REVIEW PRACTICE GUIDANCE

Approaches to the technical assessment of the achievement of the quantified economy-wide emission reduction targets in 2020

Background paper for the 9th Lead Reviewers Meeting

March 2022

Contents

Acronyms and abbreviations

AAU	assigned amount of units
AEA	annual emission allocation
Annex I Party	Party included in Annex I to the Convention
BR	biennial report
BTR	biennial transparency report
CER	certified emission reductions
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
COP	conference of Parties
CTF	common tabular format
ERT	expert review team
ERU	emission reduction units
ESD	European Union effort sharing decision
EU ETS	European Union Emission Trading System
EU	European Union
GDP	gross domestic product
GWP	global warming potential
GHG	greenhouse gas
LR	lead reviewer
LULUCF	land use, land-use change and forestry
MBM	market-based mechanism
MS	EU member State
NC	national communication
NDC	nationally determined contribution
NF_3	nitrogen trifluoride
PaMs	policies and measures
RMU	removal units
TBD	to be determined
TRR	technical review report
UNFCCC reporting guidelines on BRs	"UNFCCC biennial reporting guidelines for developed country Parties"
UNFCCC review guidelines	Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention
WAM	'with additional measures'
WEM	'with existing measures'

I. Background

1. The UNFCCC review guidelines[1] stipulate that the purpose of the technical review of BRs is, *inter alia*, to undertake an examination of the Party's progress in achieving its economy-wide emission reduction target (para. 100(e)). In this regard, a TRR should include such an assessment, that is, of the progress the Party has made towards the achievement of its quantified economy-wide emission reduction target (paras. 103–104(c)(iii)).

2. All Annex I Parties except Turkey pledged their quantified economy-wide emission reduction targets for 2020,[2] expressed as a percentage reduction in absolute GHG emissions from a base-year level to be achieved by 2020 (the target year). These pledges were accompanied by information on underlying assumptions and conditions, the base year, coverage of gases and sectors, the contribution of LULUCF, and the use of units from MBMs, if envisaged.

3. Under decision 6/CP.25, Annex I Parties are mandated to submit their eight NC and (final) fifth BR no later than 31 December 2022. These submissions will provide information on GHG emissions and removals for the time series, including a target year or period for achievement of the target (2020 or 2013–2020, respectively) and information on the contribution of LULUCF and the use of units from MBMs for the same year or period, where applicable. This implies that instead of an assessment of progress towards the achievement of the target, as provided in TRR.1s–TRR.4s, for TRR.5s ERTs will need to assess the achievement of the target because the target year or end of the target period will have been reached.

4. In their conclusions and recommendations from their 8th meeting in 2021, the LRs acknowledged the possible approaches presented by the secretariat for the technical assessment by the ERTs of the achievement of the 2020 quantified economy-wide emission reduction targets, and requested the secretariat to prepare a background paper on this matter as an input for discussion during the next meeting of LRs.[3]

II. Purpose, scope and approach

5. The main purpose of this background paper is to propose approaches and options for the technical assessment of the achievement of the 2020 quantified economy-wide emission reduction targets during the review of the final BRs.

6. This paper serves primarily as an analytical input to the 9th meeting of LRs for the review of BRs and NCs, to be held virtually from 2 to 9 March 2022. The objective of the paper is to improve the expert reviewers' understanding of the challenges of and provide solutions for ensuring the consistent assessment of the achievement of the quantified economy-wide emission reduction targets in 2020 as reported in fifth BRs.

7. In preparation of this paper, the secretariat consulted with several Annex I Parties and collected their views on this subject. The secretariat is thankful for the constructive feedback that was received and used as input for this paper.

8. Sections I and II have introduced the subject, purpose, scope and approach of this paper. Section III provides an overview of the types of targets selected by Parties and reported in the BRs and of accounting approaches for the contribution of LULUCF and units from MBMs. Section IV describes the current ERTs' approach for the assessment of progress towards the 2020 targets. Section V discusses possible approaches to and options for the technical assessment of the achievement of the 2020 targets in the TRR.5s. Lastly, section VI provides conclusions and recommendations. In addition, annex I gives an

[1] Decision 13/CP.20.

[2] As contained in document FCCC/SBSTA/2014/INF.6.

[3] See https://unfccc.int/sites/default/files/resource/8LR-Conclusions_FinalForPublication.pdf, paragraph 10.

overview of Annex I Parties' GHG emission reduction targets, including the role of LULUCF and MBMs in relation to the achievement of the target and time frames for the achievement (single-year and multi-year (budget) targets).

III. Types of targets and accounting approaches

A. Types of quantified emission reduction targets

9. All Annex I Parties except Turkey have base-year emission reduction targets, expressed as a percentage reduction in absolute GHG emissions from a base-year level to be achieved by 2020. However, Parties chose different periods for reaching the target and decided whether to include a contribution from LULUCF and/or units from MBMs or to pool their efforts (e.g. the EU and its member States) to achieve those targets. This has a direct effect on how progress towards the target, including its achievement, is assessed. Annex I provides an overview of Annex I Parties' GHG emission reduction targets.

10. Regarding the periods for reaching the target, Parties could opt for either single-year targets, aiming to reduce emissions by a single year (e.g. 2020), or multi-year targets that aim to reduce emissions over a defined period (e.g. 2013–2020). Furthermore, multi-year targets could be annual, that is, expressed as a trajectory of annual emission reductions or limitation targets over the implementation period, or cumulative, that is, expressed as an aggregate fixed level of emissions in the implementation period. Cumulative multi-year targets are often referred to as emission or carbon budget targets.

11. At the request of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, the secretariat prepared a technical paper entitled "Issues relating to the transformation of pledges for emission reductions into quantified emission limitation and reduction objectives".[4] The paper provides detailed methodological guidance related to the transformation of 2020 pledges, that is, quantified economy-wide emission reduction targets into multi-year targets.

12. Four Parties, namely Australia, New Zealand, Norway and Switzerland, decided to transform their base-year targets into cumulative multi-year targets or emission budgets and implement them on the basis of the Kyoto Protocol accounting approach for the second commitment period. Box 1 shows the example of Norway's 2020 target.

Box 1.
Norway's economy-wide emission reduction target

Under the Convention, Norway committed to reducing its GHG emissions by 30 per cent below the 1990 base-year level by 2020. The target includes all GHGs. Emissions and removals from the LULUCF sector are included in the target and the LULUCF contribution is accounted using an activity-based approach. Norway reported that it plans to make use of market-based mechanisms to achieve its target.

Norway reported that the 30 per cent emission reduction target under the Convention was made operational through the legally binding second commitment period of the Kyoto Protocol (2013–2020). During this period, average GHG emissions should not exceed 84 per cent of the 1990 level.

The relationship between the two targets is explained in Norway's submission and presentation to the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol of May 2012. Norway considers the targets under the Convention and its Kyoto Protocol to be equivalent. It defined the relationship between the two targets on the basis of historical GHG emissions for 1990–2010 as reported in its 2012 annual submission. The 2020 target under the Convention corresponds to a linear declining emission trajectory starting from the 2010 level to a 30 per cent reduction in emissions by 2020 compared with the 1990 level. The emission reductions required to

[4] Available at https://unfccc.int/sites/default/files/resource/docs/2010/tp/02.pdf.

achieve this trajectory for 2013–2020 are equal to the reductions that correspond to an average 16 per cent reduction compared with the 1990 level for 2013–2020, which is the Party's target under the Kyoto Protocol for the second commitment period.

