



United Nations

FCCC/TAR/2011/JPN



**Framework Convention on
Climate Change**

Distr.: General
19 September 2011

English only

**Report of the technical assessment of the forest management
reference level submission of Japan submitted in 2011**

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I. Introduction and summary

A. Overview

1. This report covers the technical assessment (TA) of the submission of Japan on its forest management reference level (FMRL), submitted on 28 February 2011 in accordance with decision 2/CMP.6. The TA took place (as a centralized activity) from 23 to 27 May 2011 in Bonn, Germany, and was coordinated by the UNFCCC secretariat. The TA was conducted by the following team of nominated land use, land-use change and forestry (LULUCF) experts from the UNFCCC roster of experts: Mr. Jim Penman (United Kingdom of Great Britain and Northern Ireland), Mr. Sandro Federici (San Marino), Ms. Gro Hysten (Norway), Mr. Agustín Inthamoussu (Uruguay), Mr. Mattias Lundblad (Sweden) and Mr. Nalin Srivastava (India). Mr. Jim Penman and Mr. Sandro Federici were the lead reviewers. The TA was coordinated by Ms. María José Sanz-Sanchez (UNFCCC secretariat).

2. In accordance with the “Guidelines for review of submissions of information on forest management reference levels” (decision 2/CMP.6, appendix II, part II), a draft version of this report was communicated to the Government of Japan, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

B. Proposed reference level

3. Japan’s proposed FMRL is zero. Japan notes that its reference level for forest management is equivalent to gross-net accounting using a narrow approach.¹

II. General description of the reference level

A. Overview

4. Japan’s FMRL is consistent with the approach taken by Japan for the first commitment period of the Kyoto Protocol. Japan has developed its domestic policies and measures during the first commitment period on the premise of this approach, and wishes to use the same approach for the second commitment period, with the declared aim of maximizing its mitigation activities.

B. How each element of footnote 1 to paragraph 4 of decision 2/CMP.6 was taken into account in the construction of the reference level

1. Historical data from greenhouse gas inventory submissions

5. Japan’s reference level is set to be zero and therefore historical data from its greenhouse gas (GHG) inventory submissions have not been taken into account in the construction of the FMRL.

¹ Forest management using a narrow approach is an option in chapter 4.2.7.1 of the Intergovernmental Panel on Climate Change *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (2003).

6. Japan's total net removals from all forest land have decreased from their peak in 2003. This is mainly owing to a decrease of the annual increment. The decrease is linked to the large proportion of mature forests due to the age-class structure in Japan.

2. Age-class structure

7. The age-class structure of Japan's planted forests shows that, within 10 years, the majority will be at the general harvest age of about 50 years or older.

8. Owing to the amount of mature forests with decreasing annual increment, Japan assumes that the decline in the rate of removal from forest land overall will continue even under sustainable forest management. The projection carried out for living biomass for areas under forest management using the narrow approach shows this decline.

3. The need to exclude removals from accounting in accordance with decision 16/CMP.1, paragraph 1

9. See paragraph 32 below.

4. Other elements

Forest management activities already undertaken

10. Japan has practised sustainable forest management for a long time. The Kyoto Protocol gave further incentives to support forest management activities, including by thinning, which will help to maintain sustainable forests in the future.

Projected forest management activities under a 'business as usual' scenario

11. Because the proposed reference level is zero, Japan has not used projected forest management to estimate its FMRL.

12. However, Japan has provided a projection for the year 2020 equal to net removals of 37 million tonnes of carbon dioxide equivalent (Mt CO₂ eq) (2.9 per cent of its base year emissions). The projection is based on the Forest and Forestry Basic Plan of 2006 and the Nationwide Forest Plan of 2008. Owing to the updating of its domestic policy in 2011, Japan indicates that there may be changes in forest management activities aimed at maintaining and enhancing the sustainability of the forests. Those changes would then be additional to the projected scenario.

13. The current policies for the intensively managed forest are, in general, to harvest at normal rotation length, except for some planted forests where the rotation length will be extended. The basic policy of rotation length for the intensively managed forest, which is implemented in accordance with the Forest and Forestry Basic Plan of 2006, will probably be continued in the future.

