
Possible approaches to technical assessment of achievement of 2020 targets in TRR5s

8th BR/NC lead reviewers meeting
24–26 February 2021

Davor Vesligaj, Programme officer
Karin Simonson, Programme officer
Transparency Division



United Nations
Climate Change Secretariat



- Introduction
- Overview of quantified targets, contribution from LULUCF and use of MBMs
- BR reporting on progress towards the target
- ERT's assessment of progress in TRRs
- Progress towards the target - examples
- Contribution from the LULUCF
- Use of units from MBMs
- Possible approaches for the assessment of achievement of the 2020 targets
- Proposal for the contents of the background paper
- Next steps for consideration by the LRs including proposal for conclusions

- TRR.s contain chapter related to progress made towards achievement of the 2020 quantified economy-wide emission reduction target, including the ERTs' **assessment of progress**.
- BR.5s (final BRs that are due end of 2022) will provide information on progress as required by the BR reporting guidelines, **including for the target year (2020) or target period (e.g. 2013-2020)**.
- TRR.5s would need to take into account this information and provide technical **assessment of achievement** of the 2020 target (progress → achievement).
- This exercise is also important for establishing the approaches and practices for future TERs of BTRs in the enhanced transparency framework.

Overview of quantitative targets, LULUCF and MBMs use



| | 2020 target (% BY) | BY | LULUCF | MBMs |
|--------------------|--------------------|---------|--------|------|
| Australia | 5 | 2000 | ● | ● |
| Belarus | 5-10 | 1990 | ○ | ○ |
| Canada | 17 | 2005 | ● | tbd |
| EU | 20 | 1990 | ○ | ● |
| Iceland | 20 | 1990 | ● | ● |
| Japan | at least 3.8 | 2005 FY | ● | ● |
| Kazakhstan | 15 | 1990 | ○ | ○ |
| Liechtenstein | 20 | 1990 | ● | ● |
| Monaco | 30 | 1990 | ● | ○ |
| New Zealand | 5 | 1990 | ● | ● |
| Norway | 30 | 1990 | ● | ● |
| Russian Federation | 15-25 | 1990 | ○ | ○ |
| Switzerland | 20 | 1990 | ● | ● |
| Ukraine | 20 | 1990 | ○ | ● |
| United States | approx. 17 | 2005 | ● | ○ |



- **BR-CTF tables 2 and 4** provide necessary quantitative information to assess progress and achievement of the target:
 - a) description of the target – base year, target, period for reaching target, gases and sectors covered, GWP, role of LULUCF and MBMs, other info.
 - b) progress – mitigation actions, GHG emissions, use of units from the MBMs and LULUCF contribution.
- However, **there are no mandated emissions accounting approaches or emissions/accounting balance** build in the BR-CTF table 4 that would take into account GHGs, LULUCF contribution and/or use of MBM units.

Target and related assumptions, conditions and methodologies

Case 1. Parties with a single-year (non-budget) approach

...In absolute terms this means that, under the Convention, Party has to reduce its emissions from [xxx.xx] kt CO₂ eq (in [1990][other base year]) to [xxx.xx] kt CO₂ eq by 2020.

Case 2. Parties with budget approach

...Party's emission budget represents cumulative emissions below the trajectory starting from [describe starting point] and ending at X per cent below the X level in 2020. In absolute terms, taking into account its base-year emissions of x.xx kt CO₂ eq, the Party's total estimated emission budget for 2013–2020 is x.xx kt CO₂ eq.

Target and related assumptions, conditions and methodologies

Case 3. Parties with KP approach

...Party's target under the Kyoto Protocol is to reduce emissions by x per cent below the XXXX level over 2013–2020. In absolute terms, taking into account its base-year emissions for the second commitment period of the Kyoto Protocol of x.xx kt CO₂ eq, the Party's total estimated emission budget for 2013–2020 is x.xx kt CO₂ eq.