Source: Report on the technical review of the BR4 of Norway, 2020

13. Another important feature to be noted is whether the target will be achieved individually or jointly. The latter is specifically the case of the EU joint economy-wide emission reduction target, comprising 28 member States,[5] which is then further established as individual targets for each member State, as stipulated by the EU effort-sharing decision and the overall EU target for large-scale facilities, which are covered under the EU ETS. Box 2 presents the EU example.

Box 2.
The European Union 2020 economy-wide emission reduction target

Under the Convention the EU committed to contributing to achieving a joint economy-wide emission reduction target of 20 per cent below the 1990 level by 2020. Details on the implementation of the joint target are provided in the 2020 EU climate and energy package, adopted in 2009.

The package stipulates that the target will be met by the EU and its member States through a 21 per cent reduction below the 2005 level in GHG emissions from installations under the EU ETS and a 10 per cent reduction below the 2005 level in emissions from sectors not under the EU ETS (primarily transport and some industrial processes and product use, agriculture and waste).

For emissions under the EU ETS, the common EU-wide target applies to all EU member States as a group. For other emissions, the Effort Sharing Decision provides targets for each member State individually to reduce or limit growth in its GHG emissions in the range of 20 per cent below to 20 per cent above the 2005 level by 2020. The target levels were set on the basis of the relative GDP per capita of the EU member States. Up to a certain limitation, the ESD allows EU member States flexibility in meeting their annual targets by carrying over overachievements to subsequent years within each member State, transferring annual emission allocations between member States and using international credits (i.e. credits from joint implementation and the clean development mechanism). The contribution of LULUCF is not included in the EU's quantified economy-wide emission reduction target for 2020.

Source: Compilation and synthesis of fourth biennial reports of Parties included in Annex I to the Convention, 2020

14. On the basis of the previous elaboration, four types of base-year emission reduction targets were identified for Annex I Parties:

(a) ***Single-year emission reduction target*** – a commitment to reduce emissions by a specified percentage relative to a historical base year (e.g. 1990) by a single target year in the future (e.g. 2020);

(b) ***Cumulative multi-year emission reduction target (emission or carbon budget)*** – a commitment to reduce emissions by a specified percentage relative to a historical base year (e.g. 1990) over a defined Kyoto Protocol commitment period or other implementation period (e.g. 2013–2020) based on the Kyoto Protocol accounting approach for the second commitment period or other accounting approaches;

(c) ***Annual multi-year emission reduction or limitation targets for EU member States under the EU effort-sharing decision*** – EU member States are required to reduce or

[5] The United Kingdom of Great Britain and Northern Ireland left the EU in 2020; however, under the terms of the Withdrawal Agreement, it remains committed to fulfilling its shared target with the EU under the Kyoto Protocol.

limit their GHG emissions between 2013 and 2020 by meeting binding annual reduction or limitations targets, known as AEAs;

(d) ***The EU-wide emission reduction target*** – a joint target of the EU and its 28 member States, consisting of the EU ETS target with an EU-wide emission cap, with the goal of reducing emissions by 21 per cent below the 2005 level by 2020, and the ESD target for sectors outside the EU ETS, which has the goal of reducing emissions from those sectors by 10 per cent below the 2005 level by 2020.

B. Accounting approaches for the contribution of LULUCF and MBMs

1. Accounting for the contribution of LULUCF

15. The accounting approaches used to determine the contribution of the LULUCF sector towards economy-wide emission reduction targets for 2020 differ across Parties, depending on whether targets are inscribed under the Convention or the Kyoto Protocol, whether Parties use a 'land-based' or an 'activity-based' approach, and whether specific accounting approaches are applied to address particular sectoral issues (e.g. forest age-class structure).

16. In the case of EU member States, it should be noted that no contribution from the LULUCF sector will be accounted towards economy-wide emission reduction targets under the Convention for 2020.[6]

Land-based approaches

17. For Parties whose economy-wide emission reduction targets for 2020 are under the Convention, the general approach is considered 'land-based'.[7] While there is no agreed definition, land-based approaches generally apply the same categories used in national GHG inventory reporting for LULUCF (e.g. forest land, cropland, grassland and wetlands) to accounting for emissions and removals in these same categories.

18. Unlike under the Kyoto Protocol, accounting for LULUCF under the Convention is not bound by specific, detailed rules. For most land categories, Parties apply net-net accounting, which compares emissions and removals in the base year with emissions and removals in the target year.[8]

19. Parties applying the land-based approach report annual emissions and removals from the various land categories in CTF table 4(a)I. The annual accounting contribution from each LULUCF category can then be calculated as the difference between emissions/removals for each category in the reporting year and the corresponding emissions/removals in the base year/period (or, where reference level accounting is applied, the reference level value). The total LULUCF accounting contribution for each year can then be calculated as the sum of the contributions from the various land categories.

Activity-based approaches

20. For Parties whose 2020 targets are inscribed under the second commitment period of the Kyoto Protocol (2013–2020), the LULUCF accounting contribution is determined using an 'activity-based' approach. This approach applies to the activities defined under Article 3, paragraphs 3–4, of the Kyoto Protocol.[9] For the second commitment period,

[6] Emissions and removals of GHGs resulting from the LULUCF sector are not counted towards the EU economy-wide emission reduction targets for 2020 pursuant to EU decision 406/2009/EC.

[7] While the land-based approach is used by most Parties whose 2020 targets are under the Convention, New Zealand has clarified that it will apply Kyoto Protocol LULUCF accounting rules to determine the contribution from this sector in 2020.

[8] Some Parties (e.g. Canada) have modified Kyoto Protocol accounting approaches, such as the reference level, and applied these to the land categories.

[9] Article 3, paras. 3–4, of the Kyoto Protocol address direct, human-induced emissions and

Parties agreed to a set of rules that establish specific LULUCF accounting approaches. These are outlined in decision 2/CMP.7.

21. In decision 2/CMP.7, Parties agreed to mandatory accounting for emissions and removals resulting from the activities of afforestation, reforestation and deforestation using a gross-net approach. As a result, starting in 1990, all emissions and removals resulting from these activities are accounted for.

22. In contrast, emissions and removals resulting from Article 3.4 activities (with the exception of forest management) are accounted for on a voluntary basis (i.e. Parties can elect to account for the activity). However, once a Party has elected to account for a voluntary activity, it must continue to account for that activity in future commitment periods. Accounting for Article 3.4 activities (apart from forest management) involves applying a net-net approach, in which emissions and removals in the reporting year are compared with emissions and removals in the base year (e.g. 1990).

23. For forest management, Parties agreed that accounting for emissions and removals is mandatory. However, as gross-net and net-net approaches do not adequately address the unique characteristics of forests (e.g. age-class structure), a different accounting approach was agreed. This involves establishing a forest management reference level, a baseline of emissions and removals established according to agreed guidance and peer-reviewed under the Convention.[10] The accounting contribution from forest management is then determined by comparing emissions and removals in the reporting year with the forest management reference level value for that same year.

