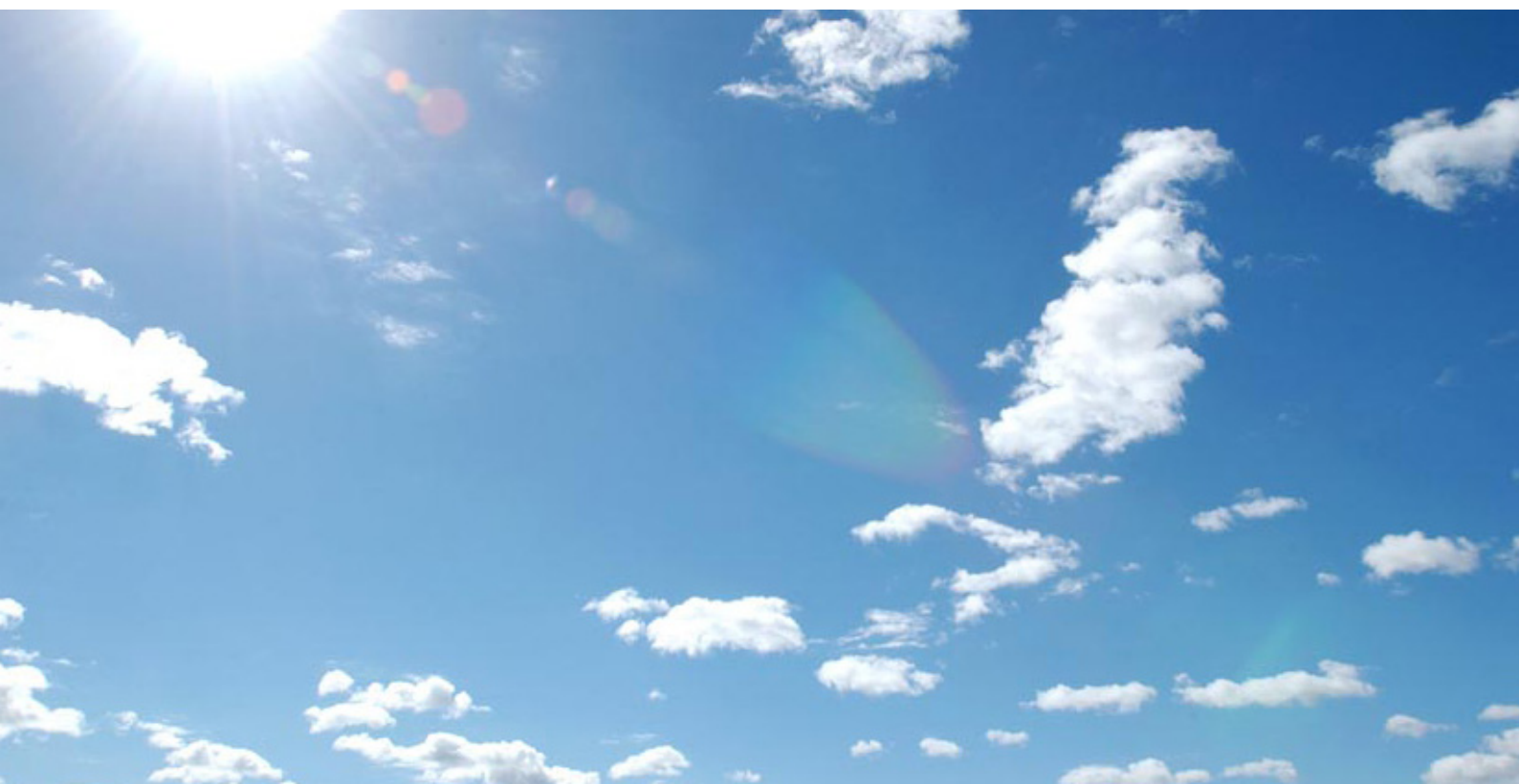




Australian Government
Department of the Environment

Australia's Initial Report

Australia's Report to Facilitate the Calculation of the Assigned Amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, of the Kyoto Protocol for the second commitment period of the Kyoto Protocol



May 2016

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1. Introduction

This Report is a submission of the Australian Government to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis for the second commitment period (CP2) of the Kyoto Protocol (KP). It is submitted in accordance with decisions 2/CMP.11, 3/CMP.11 and 1/CMP.8 that provides, pending the entry into force of the KP Doha Amendment that establishes the CP2, KP Parties will continue to implement KP commitments and other responsibilities in a manner consistent with their national legislation and domestic processes. In December 2015, at the 11th session of the Conference of the Parties serving as the meeting of the Parties to the KP, the Australian Government announced it will ratify the Doha Amendment.