Case 4. EU MS ESD targets

...Party has a national target of [limiting its emission growth][reducing its emissions] to [x] per cent [above][below] the 2005 level by 2020 for ESD sectors. This target has been translated into binding quantified AEAs for 2013–2020. Party's AEAs change following a [linear] path from [xx.xx] kt CO₂ eq in 2013 to [xx.xx] kt CO₂ eq in 2020.

Progress made towards achievement of the target

Case 1. Parties with a single-year approach

...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. In [2017][2018] party's annual total GHG emissions excluding LULUCF were [xx.x] per cent ([xxx.xx] kt CO₂ eq) [below][above] the base-year level. In addition, the ERT noted that in [2016][2017] the contribution of LULUCF was [xxx.xx] kt CO₂ eq and the use of market-based mechanisms accounted for [xxx.xx] kt CO₂ eq, resulting in net emissions of [xxx.xx] kt CO₂ eq, or [xxx.xx] kt CO₂ eq [above][below] the 2020 target...

Progress made towards achievement of the target

Case 2. Parties with budget approach

...In assessing the Party's progress towards achieving its 2020 target, the ERT noted that partyname's emission reduction target under the Convention is xx per cent below the XXXX level and it will use an emission budget approach for 2013–2020 (see paras. 21–23 above).

Between 2013 and 20XX Partyname's total GHG emissions excluding LULUCF amounted to xx,xxx.xx kt CO₂ eq, the contribution of LULUCF amounted to xx,xxx.xx kt CO₂ eq and the use of market-based mechanisms amounted to xx,xxx.xx kt CO₂ eq, resulting in a net figure of xx,xxx.xx kt CO₂ eq, which equals xx.x per cent of the Party's emission budget of xx,xxx.xx kt CO₂ eq for 2013–2020...

Progress made towards achievement of the target

Case 3. Parties with KP approach

...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 the 1990 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. Between 2013 and 20XX Party's total GHG emissions excluding LULUCF amounted to xx,xxx.xx kt CO₂ eq, the contribution of LULUCF amounted to xx,xxx.xx kt CO₂ eq and the use of market-based mechanisms amounted to xx,xxx.xx kt CO₂ eq, resulting in a net figure of xx,xxx.xx kt CO₂ 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 CO₂ eq)...

Progress made towards achievement of the target

Case 4. EU MS ESD

...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. In [2017][2018] Party's ESD emissions were [xx] per cent ([xxx.xx] kt CO₂ eq) [below][above] the AEA. Taking the use of market-based mechanisms into account, Party has a cumulative [surplus][deficit] of [xxx.xx] kt CO₂ eq with respect to its AEAs between 2013 and [2017][2018]...

Progress towards the target – budget approach example



Sector breakdown of units and emissions for 2013 to 2020

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | TOTAL |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | Historic | | | | | | Projected | | |
| Units | | | | | | | | | |
| 2013 to 2020 carbon budget | | | | | | | | | 509.8 |
| Kyoto Protocol forestry activities | 8.0 | 12.2 | 14.4 | 16.0 | 15.8 | 15.4 | 13.5 | 12.6 | 108.0 |
| Surplus units from CP1 | | | | | | | | | 123.7 |
| Total units | | | | | | | | | 741.5 |
| Emissions | | | | | | | | | |
| Stationary energy | 17.7 | 17.7 | 17.3 | 15.8 | 16.7 | 15.3 | 16.9 | 16.0 | 133.4 |
| Transport | 14.4 | 14.5 | 15.1 | 15.3 | 16.3 | 16.6 | 17.0 | 17.3 | 126.4 |
| Industrial processes and product use | 4.8 | 5.0 | 5.2 | 5.0 | 5.1 | 5.2 | 5.2 | 5.2 | 40.6 |
| Agriculture | 37.7 | 38.1 | 37.8 | 37.4 | 37.4 | 37.7 | 36.6 | 36.4 | 299.1 |
| Waste | 4.3 | 4.2 | 4.1 | 4.1 | 4.1 | 4.1 | 4.0 | 4.0 | 32.8 |
| Tokelau | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | 0.004 | 0.03 |
| Gross emissions | 78.8 | 79.4 | 79.5 | 77.6 | 79.6 | 78.9 | 79.6 | 78.9 | 632.3 |
| Net position | | | | | | | | | 109.2 |