24. Parties applying the activity-based approach report annual emissions and removals from mandatory and elected LULUCF activities in CTF table 4(a)II. The accounting contribution for each LULUCF activity can be calculated as the difference between emissions/removals from that activity in the reporting year and the corresponding emissions/removals in the base year/period (or, where reference level accounting is applied, the reference level value). The total LULUCF accounting contribution for each year can then be calculated as the sum of the contributions across the mandatory and elected activities.

2. Use of units from MBMs

25. In their BRs Parties report on their potential and actual use of units from MBMs, that is, acquired certified emission reductions, emission reduction units, assigned amount units, carry-over units from the first commitment period of the Kyoto Protocol, units from other mechanisms under the Convention and units from other MBMs, in achieving their targets.

26. The EU and its 27 member States have retained the option to use units from MBMs in achieving their targets under the Convention, including under the ESD, which allocates individual targets to the EU member States for sectors not under the EU ETS. No EU member State reported using MBMs under the Convention towards its ESD target in 2013–2018.[11]

27. Of the other Parties, four (Belarus, Kazakhstan, Russian Federation and United States of America) indicated that they will not use MBMs, and Canada reported in its fourth

removals resulting from activities in the LULUCF sector. Article 3.3 covers emissions and removals from afforestation, reforestation and deforestation activities, while Article 3.4 addresses forest management, cropland management, revegetation, grazing land management, and wetland drainage and rewetting.

[10] The guidance for the submission and review of forest management reference levels is contained in decision 2/CMP.6.

[11] In the CTF tables, the United Kingdom reported on units purchased to meet its obligations for the first commitment period of the Kyoto Protocol; Malta reported on its purchase of annual emission allocations from other EU member States to meet its ESD commitment; Hungary reported on units that were cancelled by their account owners; and Portugal reported on purchases of units from MBMs by EU ETS operators within the country.

BR that this is still to be determined. Only five Parties (EU, Liechtenstein, Monaco, Norway and Switzerland) reported using units from MBMs in 2013–2017.

28. Two provisions related to the accounting of units from MBMs used towards the achievement of the 2020 target under the Convention could be found in footnotes to CTF tables 4 and 4(b), namely:

(a) Footnote *a* to CTF table 4 states that reporting by a developed country Party on the information specified in the CTF does not prejudge the position of other Parties with regard to the treatment of units from MBMs under the Convention or other MBMs towards achievement of quantified economy-wide emission reduction targets;

(b) Footnote *d* to CTF table 4(b) states that units surrendered by the Party, as reported in CTF table 4(b), for a particular year have not been previously surrendered by that or any other Party.

29. It should be emphasized that relevant decisions under the Kyoto Protocol do not specify **surrendering** of units, as mentioned in footnote *d* to CTF table 4(b), as a type of transaction. According to the accounting rules of the Kyoto Protocol, each Annex I Party shall **retire**[12] ERUs, CERs, AAUs and/or RMUs for the purpose of demonstrating its compliance with its commitments under Article 3, paragraph 1, of the Kyoto Protocol, that is, ensuring that its aggregate anthropogenic carbon dioxide equivalent emissions of the GHGs listed in Annex A do not exceed its assigned amounts.[13]

30. Also, after the expiration of the additional period for fulfilling commitments and where the final compilation and accounting report[14] indicates that the quantity of ERUs, CERs, AAUs and/or RMUs retired by the Party is at least equivalent to its anthropogenic carbon dioxide equivalent emissions of the GHGs, and from the sources, listed in Annex A to the Kyoto Protocol for that commitment period, the Party may **carry over**[15] to the subsequent commitment period, that is, from the first to the second commitment period of the Kyoto Protocol. RMUs may not be carried over to the subsequent commitment period.[16]

31. Detailed information on the amount of units from MBMs that Parties reported in the first to the fourth BR CTF tables is provided in the Biennial Reports Data Interface database[17] developed by the secretariat.

IV. Approach for the assessment of progress towards 2020 targets

32. TRR.1s–TRR.4s contain ERTs' technical assessment of progress made towards achievement of the quantified economy-wide emission reduction target. Inputs for this assessment are primarily based on the quantitative information reported by Parties in CTF tables 2(a)–(f) – Description of the target (base year, target relative to the base year, period for reaching target, gases and sectors covered, GWP, role of LULUCF and MBMs, other relevant information) and CTF tables 4, 4(a) and 4(b) – Reporting on progress (latest available GHG emissions, use of units from MBMs and the LULUCF contribution).

33. In general, the assessment of Parties' progress towards their 2020 targets is based on a comparison of the latest available information on the level of GHG emissions,

[12] Retirement means the internal transfer of a unit to a retirement account within a registry, so that it can be used by the Annex I Party to demonstrate compliance with its emission commitment.

[13] As per decision 13/CMP.1, annex, para. 13 (in conjunction with decision 3/CMP.11).

[14] Final compilation and accounting reports for the first commitment period are available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-kyoto-protocol/second-commitment-period/final-compilation-and-accounting-reports.

[15] Carry-over is the change of validity of a unit from one commitment period to the next, resulting in the unit being carried over to the subsequent commitment period.

[16] As per decision 13/CMP.1, annex, paras. 15–16 (in conjunction with decision 3/CMP.11).

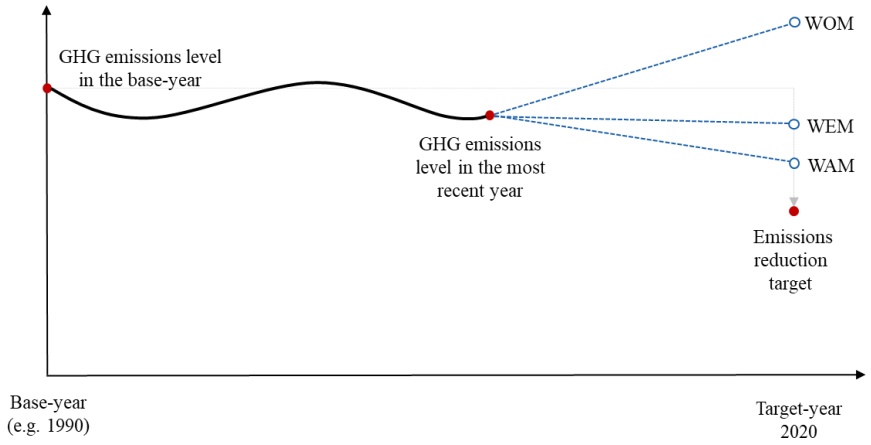
[17] Available at https://www4.unfccc.int/sites/br-di/Pages/Home.aspx.

including the contribution of LULUCF, where applicable, and on the use of units from MBMs, where applicable and available, against the base-year emission level and the targeted emissions level in 2020.[18]

34. In the TRR.1s–TRR.4s, the ERTs also assessed the outlook for the achievement of the 2020 target by comparing projected GHG emissions under the WEM scenario for 2020 with the targeted emission level. Information on projections is provided in CTF table 6(a) – GHG projections for the WEM scenario. This is particularly important for Parties whose latest available estimates for GHG emissions were above their targeted emission levels in 2020.

35. Figure 1 provides a hypothetical example of the GHG trends and projections and reference points used in TRR.1s–TRR.4s for the assessment of progress towards the target, namely base-year emissions, latest available emission estimates, projections and targeted emission level.