The accompanying *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* provides a full time series of greenhouse gas emission and removal estimates for Australia for the period 1990 – 2014. This inventory has been used to estimate Australia's assigned amount and base year emissions. Should the Australian Government submit updated inventory data, this Report will be updated prior to completion of the expert review to be conducted in accordance with decision 10/CMP.11.

2. Requirements of the report to facilitate the calculation of the assigned amount for the CP2

According to decision 2/CMP.8, as revised by paragraph 4 of annex I to decision 3/CMP.11, if a Party had a target under the first commitment period of the KP, the report to facilitate the calculation of the assigned amount for the CP2 shall contain the following information:

- Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, recalculated in accordance with decision 4/CMP.7 for all years from 1990, to the most recent year available. If the report is submitted at the same time as the submission of the Party's annual greenhouse gas inventory, only one inventory submission should be provided and both reports should be submitted in conjunction;
- Identification of the selected base year for nitrogen trifluoride;
- The agreement under Article 4, where the Party has reached such an agreement to fulfill its commitments under Article 3 jointly with other Parties;
- Calculation of the assigned amount pursuant to Article 3, paragraphs 7bis, 8 and 8bis, on the basis of its inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol;
- Calculation of the difference between the assigned amount for the second commitment period and average emissions for the first three years of the preceding commitment period multiplied by eight, pursuant to Article 3, paragraph 7 ter, and in accordance with paragraphs 8 ter and 8 quater of annex I to decision 3/CMP.11;
- Calculation of the commitment period reserve in accordance with decision 11/CMP.1 or any subsequent revision thereof related to the calculation of the commitment period reserve;
- Selected values for tree crown cover, land area and tree height for use in accounting for activities under Article 3, paragraphs 3 and 4 of the KP shall be the same as for the first commitment period;

- Identification of the election of activities under Article 3, paragraph 4, of the KP for inclusion in accounting for the CP2, in addition to those activities under Article 3, paragraph 4, of the KP that were elected in the first commitment period, together with information on how the national system will identify land areas associated with all additional elected activities and how land that was accounted for under activities under Article 3, paragraphs 3 and 4, of the KP in the first commitment period continues to be accounted for in subsequent commitment periods, in accordance with decisions 16/CMP.1 and 2/CMP.7;
- Identification of whether, for each activity under Article 3, paragraphs 3 and 4, accounting will occur annually or for the entire commitment period;
- The forest management reference level as inscribed in the appendix to the annex to decision 2/CMP.7, any technical corrections as contained in the inventory report for the first year of CP2 and references to those sections in the Report where such information is reported consistent with the requirements of decision 2/CMP.7, annex, paragraph 14;
- Information on how emissions from harvested wood products originating from forests prior to the start of the CP2 have been calculated in the reference level in accordance with decision 2/CMP.7, annex, paragraph 16;
- An indication of whether there is an intention to apply the provisions to exclude emissions from natural disturbances for the accounting for *afforestation* and *reforestation* under Article 3, paragraph 3, of the KP and/or *forest management* under Article 3, paragraph 4, of the KP during the CP2, including:
 - Country-specific information on the background level of emissions associated with annual natural disturbances that have been included in its forest management reference level;
 - Information on how the background level(s) for *afforestation* and *reforestation* under Article 3, paragraph 3, of the KP and/or *forest management* under Article 3, paragraph 4, of the KP have been estimated, and information on how it avoids the expectation of net credits or net debits during the commitment period, including information on how a margin is established, if a margin is needed.

In accordance with the annex to decision 2/CMP.8 this Report does not contain a description of the national system or the national registry as Australia had a quantified emission limitation and reduction target in the first commitment period of the KP.

a. Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, for all years from 1990

Australia's most recently completed inventory – the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* – the associated Common Reporting Format tables and this Report have been submitted to the UNFCCC secretariat.

The submitted documents provide detailed information and a full time series of greenhouse gas emission and removal estimates for Australia for the period 1990–2014 based on UNFCCC classifications. These emission estimates have been used to estimate Australia's assigned amount and base year emissions. Table 1 provides summary data on Australia's greenhouse gas emissions from 1990–2014.