Source: New Zealand's net position 2020, <https://www.mfe.govt.nz/climate-change/climate-change-and-government/emissions-reduction-targets/reporting-our-targets-0>



Progress towards the target – EU ESD example



CLIMATE ACTION

European Union Transaction Log

Environment > Climate Change > European Union Transaction Log

[help info ?](#)

ESD Compliance Dashboard - Search Criteria

ESD Member State:

Sweden

ESD Year:

ESD Compliance Dashboard - Search Results

ESD Compliance Dashboard

| ESD Member State | ESD Year | Account Status | Identifier | Allocated | Emissions | Penalty | Used AEA Units* | Used International Credits* | Balance* | Compliance Figure* |
|------------------|----------|----------------|-------------|-----------|-----------|---------|-----------------|-----------------------------|----------|--------------------|
| SE | 2013 | closed | ESD-SE-2013 | 41685104 | 35278781 | N/A | 41685104 | 0 | 6406323 | Compliant |
| SE | 2014 | closed | ESD-SE-2014 | 41044880 | 34522651 | 0 | 41044880 | 0 | 6522229 | Compliant |
| SE | 2015 | closed | ESD-SE-2015 | 40404657 | 33897178 | 0 | 40404657 | 0 | 6507479 | Compliant |
| SE | 2016 | closed | ESD-SE-2016 | 39764434 | 32612247 | 0 | 39764434 | 0 | 7152187 | Compliant |
| SE | 2017 | closed | ESD-SE-2017 | 37801201 | 32530542 | 0 | 37801201 | 0 | 5270659 | Compliant |
| SE | 2018 | open | ESD-SE-2018 | 37227525 | 31400231 | 0 | | | | |

*Values at Compliance Calculation Date

Source: European Union Transaction Log
<https://ec.europa.eu/clima/ets/welcome.do?languageCode=en>



Table 4.2. Achieving the commitment under the Kyoto Protocol's second commitment period (million tonnes CO₂-eq.)

| | 2013-2020 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Emissions/projections ^a | 423.40 | 54.0 | 54.1 | 54.5 | 53.6 | 52.7 | 52.0 | 51.5 | 51.0 |
| Assigned amount units for CP2 ^b | 348.91 | 43.6 | 43.6 | 43.6 | 43.6 | 43.6 | 43.6 | 43.6 | 43.6 |
| Net LULUCF (art 3.3 and 3.4) ^c | -0.56 | -0.03 | -0.15 | -0.12 | -0.02 | -0.03 | -0.07 | -0.07 | -0.07 |
| Total acquisition ^d | 73.9 | 10.4 | 10.3 | 10.8 | 10.0 | 9.1 | 8.3 | 7.8 | 7.3 |

^a Reported emissions (2013-2017), preliminary estimates (2018), projections linearly interpolated for 2019 and 2020.

^b AAUs for CP2 are not yet issued.

^c Reported for 2013-2017, average of 2013-2017 used for 2019 and 2020. Negative figure indicates net uptake

^d Includes actual carry-over of CERs and ERUs and planned carry-over of AAUs to party holding account, actual purchase and planned purchase.