Figure 1
Hypothetical example of GHG emission trends and projections and reference points for assessment of progress towards the single-year target



36. Four Parties, namely Australia, New Zealand, Norway and Switzerland, have implemented their targets under the Convention using an emission budget approach (e.g. based on their targets under the Kyoto Protocol for the second commitment period) and, as such, have defined emissions trajectories consistent with those targets. The emission budget for these Parties represents the cumulative emissions below the emissions trajectory. In such cases, the Party's progress towards the target is assessed by comparing the cumulative emissions, including the contribution of LULUCF, where applicable, and use of units from MBMs, as relevant, in the implementation period, as well as the cumulative projections for 2020, with the emission budget.

37. The latest comprehensive information on the progress towards achieving 2020 targets for individual Parties and on the efforts required is provided in chapter IV.B of the compilation and synthesis report of fourth BRs of Annex I Parties.[19]

38. Boxes 3–6 illustrate the approaches used by the ERTs for TRR.1s–TRR.4s for the assessment of progress towards different types of targets, consisting of the following steps:

(a) Stating the 2020 target that represents the reference point against which progress will be assessed;

[18] It should be emphasized that there are no mandated emissions accounting approaches or emission/accounting balances built into CTF table 4 that would take into account GHGs, LULUCF contribution and/or use of MBM units.

[19] Available at https://unfccc.int/CandS-report-2020.

(b) Providing a summary of quantitative information on emission trends, the contribution of LULUCF, use of units from MBMs and net emissions in tabular format;

(c) Comparing the emission estimates in the latest available inventory year reported with the emission level in the base year and the target year;

(d) Assessing the progress of Parties that are making progress or not making sufficient progress towards their targets;

(e) Comparing the latest available inventory year with the emission projection in the WEM scenario for 2020 and concluding on the likelihood of achieving the target if existing PaMs are implemented.

Box 3.
Assessment of progress towards the single-year target

stating the 2020 target under the Convention …

In assessing the Party's progress towards achieving its 2020 target, the ERT noted that Party's emission reduction target under the Convention is [xx] per cent [below][above] the [1990][other base-year] level.

… providing summary information in tabular format (example Canada) …

Table 6
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by Canada to achieve its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*[a]	*Net emissions including LULUCF and market-based mechanisms (kt CO_2 eq)*
2005 (base year)	730 349.48	NA	NA	730 349.48
2010	692 618.85	7 540.00	NA	700 158.85
2011	703 378.95	7 109.00	NA	710 487.95
2012	711 023.23	−148.00	NA	710 875.23
2013	722 062.81	−5 295.00	NA	716 767.81
2014	723 090.99	−9 361.00	NA	713 729.99
2015	721 992.08	−12 813.00	NA	709 179.08
2016	707 727.17	−15 427.00	NA	692 300.17
2017	715 749.23	−17 488.00	NA	698 261.23
2020 target	NA	NA	NA	606 190.07

Sources: Canada's BR4 and CTF tables 1, 2(a), 4, 4(a)I, 4(a)II, 4(b) and 6(a).
[a] Canada reported that it has not yet decided on whether to use market-based mechanisms.

… comparing the latest available inventory year with the base-year and the target-year …

In [201X][201Y] Party's annual total GHG emissions excluding LULUCF were [xx.x] per cent ([xxx.xx] kt CO_2 eq) [below][above] the base-year level. In addition, the ERT noted that in [201X][201Y] the contribution of LULUCF was [xxx.xx] kt CO_2 eq and the use of market-based mechanisms accounted for [xxx.xx] kt CO_2 eq, resulting in net emissions of [xxx.xx] kt CO_2 eq, or [xxx.xx] kt CO_2 eq [above][below] the 2020 target.

… assessing progress for Parties that are making sufficient progress towards its target …

The ERT noted that Party is making progress towards its emission reduction target by [implementing][planning] mitigation actions that are delivering [significant][some] emission reductions and [by using units from the market-based mechanisms under the Convention] [and other mechanisms] [and through the contribution of LULUCF]..

… or for Parties that are not making sufficient progress …

The ERT noted that Party faces challenges in implementing mitigation actions that will deliver the emission reductions needed to make sufficient progress towards its target and

may face challenges in achieving its target under the Convention without [using market-based mechanisms][other options proposed by the Party].

… finally, the latest available inventory year is compared with the emissions projections in the WEM scenario

Party's total GHG emissions excluding LULUCF [and including indirect CO_2] are projected under the WEM scenario to decrease by [x.x] [and x.x] per cent[, respectively,] in 2020 below the 1990 level.

The 2020 projections suggest that Party [can be expected to achieve][may face challenges in achieving] its 2020 target under the Convention[without the use of flexible mechanisms].

Box 4.

Assessment of progress towards the cumulative multi-year target (budget) based on the Kyoto Protocol approach

stating the 2020 target under the Convention …

In assessing the Party's progress towards achieving its 2020 target, the ERT noted that Party's emission reduction target under the Convention is [xx] per cent [below][above] the [1990][other base-year] level.

This target was made operational through the Party's quantified emission limitation or reduction commitment of xx per cent of the base-year emissions for 2013–2020, as defined in the Doha Amendment to the Kyoto Protocol.

… providing summary information in tabular format (example Norway) …

Table 4

Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by Norway to achieve its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*[a]	*Net emissions including LULUCF and market-based mechanisms (kt CO_2 eq)*
1990 (base year)	51 921.77	NA	NA	NA
2010	NA	NA	NA	NA
2011	NA	NA	NA	NA
2012	NA	NA	NA	NA
2013	54 015.24	–34.90	10 351.00	43 629.34
2014	54 127.25	–145.83	10 340.00	43 641.42
2015	54 450.03	–120.26	10 765.00	43 564.77
2016	53 607.84	–23.05	9 963.00	43 621.79
2017	52 712.54	–26.08	9 060.00	43 626.46
2018	52 000.00	–70.02b	8 316.00	43 613.98
2020 target[a]	NA	NA	NA	NA

Sources: Norway's BR4 and CTF tables 1, 2(a), 4, 4(a)I, 4(a)II, 4(b) and 6(a).

[a] Norway plans to fulfil its Convention target through use of market-based mechanisms in the second commitment period of the Kyoto Protocol.

… comparing the latest available information with the base-year and the target-year …

In 20XX Party's annual total GHG emissions excluding LULUCF were xx,xxx.xx kt CO_2 eq, or x.x per cent [above][below] the base-year level under the Kyoto Protocol. In addition, the ERT noted that in 20XX the contribution of LULUCF was xx,xxx.xx kt CO_2 eq and the use of market-based mechanisms accounted for xx,xxx.xx kt CO_2 eq. Between 2013 and 20XX Party's total GHG emissions excluding LULUCF amounted to xx,xxx.xx kt CO_2 eq, the contribution of LULUCF amounted to xx,xxx.xx kt CO_2 eq and the use of market-based mechanisms amounted to xx,xxx.xx kt CO_2 eq, resulting in a net figure of xx,xxx.xx kt CO_2 eq, which equals xx.x per cent of the Party's assigned amount for the second commitment period of the Kyoto Protocol (xx,xxx.xx kt CO_2 eq).