Table 1: Australia's Greenhouse Gas Emissions 1990-2014

| Year | CO ₂ -e emissions excluding land use, land use change and forestry (kt CO ₂ -e) | Total CO ₂ -e emissions including land use, land use change and forestry (kt CO ₂ -e) |
|------|---|---|
| 1990 | 418,623.050 | 549,044.955 |
| 1991 | 418,674.057 | 521,563.408 |
| 1992 | 423,080.108 | 487,921.384 |
| 1993 | 423,764.933 | 482,794.565 |
| 1994 | 424,092.959 | 498,523.757 |
| 1995 | 433,478.651 | 478,327.752 |
| 1996 | 439,803.962 | 494,017.385 |
| 1997 | 451,721.718 | 514,834.522 |
| 1998 | 466,382.112 | 512,677.570 |
| 1999 | 472,245.991 | 526,663.509 |
| 2000 | 483,445.827 | 544,122.892 |
| 2001 | 491,441.696 | 537,839.609 |
| 2002 | 494,740.101 | 559,814.625 |
| 2003 | 495,154.086 | 542,941.433 |
| 2004 | 511,710.242 | 556,817.809 |
| 2005 | 518,850.759 | 584,991.960 |
| 2006 | 522,517.192 | 601,516.133 |
| 2007 | 529,842.870 | 576,019.889 |
| 2008 | 533,693.508 | 578,029.492 |
| 2009 | 537,889.893 | 583,117.338 |
| 2010 | 533,917.436 | 556,535.881 |
| 2011 | 534,089.799 | 543,400.283 |
| 2012 | 537,377.571 | 544,334.559 |
| 2013 | 526,882.667 | 532,896.014 |
| 2014 | 522,397.091 | 524,998.712 |

Source: Department of the Environment, 2016, *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013*

b. Base year for nitrogen trifluoride

Australia has decided to use 1990 as the base year for nitrogen trifluoride, which is consistent with the base year for all gases included in the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013*.

c. Agreement under Article 4 of the Kyoto Protocol

Australia will not be a participant in any Article 4 agreements.

d. Calculation of Australia's Assigned Amount

Based on the data contained in the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* and Common Reporting Format tables, Australia's assigned amount for the CP2 of the KP is 4,465,881.464 kt CO₂-e. Details of this calculation are provided in Table 2.

Table 2: Determination of Australia's Assigned Amount

| Sector | kt CO ₂ -e |
|---|-----------------------|
| Energy | 292,802.453 |
| Industrial Processes and Product Use | 26,108.523 |
| Agriculture | 80,060.540 |
| Waste | 19,651.533 |
| Land use change ¹ | 142,417.335 |
| Total base year emissions estimate | 561,040.385 |
| 99.5% of base year estimate² | 558,235.183 |
| Australia's Assigned Amount (8 times 99.5% of base year estimates) | 4,465,881.464 |

¹ In accordance with Article 3.7bis, and consistent with the calculation of the base for CP1, as *land use change and forestry* (all emissions by sources and removals by sinks under category 4 of the *Revised Guidelines for the preparation of national communication by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories*) constituted a net source for Australia in 1990 (130,421.91 kt CO₂-e), the emissions from land use change in 1990 are included in the emissions estimate for the base year for the purposes of calculating Australia's CP2 assigned amount. *Land use change* is defined to include net emissions from *Forest Conversion to Cropland, Grassland, Wetlands, Settlements and Other lands*.

² Annex B to the Kyoto Protocol lists Australia's quantified emission limitation or reduction commitment as 99.5 per cent of the base year over 2013-2020.

e. Application of Article 3.7 ter

Article 3.7 ter requires the calculation of a threshold beyond which a cancellation of CP2 assigned amount units (AAUs) is undertaken equal to any positive difference between a Party's CP2 assigned amount and eight times its average annual emissions for 2008, 2009 and 2010.

Decision 2/CMP.11 also requires that Parties clarify in their Report whether they have used, in the calculation of the average annual emissions for the first three years of the preceding commitment period: (a) the gases and sources listed in Annex A to the Kyoto Protocol; or (b) the same greenhouse gases, sectors and source categories as those used to calculate the assigned amount for CP2.

As determined from Table 2, Australia's CP2 assigned amount is estimated from net emissions from *land-use change, energy, industrial processes and product use, agriculture, and waste* in the 1990 emissions base year.