Source: Norway's BR4

<https://unfccc.int/sites/default/files/resource/Norways%20Fourth%20Biennial%20Report%20FINAL.pdf>

Progress and achievement – "doing the math"



Table 4

Reporting on progress^{a, b}

| Year ^c | A. Total emissions excluding LULUCF (kt CO ₂ eq) | B. Contribution from LULUCF ^d (kt CO ₂ eq) | C. Quantity of units from market based mechanisms under the Convention (number of units) (kt CO ₂ eq) | | D. Quantity of units from other market based mechanisms (number of units) (kt CO ₂ eq) | Emissions balance (annual) (kt CO ₂ eq) |
|---|--|---|---|--|--|--|
| | | | | | | |
| Base year/period | | | | | | |
| 2013 | | | | | | |
| 2014 | | | | | | |
| 2015 | | | | | | |
| 2016 | | | | | | |
| 2017 | | | | | | |
| 2018 | | | | | | |
| 2019 | | | | | | |
| 2020 | | | | | | EB = A+B-C-D |
| <i>Emissions balance (period, e.g. 2013-2020)</i> | ΣA | ΣB | ΣC | | ΣD | EB = $\Sigma A + \Sigma B - \Sigma C - \Sigma D$ |

EB ≤ Target level

EB ≤ Budget



- Out of 44 Parties, 10 decided to take into account contribution from LULUCF
- Reporting and accounting for LULUCF:
 - a) *Activity-based vs Land-based approaches*
 - KP Parties report and account for LULUCF contributions by **activity**
 - Afforestation, Deforestation, Forest Management, Revegetation, Cropland Management, Grazing Land Management and Wetland Drainage and Rewetting
 - e.g. CTF table 4(a)II
 - Other Parties report and account for LULUCF contributions following the **Convention** or **GHG inventory categories**
 - Forest Land, Cropland, Grassland, Wetlands
 - e.g. CTF table 4(a)I

b) *Sub-sector accounting approaches*: LULUCF sub-sectors use different accounting approaches, reflecting their unique characteristics (e.g. age-class structure, inter-annual variability). These can be applied to both activity-based and land-based approaches.

1. Gross-net – measures the contribution in the target year

- Applies to activities: Afforestation/Reforestation/Deforestation
- Applies to categories: Land converted to Forest Land; Forest Land converted to Land

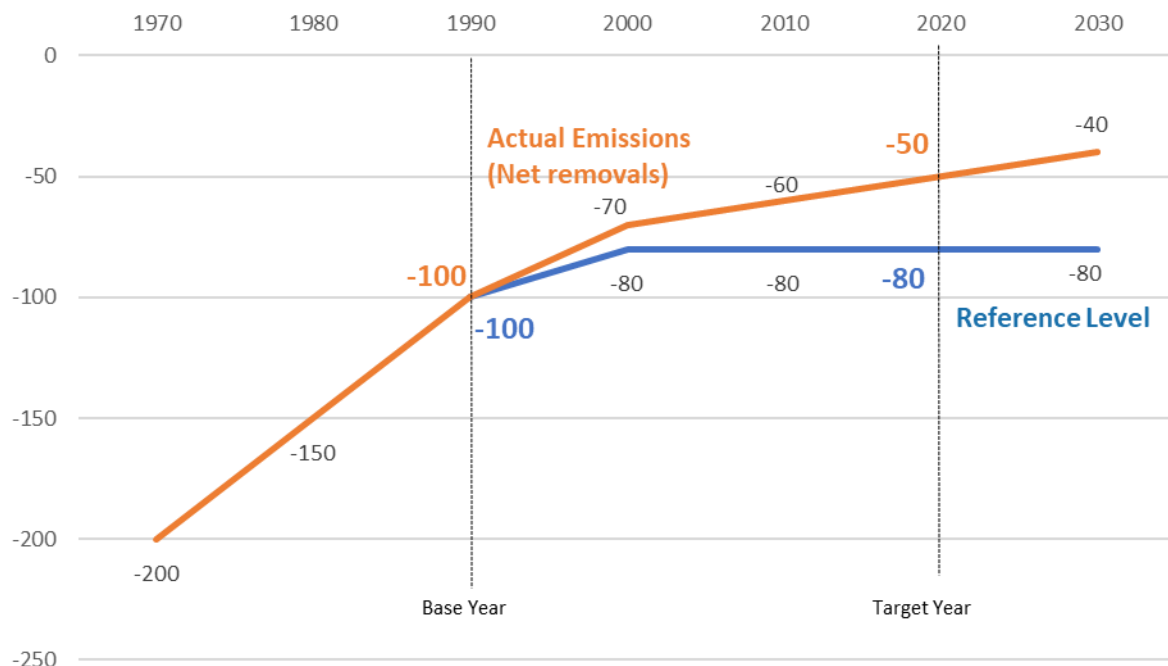
2. Net-net – measures the contribution between the base year and the target year

