Austria, Cyprus, Czechia, Estonia, Germany, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Slovakia and the United Kingdom). For Malta and the United Kingdom no precise figures are provided in the draft plan, hence rough estimates based on the provided graphical information are used.
- For the remaining four Member States (Bulgaria, Portugal, Slovenia and Sweden) which did not provide any WEM or WAM scenario or did not separate effort sharing emission in their WEM/WAM scenario, the results of the EU Reference Scenario 2016 for these Member States was used for gap filling.

Progress towards the non-ETS target is measured against a 2005 base year which reflects the EU ETS scope changes which took place after 2005. If Member States provided information on 2005 effort sharing emissions in the draft NECPs, this has therefore been cross checked to enable a consistent aggregation and comparison. The following 2005 data has been used:

- The following Member States provided 2005 values which could be used for the aggregation as provided in the draft national plans: Austria, Denmark, Estonia, Finland, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta and Romania.
- For the other Member States, including the ten Member States which did not provide 2005 effort sharing emission values at all, the 2005 base year values as used under the Effort Sharing Decision and published in SWD(2018) 453 have been used. Two Member States, Belgium and Poland, use a 2005 effort sharing emission estimate which differs from the effort sharing base year methodology to calibrate their with additional measures projection for 2030. In these cases, the 2030 projection results have been recalibrated to the 2005 base year value used for the aggregation.

The aggregation yields projected EU28 2030 emissions in effort sharing sectors of 2078 million tons, which lead with an aggregated 2005 effort sharing base year of 2889 million tons to the provided estimate of 28% emissions reduction.