The same approach is used to calculate average annual emissions for 2008 – 2010. As indicated in Table 3, the estimate of Australia's CP2 assigned amount is below the calculated threshold for AAU cancellation derived from the estimate of Australia's average annual emissions for 2008 to 2010. Therefore, cancellation of AAUs is not required in accordance with Article 3.7 ter.

Table 3: Determination of Australia's Assigned Amount

| Calculation of the Threshold for AAU cancellation | kt CO ₂ -e |
|--|-----------------------|
| Emissions ^a – 2008 | 593,067.639 |
| Emissions ^a – 2009 | 598,615.119 |
| Emissions ^a – 2010 | 585,922.312 |
| Average emissions 2008–2010 | 592,535.024 |
| Threshold for AAU cancellation: average emissions 2008 to 2010 times eight | 4,740,280.188 |
| Comparison of Total Assigned Amount with threshold for AAU cancellation | |
| Total Assigned Amount ^b | 4,465,881.464 |
| Threshold for AAU cancellation | 4,740,280.188 |
| Total Assigned Amount minus threshold for AAU cancellation | -274,398.724 |
| AAUs to be cancelled | 0 |

a Calculated as emissions from *energy, industrial processes and product use, agriculture, land use change, and waste* consistent with the greenhouse gases, sectors and source categories used to calculate the assigned amount for CP2.

b As per the calculation in Table 2.

f. Calculation of the commitment period reserve

The commitment period reserve should not drop below 90 per cent of the Party's assigned amount or 100 per cent of eight times its most recently reviewed inventory, whichever is lowest.

As indicated in Table 4, the commitment period reserve for CP2 is calculated to be 4,019,293.318 kt CO₂-e, calculated as 90 per cent of the estimated CP2 assigned amount.

Table 4: Calculation of the commitment period reserve

| Item | kt CO ₂ -e |
|---|-----------------------|
| Eight times the most recently reviewed inventory ^a including Land Use Change (8 times 559,716.187) | 4,477,729.496 |
| 90% of the Assigned Amount (0.9 times 4,465,881.464) | 4,019,293.318 |
| Commitment period reserve | 4,019,293.318 |

a Australia interprets "the most recently reviewed inventory" to be the same greenhouse gases, sectors and source categories as those used to calculate the assigned amount for CP2, namely the sources listed in Annex A to the KP and Land Use Change. The estimate relates to inventory year 2014 and is based on data contained in the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* and common reporting format tables that are submitted in conjunction with this report.

g. Identification of selected values for tree crown cover, land area and tree height for use in accounting for activities under Article 3, paragraphs 3 and 4

Selected values for tree crown cover, land area and tree height for use in accounting for activities under Article 3, paragraphs 3 and 4 of the KP are the same as for the first commitment period. Australia's first commitment period definition is defined in *The Australian Government's Initial Report Under the Kyoto Protocol (2008)*¹.

1 http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/first_commitment_period_2008-2012/items/3765.php

h. Election of activities under Article 3.4 for accounting in the period 2013–2020

Australia accounted for the mandatory Article 3.3 activities *deforestation* and *afforestation/reforestation* in the first commitment period of the KP.

In the CP2, Australia will continue to account for *deforestation* and *afforestation/reforestation* as well as the Article 3.4 activity, *forest management*, which is mandatory for CP2. In addition, Australia elects to account for the following voluntary activities under Article 3 paragraph 4:

- *Cropland management*;
- *Grazing land management*; and
- *Revegetation*.

Chapters 6 and 11 of the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* describe how Australia's national system will identify land areas associated with all Article 3.3 and Article 3.4 activities and how land accounted for under Article 3.3 activities in the first commitment period continue to be accounted in the CP2.

i. Accounting for Article 3.3 and Article 3.4 activities

Australia will account for all Article 3.3 activities annually in the CP2, in a continuation of the approach selected for the first commitment period.

Australia will account for *forest management* and elected Article 3.4 activities for the entire commitment period at the end of the CP2.