… assessing the progress for Parties that are making sufficient progress …

The ERT noted that Party is making progress towards its emission reduction target by [implementing][planning] mitigation actions that are delivering [significant][some] emission reductions and [by using units from the market-based mechanisms under the Convention] [and other mechanisms] [and through the contribution of LULUCF]

… or for Parties that are not making sufficient progress …

The ERT noted that Party faces challenges in implementing mitigation actions that will deliver the emission reductions needed to make sufficient progress towards its target and may face challenges in achieving its target under the Convention without [using market-based mechanisms][other options proposed by the Party]

… finally, the latest available inventory year is compared with the emissions projections in the WEM scenario

Under the WEM scenario total GHG emissions excluding LULUCF for 2013–2020 are projected to be around xx,xxx.xx kt CO_2 eq. The contribution of LULUCF is projected to be xx,xxx.xx kt CO_2 eq and the use of market-based mechanisms to date is xx,xxx.xx kt CO_2 eq for 2013–2020. The total projected net cumulative GHG emissions including the contribution of LULUCF and use of market-based mechanisms are estimated to be xx,xxx.xx kt CO_2 eq, which is xx,xxx.xx kt CO_2 eq [lower][higher] than the Party's assigned amount for the second commitment period of the Kyoto Protocol (xx,xxx.xx kt CO_2 eq). The 2020 projections suggest that Party [can be expected to achieve][may face challenges in achieving] its 2020 target under the Convention[without the use of [additional] flexible mechanisms].

Box 5.

Assessment of progress towards the annual multi-year emission reduction or limitation targets for EU MSs under the Effort Sharing Decision

stating the 2020 target under the Convention …

In assessing the progress towards achieving the 2020 joint EU target, the ERT noted that Party's emission reduction target for the ESD is [x] per cent [below][above] the base-year level.

… providing summary information in tabular format (example Poland) …

Table 5

Summary of information on the use of units from market-based mechanisms by Poland for achieving its target

Year	*ESD emissions (kt CO_2 eq)*	*AEA (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*[a]	*Annual AEA surplus/deficit (kt CO_2 eq)*	*Cumulative AEA surplus/deficit (kt CO_2 eq)*
2013	186 095.05	193 642.82	NA	7 547.77	7 547.77
2014	181 543.02	194 885.55	NA	13 342.52	20 890.30
2015	186 772.42	196 128.27	NA	9 355.85	30 246.14
2016	198 664.76	197 370.99	NA	–1 293.77	28 952.37
2017	211 506.73	199 974.47	NA	–11 532.27	17 420.11
2018	213 033.37	201 710.05	NA	–11 323.33	6 096.78

Sources: Poland's BR4 and BR4 CTF table 4(b), information provided by the Party during the review and EU transaction log (AEAs).

Note: For a given year, a positive number (surplus) indicates that annual or cumulative ESD emissions were lower than the corresponding AEA or cumulative AEAs, while a negative number (deficit) indicates annual or cumulative ESD emissions were higher than the AEA or cumulative AEAs.

[a] "NA" indicates that the Party stated in its BR4 that it does not intend to use market-based mechanisms for achieving its target.

… comparing the latest available information with the base-year and the target-year …

In [20XX][20YY] Party's ESD emissions were [xx] per cent ([xxx.xx] kt CO_2 eq) [below][above] the AEA. Taking the use of market-based mechanisms into account, Party

has a cumulative [surplus][deficit] of [xxx.xx] kt CO_2 eq with respect to its AEAs between 2013 and [2017][2018].

… assessing the progress for Parties that are making sufficient progress …

The ERT noted that Party is making progress towards its ESD target by [implementing][planning] mitigation actions that are delivering [significant][some] emission reductions and [by using units from the market-based mechanisms under the Convention] [and other mechanisms].

… or for Parties that are not making sufficient progress …

The ERT noted that Party faces challenges in implementing mitigation actions that will deliver the emission reductions needed to make sufficient progress towards its target. The ERT also noted that [Party's [20XX][20YY] emissions were greater than its AEA for that year] [and] [Party is currently running a cumulative AEA deficit with respect to emissions] and therefore may face challenges in achieving its ESD target without using market-based mechanisms. [The ERT noted that, to achieve its target under the ESD, Party [purchased][plans to purchase] [xxx] surplus AEAs from EU member States that have overachieved their target, under the flexibility allowed under the ESD, [which will be sufficient][although these will not be sufficient] to cover the cumulative AEA deficit.]

… finally, the latest available inventory year is compared with the emissions projections in the WEM scenario

Party's AEAs, which correspond to its national emission target for ESD sectors, change [linearly] from [xx.xx] kt CO_2 eq in 2013 to [xx.xx] kt CO_2 eq for 2020. The projected level of emissions under the WEM [and WAM] scenario[s] is [x.x] [and [x.x] per cent[, respectively,] [above][below] the AEAs for 2020. The ERT noted that the Party's cumulative [surplus][deficit] of AEAs is [xxx], which suggests that partyname [expects to meet its target][may need to use the flexibility allowed under the ESD to meet its target] under the [WEM][WAM] scenario.

Box 6.
Assessment of progress towards the EU joint target

stating the 2020 target under the Convention …

In assessing the EU's progress towards achieving the 2020 target, the ERT noted that the EU's emission reduction target under the Convention is 20 per cent below the 1990 level.

… providing summary information in tabular format …

Table 5
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by the European Union to achieve its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*[a]	*Contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*[b]	*Net emissions including LULUCF and market-based mechanisms (kt CO_2 eq)*
1990	5 718 653.64	NA	NA	5 718 653.64
2010	4 915 228.19	NA	137 000.00	4 778 228.19
2011	4 761 679.42	NA	254 000.00	4 507 679.42
2012	4 696 505.80	NA	504 000.00	4 192 505.80
2013	4 603 595.10	NA	133 000.00	4 470 595.10
2014	4 434 460.75	NA	257 000.00	4 177 460.75
2015	4 468 478.36	NA	23 000.00	4 445 478.36
2016	4 451 349.57	NA	12 234.00	4 439 115.57
2017	4 481 383.13	NA	11 829.00	4 469 554.13
2020 target	NA	NA	NA	NA

Sources: The EU's BR4 and CTF tables 2(a), 4, 4(a)I, 4(a)II, 4(b) and 6(a).
[a] The EU's emission reduction target does not include emissions or removals from LULUCF but includes international aviation and indirect CO_2 emissions.
[b] Units from market-based mechanisms used by EU ETS operators.

… comparing the latest available information with the base-year and the target-year …

According to information provided in CTF table 4, in 20XX the EU's annual total GHG emissions excluding LULUCF and NF_3, and including international aviation and indirect CO_2, were [xx.x] per cent ([xxx.xx] kt CO_2 eq) below the base-year level. In addition, the ERT noted that in 20XX the use of market-based mechanisms accounted for [xxx.xx] kt CO_2 eq, resulting in net emissions of [xxx.xx] kt CO_2 eq, or [xxx.xx] kt CO_2 eq below the 2020 target…

… assessing the progress for Parties that are making sufficient progress …

The ERT noted that the EU is making progress towards its emission reduction target by implementing mitigation actions that are delivering significant emission reductions and by using units from the market-based mechanisms in the EU ETS. The emission reductions achieved up to 20XX are significant and already position the EU towards overachievement of the 2020 target. This assessment is also supported by the information on projections for the WEM scenario

… or for Parties that are not making sufficient progress …

Not relevant for the EU.