- Applies to activities: Cropland Management, Grazing Land Management, Revegetation, Wetland Drainage and Rewetting
- Applies to categories: Cropland, Grassland, Wetlands

3. Reference Level – measures the contribution against a reference level (a projection of what was expected to occur)

- Applies to activity: Forest Management (and associated Harvested Wood Products)
- Applies to category: Forest Land (and associated Harvested Wood Products)

Contribution from LULUCF



In this example, the hypothetical net sink in the LULUCF sub-category has declined over time – so while it is still a net removal, it is smaller than in the past (and smaller than projected in the Reference Level). The size of the contribution is determined by the specific accounting approach used.

Gross-net

Equal to the amount in the target year (2020)
→ **-50 units**
→ brings the Party 50 units closer to the target

Net-net

Equal to the amount in base year (-100 units) minus the amount in target year (-50 units)
→ **+50 units**
→ brings the Party 50 units further from the target

Reference Level

Equal to the difference in the target year between actual emissions (-50 units in 2020) and reference level emissions (-80 units in 2020)
→ **+30 units**
→ brings the Party 30 units further from the target



- Out of 44 Parties, 36 decided to use units from MBMs
- Types of units that could be used:
 - a) AAU carry-overs (surplus from CP1)
 - b) CERs, ERUs units
 - c) Other units
- Reporting in CTF table 4 does not prejudice the position of other Parties with regard to the treatment of units from MBMs under the Convention or other MBMs – potential double-counting

Use of MBMs units - examples



EU

Table 4
Reporting on progress^{a, b}

EUA_BR4_v2.0

| Year ^c | Total emissions excluding LULUCF ^d (1) (2) | Contribution from LULUCF ^d (3) | Quantity of units from market based mechanisms under the Convention (4) (5) | | Quantity of units from other market based mechanisms (6) | |
|-------------------------|---|---|---|-------------------------|--|-------------------------|
| | (kt CO ₂ eq) | (kt CO ₂ eq) | (number of units) | (kt CO ₂ eq) | (number of units) | (kt CO ₂ eq) |
| Base year/period (1990) | 5,718,653.64 | NA | NA* | NA* | NA* | NA* |
| 2010 | 4,915,228.19 | NA | 137,000,000.00 | 137,000.00 | NA | NA |
| 2011 | 4,761,679.42 | NA | 254,000,000.00 | 254,000.00 | NA | NA |
| 2012 | 4,696,505.80 | NA | 504,000,000.00 | 504,000.00 | NA | NA |
| 2013 | 4,603,595.10 | NA | 133,000,000.00 | 133,000.00 | NA | NA |
| 2014 | 4,434,460.75 | NA | 257,000,000.00 | 257,000.00 | NA | NA |
| 2015 | 4,468,478.36 | NA | 23,000,000.00 | 23,000.00 | NA | NA |
| 2016 | 4,451,349.57 | NA | 12,234,000.00* | 12,234.00* | NA | NA |
| 2017 | 4,481,383.13 | NA | 11,829,000.00* | 11,829.00* | NA | NA |