Table 5: Accounting mode elected by Australia for Article 3.3 and Article 3.4 activities

| Article | Activity | Accounting mode |
|-------------|------------------------------------|--------------------------|
| Article 3.3 | <i>Deforestation</i> | Annual |
| Article 3.3 | <i>Afforestation/reforestation</i> | Annual |
| Article 3.4 | <i>Forest Management</i> | Entire commitment period |
| Article 3.4 | <i>Cropland Management</i> | Entire commitment period |
| Article 3.4 | <i>Grazing land Management</i> | Entire commitment period |
| Article 3.4 | <i>Revegetation</i> | Entire commitment period |

j. Australia's forest management reference level and technical corrections

The forest management reference level inscribed in the appendix to the annex to decision 2/CMP.7 was 4.7 Mt CO₂-e per year for Australia.

There have been a number of methodological refinements since this reference level was submitted, which include changes to address subsequently agreed rules for implementing the natural disturbance provision and calculating emissions from harvested wood products (decisions 2/CMP.7, 2/CMP.8 and *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol* (IPCC 2014)) as well as refinements to other methodological elements used in the estimation of forest management emissions (IPCC 2014). As a result, a technical correction of 5.687 Mt CO₂-e has been applied to Australia's forest management reference level. Australia's adjusted forest management reference level for the CP2 is -0.987 Mt CO₂-e per year.

Table 6: Forest Management Reference Level

| Item | Technical Correction (Mt CO ₂ -e/year) | Forest Management Reference Level (Mt CO ₂ -e/year) |
|--|--|--|
| Forest management reference level inscribed in the appendix to the annex to decision 2/CMP.7 | – | 4.700 |
| National Inventory Report 2014 – second year of CP2 | 5.687 | -0.987 |

The technical correction and methodological refinements are described in detail in section 11.6.5 of the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013*.

Forest Management Cap

For CP2, additions to the assigned amount of a Party resulting from forest management shall, in accordance with paragraph 13 of the annex to decision 2/CMP.7, not exceed 3.5 per cent of the national total emissions excluding LULUCF in the base year times eight. The forest management cap is calculated in Table 7 below.

Table 7: Calculation of the forest management cap

| Item | Kt CO ₂ -e |
|---|-----------------------|
| 1990 emissions, excluding LULUCF | 418,623.050 |
| Forest management cap: 3.5 per cent of 1990 emissions, excluding LULUCF times eight | 117,214.454 |

k. The treatment of harvested wood products originating from forests prior to the start of the CP2

Australia's forest management reference level includes emissions from harvested wood products produced since 1940. Refer to sections 11.6.4, 11.10 and 4.6 of the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* for a full explanation of the treatment of harvested wood products in Australia's forest management reference level as well as the models and methodologies used to estimate carbon stock changes from harvested wood products.

I. Natural disturbances

Australia intends to apply the provision to exclude emissions from natural disturbances to accounting for *forest management* during the CP2.

As described in section 11.6.3 of the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013*, Australia has calculated a background level and margin of wildfire natural disturbance emissions for forest management lands using the IPCC default method (see IPCC 2014, page 2.48-2.50). The background level and margin are presented in Table 8.

Table 8: Components of Australia's background level and margin for wildfire natural disturbances

| Components | |
|------------------------------|----------------------------|
| Calibration period | 2000-2012 |
| Method used | IPCC default |
| Background level | 3.90 Mt CO ₂ -e |
| Margin | 5.92 Mt CO ₂ -e |
| Background level plus margin | 9.81 Mt CO ₂ -e |
| Number of excluded years | Three |
| Excluded years | 2003, 2007, 2010 |

Australia intends to apply a background level of zero for all other natural disturbances, including for drought, storm damage, tropical cyclones and pests and pathogens. In this case, there is no expectation of net credits or debits being generated by these natural disturbances.

Section 11.6.3 of the *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013* provides a detailed explanation of the methodology used to calculate the background level and margin of wildfire natural disturbance emissions for forest management lands and how the methodology avoids the expectation of net credits or debits.

3. References

Department of Climate Change, 2008, *The Australian Government's Initial Report Under the Kyoto Protocol*, Department of Climate Change, Canberra.

http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/kyoto_target_web.pdf

Department of the Environment, 2016, *National Inventory Report 2014 and Revised Kyoto Protocol National Inventory Report 2013*.

<http://www.environment.gov.au/climate-change/greenhouse-gas-measurement/publications#national>

IPCC 2014, *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*, Hiraishi, T., Krug, T., Tanabe, K., Srivastava, N., Baasansuren, J., Fukuda, M. and Troxler, T.G. (eds), Switzerland.

<http://www.ipcc-nggip.iges.or.jp/public/kpsg/index.html>



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