… finally, the latest available inventory year is compared with the emissions projections in the WEM scenario

Total EU GHG emissions excluding international aviation, LULUCF and indirect CO_2 in 2020 are projected to be [xxx.xx] kt CO_2 eq under the WEM scenario, which represents a decrease of [xx.x] below the 1990 level.

V. Approaches for the technical assessment of the achievement of the 2020 targets in the TRR.5s

39. The general approach for assessing whether an Annex I Party has achieved its 2020 target involves comparing total GHG emissions and removals in the target year (e.g. 2020) or target period (e.g. 2013–2020) against the GHG emission level required by the Party's target.

40. For example, total GHG emissions (excluding LULUCF) occurring in the target year or relevant target period, combined with the contribution of LULUCF, where applicable, and any units from MBMs, as relevant, are compared against the GHG emission level required by the Party's target (e.g. a percentage reduction against base-year/base-period emissions). The target is considered to be achieved if GHG emissions in the target year or over the target period are less than or equal to the emission level required by the target. Figure 2 illustrates this comparison.

Figure 2
General approach for the assessment of target achievement

<table>
<tr><td rowspan="2">Accountable GHG emission level in the target year or target period, including contribution of LULUCF and units from MBMs, as applicable</td><td><
=</td><td rowspan="2">Targeted GHG emission level in the target year or target period</td><td>Target is achieved</td></tr>
<tr><td>></td><td>Target is not achieved</td></tr>
</table>

Note: In the context of this paper, the term 'accountable GHG emissions' means GHG emissions in the target year or target period including, as applicable, contribution of LULUCF and units from MBMs.

41. This general approach is further elaborated to accommodate each type of target defined in section III.A above. It should be emphasized that the assessment of the

achievement of the target considers the same elements as the assessment of progress towards the target (see para. 39 above). The only exception is the emission projection in the WEM scenario because once the target year or end year of the target period has been reached, GHG projections are no longer relevant since actual inventory data are available for that year, which will be the case for the fifth BRs.

42. This means that the ERTs could use established steps, as described in paragraph 38 above (see also the examples in boxes 3–6), with some modifications and streamlining. In particular, this relates to the ERTs' findings that refer to the assessment of progress towards the target (i.e. whether the Parties are making sufficient progress or facing challenges in meeting their targets) and excluding references to projections in the WEM scenario). As already explained, this part needs to be replaced with the assessment of the achievement of the target because the target year or end of the target period will have already been reached.

43. In this regard, the proposed approach for the assessment of the achievement of different types of targets consists of the following four steps:

(a) Stating the 2020 target under the Convention that represents the reference point against which the achievement will be assessed;

(b) Providing a summary of the quantitative information on annual GHG emission levels, contribution of LULUCF, use of units from MBMs, where applicable, and the emission level or budget that corresponds to the 2020 target in tabular format;

(c) Depending on the target type, comparing the 2020 emission level with the emission level that corresponds to the 2020 target; comparing the cumulative emissions in the target period with the emission/carbon budget; or comparing the 2020 ESD emissions with the AEA for the EU member States;

(d) Providing a conclusion on the achievement of the 2020 target.

44. The key question is how the ERTs should formulate their assessment of the achievement of the target (as per para. 43(d) above). Neither the UNFCCC reporting guidelines on BRs nor the UNFCCC review guidelines stipulate how to report on the achievement of the target, nor do they state how to assess its achievement.[20] However, given the previously reported information, it is safe to assume that Parties will provide information on whether and how they have achieved their targets.

45. Therefore, from the ERTs' perspective, and taking into account the lack of explicit provisions on the reporting on and the assessment of the achievement of the target by Parties and ERTs, respectively, it is important to follow the purpose, objectives and principles of the review of BRs, namely by providing in a facilitative, non-confrontational, open and transparent manner a thorough and comprehensive technical review with a view to ensuring that the COP has accurate, consistent and relevant information for reviewing the implementation of the Convention, and by refraining from making any political judgment.

46. ERTs and LRs are also aware of the sensitivity of the message for the broader audience in relation to their assessment of whether the Party's target was achieved or not. Therefore, ERTs' findings should be factual and neutral, using quantitative elements reported by Parties and comparing them against the GHG emission level required by the Party's target. Approaches with examples for the assessment of the achievement of each type of target are provided in boxes 7–10.

[20] For comparison purposes, para. 70 of the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement (decision 18/CMA.1, annex) clearly states that each Party shall provide an assessment of whether it has achieved the target(s) for its NDC.

Single-year emission reduction target

Box 7.

Assessment of the achievement of the single-year target

stating the 2020 target under the Convention …

In assessing the Party's achievement of its quantified economy-wide emission reduction target, the ERT noted that *Party* committed to reducing its GHG emissions by [x.x] per cent below the [1990][2000][2005] level by 2020.

… providing summary information in tabular format (proposal for BR5 template) …

Table x

Summary of information on GHG emissions trend, contribution of LULUCF and use of units from market-based mechanisms by *Party* for the base year [(1990)][(YYYY)] and period 20XX–2020, and emissions level that corresponds to the 2020 target

Year	*GHG emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*	*GHG emissions including LULUCF and market-based mechanisms, as applicable (kt CO_2 eq)*
[1990][other base year]				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
			2020 target[a] *(kt CO_2 eq)*	

Sources: [Party's BR5 and BR5 CTF table 4, 4(a)I, 4(a)II, 4(b)][, and information provided by the Party during the review.]

[a] Emissions level that corresponds to 2020 target is calculated by using GHG emissions excluding LULUCF in the base year [(1990)][(2000)][(2005)] and Party's target, i.e. percentage reduction against the base year emissions.

… comparing the 2020 emissions level with the emissions level that corresponds to the 2020 target …

{Option 1 – Contribution of LULUCF and/or MBMs are included} In 2020 *Party's* annual total GHG emissions excluding LULUCF were [xxx.xx] kt CO_2 eq. The ERT noted that in 2020 [the contribution of LULUCF was [xxx.xx] kt CO_2 eq] [and] [the use of market-based mechanisms accounted for [xxx.xx] kt CO_2 eq], resulting in [xxx.xx] kt CO_2 eq [or [xx.x] per cent [above][below][that equals] emissions level that corresponds to the target in 2020 (see table x above).

{Option 2 – Contribution of LULUCF and MBMs are excluded} In 2020 *Party's* annual total GHG emissions excluding LULUCF were [xxx.xx] kt CO_2 eq. The ERT noted that contribution of LULUCF is not included in Party's base year and target year, and Party did not use units from market-based mechanisms. Taking this into account, it results in [xxx.xx] kt CO_2 eq [or [xx.x] per cent [above][below][that equals] emissions level that corresponds to the target in 2020 (see table x above).

… assessing achievement of the target …

The ERT concluded that total GHG emissions excluding LULUCF of Party [including contribution of LULUCF] [and] [use of units from market-based mechanisms] do not exceed the emissions level that corresponds to the target in 2020, therefore target is considered to be achieved.

… or for Parties that did not achieved its target …

The ERT concluded that total GHG emissions excluding LULUCF of Party including contribution of LULUCF and units from market-based mechanisms exceeds the emissions

level that corresponds to the target in 2020, therefore target is not considered to be achieved.