Norway

Table 4
Reporting on progress^{a, b}

NOR_BR4_v3.0

| Year ^c | Total emissions excluding LULUCF ^d (1) (3) | Contribution from LULUCF ^d (2) (4) | Quantity of units from market based mechanisms under the Convention | | Quantity of units from other market based mechanisms | |
|-------------------------|---|---|---|-------------------------|--|-------------------------|
| | (kt CO ₂ eq) | (kt CO ₂ eq) | (number of units) | (kt CO ₂ eq) | (number of units) | (kt CO ₂ eq) |
| Base year/period (1990) | 51,921.77* | NA* | NA* | NA* | NA* | NA* |
| 2010 | NA* | NA* | NA* | NA* | NA* | NA* |
| 2011 | NA* | NA* | NA* | NA* | NA* | NA* |
| 2012 | NA* | NA* | NA* | NA* | NA* | NA* |
| 2013 | 54,015.24* | -34.90* | 10,351,000.00* | 10,351.00* | NA* | NA* |
| 2014 | 54,127.25* | -145.83* | 10,340,000.00* | 10,340.00* | NA* | NA* |
| 2015 | 54,450.03* | -120.26* | 10,765,000.00* | 10,765.00* | NA* | NA* |
| 2016 | 53,607.84* | -23.05* | 9,963,000.00* | 9,963.00* | NA* | NA* |
| 2017 | 52,712.54* | -26.08* | 9,060,000.00* | 9,060.00* | NA* | NA* |
| 2018 | 52,000.00* | -70.02* | 8,316,000.00* | 8,316.00* | NA* | NA* |



- Approaches for assessment of achievement of 2020 target should be built on the current BR reporting and review practice on progress made towards the target (see examples of ERTs' assessment of progress in the previous slides);
- General approach for the assessment should be based on the comparison of:

| | | |
|---|-------------|---|
| GHG emissions level in the target year (2020) or target period (e.g. 2013-2020) including contribution from LULUCF and units from MBMs | < = > | Targeted emissions level in 2020 or period (based on the reduction target or budget) |
|---|-------------|---|

- It is assumed that quantitative information provided on CTF tables 2 and 4, if completely and transparently reported, should be sufficient to allow technical assessment of achievement of the target;
- Within the ERT, the generalist/GHG expert should be tasked to “do the math”;

- From the current practice it is evident that at least 5 specific cases will occur:
 - a) Parties with single-year approach (non-budget approach);
 - b) Parties with budget approach (AUS, NZL, UK);
 - c) Parties with KP approach (CHE, NOR);
 - d) EU Member states with national ESD targets; and
 - e) EU with EU ETS and ESD;
- Each of these cases requires fine-tuning of general approach for assessment;
- TRR.5 template needs to be tailored according to these cases;
- Further work is required to analyse all aspects of targets and progress/achievement of the targets and to discuss potential challenges – background paper as an input for discussion.



1. Introduction (background, purpose and scope)
2. Types of targets and accounting approaches
3. Information relevant for assessing progress and achievement of the 2020 target (GHG emission reductions, contribution from LULUCF and use of units from MBMs)
4. Possible approaches for assessment of achievement of the 2020 target (based on 5 cases outlined in the presentation)
5. Potential replicability of approaches in TERs of BTRs
6. Conclusion and recommendations for consideration by the LRs





1. Further analysis by the secretariat, including the preparation of the background paper;
2. In-depth discussion on this topic at 9th LRs meeting in 2022;
3. Update of the RPG 2022 with agreed approaches;
4. Update of the TRR.5 template.



Proposal for conclusions to be considered by the LRs



United Nations
Climate Change Secretariat

The LRs acknowledged the possible approaches for the technical assessment of the achievement of 2020 quantified economy-wide emission reduction targets by the ERTs, presented by the secretariat, and requested the secretariat to prepare a background paper on this matter as an input for discussion during the next LR's meeting.



Transparency

Q/A



United Nations
Climate Change Secretariat