Cumulative multi-year emission reduction target (emission or carbon budget)

Box 9.
Assessment of achievement of the cumulative multi-year target (budget) based on the Kyoto Protocol approach or other approaches

stating the 2020 target under the Convention …

In assessing the Party's achievement of its quantified economy-wide emission reduction target, the ERT noted that *Party* committed to reducing its GHG emissions by [x.x] per cent below the [1990][2000][2005] level by 2020.

[This target was made operational through the Party's quantified emission limitation or reduction commitment of [x.x] per cent of the base-year emissions for 2013–2020, as defined in the Doha Amendment to the Kyoto Protocol.][This target is equivalent to [x.x] per cent of the base-year emissions and is expressed as a [carbon][emissions] budget that equals [xx,xxx.xx] kt CO_2 eq for 2013–2020.]

… providing summary information in tabular format (proposal for BR5 template) …

Table x
Summary of information on GHG emissions trend, contribution of LULUCF and use of units from market-based mechanisms by *Party* for the base year [(1990)][(YYYY)] and period 20XX–2020, and emissions budget that corresponds to the 2020 target

Year	*GHG emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*	*GHG emissions including LULUCF and market-based mechanisms, as applicable (kt CO_2 eq)*
[1990][other base year]				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
Cumulative 2013–2020				
			Emissions budget 2013–2020[a] *(kt CO_2 eq)*	

Sources: [Party's BR5 and BR5 CTF table 4, 4(a)I, 4(a)II, 4(b)][, and information provided by the Party during the review.]
[a] Emissions budget that corresponds to 2020 target is provided in Party's BR5.

… comparing the cumulative emissions in the target period with the emissions/carbon budget …

Between 2013 and 2020 Party's total GHG emissions excluding LULUCF amounted to xx,xxx.xx kt CO_2 eq, [the contribution of LULUCF amounted to xx,xxx.xx kt CO_2 eq] [and] [the use of market-based mechanisms amounted to xx,xxx.xx kt CO_2 eq,] resulting in a net figure of xx,xxx.xx kt CO_2 eq, which equals [xx.x per cent of the Party's assigned amount for the second commitment period of the Kyoto Protocol (xx,xxx.xx kt CO_2 eq)][xx.x per cent of the Party's [emissions][carbon] budget for 2013–2020].

… assessing achievement of the target …

The ERT concluded that total GHG emissions excluding LULUCF of Party [including contribution of LULUCF] [and] [units from market-based mechanisms] do not exceed the [Party's assigned amount for the second commitment period of the Kyoto Protocol] [emissions][carbon] budget that corresponds to the target in 2020, therefore target is considered to be achieved.

… or for Parties that did not achieved its target …

The ERT [noted][concluded] that total GHG emissions excluding LULUCF of Party including contribution of LULUCF and units from market-based mechanisms exceeds the [Party's assigned amount for the second commitment period of the Kyoto Protocol] [emissions][carbon] budget that corresponds to the target in 2020, therefore target is not considered to be achieved.

Annual multi-year emission reduction or limitation targets for EU member States under the EU effort-sharing decision

Box 10.

Assessment of achievement of the annual multi-year emission reduction or limitation targets for EU MSs under the Effort Sharing Decision

stating the target under the Convention and ESD …

In assessing the Party's contribution towards achievement of the 2020 joint EU target, the ERT noted that *Party* committed to [reducing][limiting] its emissions [growth] to [x.x] per cent [below][above] the 2005 by 2020 under the ESD. This target has been translated into binding quantified AEAs for 2013–2020.

… providing summary information in tabular format (proposal for BR5 template) …

Table x

Summary of information on ESD emissions, AEA and use of units from market-based mechanisms by *EU member State*

Year	*ESD emissions (kt CO_2 eq)*[a]	*AEA (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*	*Annual AEA surplus/deficit (kt CO_2 eq)*	*Cumulative AEA surplus/deficit (kt CO_2 eq)*
2013					
2014					
2015					
2016					
2017					
2018					
2019					
2020					

Sources: [Party's BR5 and BR5 CTF table table 4, 4(a)I, 4(a)II, 4(b)][, information provided by the Party during the review] and the EU Transaction Log, available at https://ec.europa.eu/clima/ets/transactionsCompliance.do?languageCode=en

Note: For a given year, a positive number (surplus) indicates that annual or cumulative ESD emissions were lower than the corresponding AEA or cumulative AEAs, while a negative number (deficit) indicates annual or cumulative ESD emissions were higher than the AEA or cumulative AEAs.

[a] ESD emissions values are from the EU Transaction Log

… comparing the 2020 ESD emissions with the AEA …

In 2020 *Party's* ESD emissions were [xx] per cent ([xxx.xx] kt CO_2 eq) [below][above] the AEA ([xxx.xx] kt CO_2 eq). [Taking the use of market-based mechanisms into account,] Party has a cumulative [surplus][deficit] of [xxx.xx] kt CO_2 eq with respect to its AEAs between 2013 and 2020. [The ERT noted that *Party* did not make use of units from market-based mechanisms in 2020.]

… assessing the achievement of the target …

The ERT concluded that ESD emissions in 2020 [including units from market-based mechanisms] do not exceed the AEA for 2020, therefore target is considered to be achieved.

… or for Parties that did not achieved its target …

The ERT concluded that ESD emissions [including units from market-based mechanisms] exceed the emissions level that corresponds to the target in 2020, therefore target is not considered to be achieved.

The EU-wide emission reduction target

Box 11.
Assessment of achievement of the EU joint target

stating the 2020 target under the Convention …

In assessing the EU's achievement of its quantified economy-wide emission reduction target, the ERT noted that the EU committed to contributing to the achievement of the joint EU target of reducing its GHG emissions by 20.0 per cent below the 1990 level by 2020.

… providing summary information in tabular format (proposal for BR5 template) …

Table x
Summary of information on GHG emissions trend, contribution of LULUCF and use of units from market-based mechanisms by the EU for the base year [(1990)][(YYYY)] and period 20XX–2020, and emissions level that corresponds to the 2020 target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*[a]	*Contribution of LULUCF (kt CO_2 eq)*[b]	*Use of units from market-based mechanisms (kt CO_2 eq)*[c]	*Net emissions including LULUCF and market-based mechanisms (kt CO_2 eq)*
[1990][other base year]		NA		
2010		NA		
2011		NA		
2012		NA		
2013		NA		
2014		NA		
2015		NA		
2016		NA		
2017		NA		
2018		NA		
2019		NA		
2020		NA		
			2020 target[d] *(kt CO_2 eq)*	

Sources: [EU's BR5 and BR5 CTF table 4(b)][, information provided by the Party during the review] and the EU Transaction Log, available at https://ec.europa.eu/clima/ets/transactionsCompliance.do?languageCode=en

[a] The EU's emission reduction target does not include emissions or removals from LULUCF but includes international aviation and indirect CO_2 emissions.
[b] Not applicable for the European Union.
[c] Units from market-based mechanisms by EU ETS operators.
[d] Emissions level that corresponds to 2020 target is calculated by using GHG emissions excluding LULUCF in the base year (1990) and Party's target, i.e. percentage reduction against the base year emissions.

… comparing the 2020 emissions level with the emissions level that corresponds to the 2020 target …

In 2020 the EU's annual total GHG emissions excluding LULUCF and NF_3, and including international aviation and indirect CO_2, were [xx.x] per cent ([xxx.xx] kt CO_2 eq) below the base-year level. In addition, the ERT noted that in 2020 the use of market-based mechanisms accounted for [xxx.xx] kt CO_2 eq, resulting in net emissions of [xxx.xx] kt CO_2 eq, or [xxx.xx] kt CO_2 eq below the 2020 target.

… assessing achievement of the target …

The ERT concluded that total GHG emissions excluding LULUCF of the EU [use of units from market-based mechanisms] do not exceed the emissions level that corresponds to the target in 2020, therefore target is considered to be achieved.

VI. Conclusions and recommendations for consideration by the LRs

47. According to decision 6/CP.25, no later than 31 December 2022, Annex I Parties will submit their NC8 and fifth (and final) BRs, including CTF tables. These submissions will provide information on GHG emissions and removals for the time series, including a target year (2020) or target period (2013–2020) and information on the contribution of

LULUCF and use of units from MBMs for the same year or period, where applicable. This implies that instead of an assessment of progress towards the achievement of the target, which was provided in TRR.1s–TRR.4s, the ERTs of fifth BRs will assess the achievement of the target.

48. All Annex I Parties except Turkey have base-year emission targets, expressed as a percentage reduction in absolute GHG emissions from a base-year level to be achieved by 2020. However, Parties chose different periods for reaching the target and decided whether to include the contribution of LULUCF and/or units from MBMs or to pool their efforts (e.g. the EU and its member States) to achieve the targets. In this regard, four types of base-year emission reduction targets of Annex I Parties could be identified in BRs: (i) *single-year emission reduction target*; (ii) *cumulative multi-year emission reduction target (emission or carbon budget)*; (iii) *annual multi-year emission reduction or limitation target for EU member States under the EU effort-sharing decision*; and (iv) *the EU-wide emission reduction target*.

49. In achieving their 2020 targets, Parties can include the contribution from the LULUCF sector and use units from MBMs, consistent with how they established their 2020 targets.

50. The accounting approaches used to determine the contribution of the LULUCF sector differ across Parties, depending on whether targets are inscribed under the Convention or the Kyoto Protocol, whether Parties use a 'land-based' or an 'activity-based' approach and whether specific accounting approaches are applied to address particular sectoral issues (e.g. forest age-class structure).

51. With regard to the use of MBMs, information on units reported in CTF tables does not prejudge the position of other Parties with regard to the treatment of units from MBMs, and that units from MBMs surrendered by the Party for a particular year have not been previously surrendered by that or any other Party. In their fourth BRs, 40 of 44 Parties indicated that they intend to use MBMs towards achieving their targets.

52. The general approach proposed in this paper for assessing whether an Annex I Party has achieved its 2020 target follows the established practice used in TRR.1s–TRR.4s and involves comparing total GHG emissions and removals in the target year (2020) or target period (2013–2020) against the GHG emission level required by the Party's target, taking into account the contribution of LULUCF, where applicable, and any units from MBMs, if relevant. The target is achieved if accountable GHG emissions in the target year or over the target period are less than or equal to the emission level required by the target.

53. ERTs' findings on the achievement of targets should be factual and neutral. In this regard, the proposed approach for the assessment of the achievement of the target consists of the following four steps:

(a) Stating the 2020 target under the Convention that represents the reference point against which the achievement will be assessed;

(b) Providing a summary of the quantitative information on annual GHG emission levels, contribution of LULUCF, use of units from MBMs, where applicable, and the emission level or budget that corresponds to the 2020 target in tabular format;

(c) Depending on the target type, comparing the 2020 emission level with the emission level that corresponds to the 2020 target; comparing the cumulative emissions in the target period with the emission/carbon budget; or comparing the 2020 ESD emissions with the AEA for the EU member States;

(d) Providing a conclusion on the achievement of the 2020 target.

54. Approaches for the assessment of the achievement of the 2020 targets that are elaborated in this paper for LRs, once they have been agreed by LRs and are ultimately used in the reviews of fifth (and final) BRs, could provide a solid methodological basis for tracking the progress of Parties in implementing and achieving NDCs under Article 4 of the Paris Agreement, as reported in their BTRs.

Annex

Overview of Annex I Parties' GHG emission reduction targets

	Base year	*Target (change from base-year level) (%)*	*LULUCF included in the target*	*Use of MBMs*	*Target expressed as*	*Description*
Australia	2000	5	Yes	Yes	Budget (2013–2020)	The emission budget approach adopted by Australia in accounting for its target sets the total volume of emissions permitted for 2013–2020. To calculate the emission budget, a trajectory was plotted by taking a linear decrease from 2010 to 2020. The emission budget represents cumulative emissions below the trajectory starting from the target level under the first commitment period of the Kyoto Protocol (8 per cent above the 1990 level) and ending at 5 per cent below the 2000 level over the 2013–2020 period.
Belarus	1990	5–10	No	No	Single year (2020)	–
Canada	2005	17	Yes	Tbd	Single year (2020)	–
EU	1990	20	No	Yes	Single year (2020)	
Iceland	1990	20	Yes	Yes	Single year (2020)	
Japan	2005	At least 3.8	Yes	Yes	Single year (2020)	–
Kazakhstan	1990	15	No	No	Single year (2020)	–
Liechtenstein	1990	20	Yes	Yes	Single year (2020)	–
Monaco	1990	30	Yes	No	Single year (2020)	–
New Zealand	1990	5	Yes	Yes	Budget (2013–2020)	New Zealand's 2020 target of reducing emissions to 5.0 per cent below the 1990 level is equivalent to a reduction of 96.8 per cent in 1990 gross emissions (excluding LULUCF) and is expressed as a carbon budget for 2013–2020. Based on the gross emissions for 1990 included in the Party's 2016 inventory submission, which was used to calculate the carbon budget, New Zealand's total estimated emission budget for 2013–2020 is 509,774.98 kt CO_2 eq. This would be equivalent to average annual emissions of 63,721.87 kt CO_2 eq for that period. New Zealand reported that it will apply the Kyoto Protocol's second commitment period accounting rules to its 2020 target under the Convention.
Norway	1990	30	Yes	Yes	Budget (2013–2020)	Norway reported that the 30 per cent emission reduction target

	Base year	*Target (change from base-year level) (%)*	*LULUCF included in the target*	*Use of MBMs*	*Target expressed as*	*Description*
						under the Convention was made operational through the legally binding second commitment period of the Kyoto Protocol (2013–2020). During this period, average GHG emissions should not exceed 84 per cent of the 1990 level.
Russian Federation	1990	–	No	No	Single year (2020)	–
Switzerland	1990	20	Yes	Yes		The Party will assess achievement of its target under the Convention by accounting against its quantified emission limitation and reduction commitment under the second commitment period of the Kyoto Protocol. This means that Switzerland's commitment under the Convention will be considered fulfilled if it reaches its target for the second commitment period of the Kyoto Protocol. Switzerland's target under the Kyoto Protocol, which was derived from the Party's 2020 target under the Convention, is to reduce emissions by 15.8 per cent below the 1990 level in 2013–2020.
Turkey	–	–	–	–	–	
Ukraine	1990	–	No	Yes	Single year (2020)	–
United States	2005	In the range of 17	Yes		Single year (2020)	–

Note: Turkey has no 2020 target under the Convention.