Continuity with the treatment of forest management in the first commitment period

14. Japan intends to use the narrow approach with gross-net accounting for continuity with the first commitment period.

15. Japan's policy is to continue with its current sustainable forest management activities, which are based on the principle of long-term consistent sustainable forest management. These activities include the thinning of planted forests, which is essential for maintaining and improving forest health and preventing soil erosion. The narrow approach accounts for emissions and removals only from forest where these activities, including thinning, are implemented or where any additional activity is to be implemented to enhance

sustainable forest management in the future. In doing this, the narrow approach provides continuity with the first commitment period.

C. Pools and gases

1. Pools and gases included in the reference level

16. The proposed reference level for Japan is zero, and therefore Japan has not constructed an FMRL that explicitly includes different carbon pools and gases.

17. However, Japan reported in its 2011 submission of LULUCF supplementary information under the Kyoto Protocol the following pools and gases: above- and below-ground biomass, dead wood, litter, soil carbon (mineral soils), and nitrous oxide and methane emissions from biomass burning.

2. Consistency with inclusion of pools in the estimates

18. Japan has included carbon stock changes in living biomass pools. Japan has included only these pools in the projections because of difficulties in projecting other pools and gases. In 2009 living biomass accounted for an estimated 97 per cent of net emissions/removals from forest management.

D. Approaches, methods and models used

1. Description

19. The FMRL is based on the application of the narrow approach, as follows: in the forest subcategory 'Ikusei-rin', forest management activities are defined forest practices which have been carried out since 1990, including regeneration (land preparation, soil scarification, planting, etc.), tending (weeding, pre-commercial cutting, etc.), and thinning and harvesting; and in the forest subcategory 'Tennensei-rin', forest management activities are practices for the protection or conservation of forests, including controlling logging activities and land-use change, which are legal requirements.

20. The basic method of indentifying areas subject to forest management activity under the narrow approach in 'Ikusei-rin' forest uses a permanent sample plot survey carried out in private and national forests (about 20,000 plots). Among these permanent plots, some are randomly selected each year for an annual survey. When a plot is identified as subject to forest management it remains so for future accounting purposes, and is excluded from subsequent annual surveys. All plots that have not yet been identified continue to be sampled in future surveys. All plots that have been identified as subject to forest management since 1990, in the year of the survey and in all previous years, are used for calculating a forest management ratio. The forest management ratio equals the forest area subject to forest management activities divided by the total area of managed forest land for each stratum. Then, multiplying carbon stock changes and other emissions estimated in managed forest land by the forest management ratio and summing over strata gives the carbon stock changes and other emissions to be reported under the narrow approach. The method of indentifying areas subject to forest management activities using the narrow approach in 'Tennensei-rin' forest is by extracting the forest areas that are subject to practices for the protection or conservation of forests using databases in which the presence of the practices has been recorded.

2. Transparency and consistency

21. Japan's submission and the replies received to questions posed by the expert review team (ERT) during the TA are transparent. Japan's approach to the reference level is consistent with its current reporting and accounting framework.

E. Description of the construction of the reference level

1. Area under forest management

22. As a consequence of using the narrow approach for forest management, the area of forest management will increase over time as the specific practices are implemented in new areas, and new areas are identified by the sampling approach. This is evident in reporting under the Kyoto Protocol, which shows 13,642 thousand hectares (kha) and 14,352 kha for 2008 and 2009, respectively, and a projected area of 15,650 kha by 2020.

2. Relationship of the forest land remaining forest land category with the forest management activity reported previously under the Convention and the Kyoto Protocol

23. Forest accounted for using the narrow approach, other forest land remaining forest land (i.e. not accounted for using the narrow approach) and forest accounted for under Article 3, paragraph 3, of the Kyoto Protocol sum up the total area of forest in Japan. In 2009 the total area of forest land was 24,948 kha, of which 28.26 kha were afforestation and reforestation as reflected in the national GHG inventory report submitted by Japan in 2011, leaving 24,920 kha as forest land remaining forest land. These areas are closely consistent. Within forest land remaining forest land, the area under forest management using the narrow approach was 14,352 kha.

3. Forest characteristics

24. All forests in Japan are managed forests.

25. According to its national GHG inventory submitted in 2011, about 66 per cent of Japan's total land area is classified as forest land, which consists of intensively managed forest, semi-natural forest, bamboo and less dense forest.

4. Historical and assumed harvesting rates

26. The Forest and Forestry Basic Plan of 2006 includes harvesting plans that take into account the current resources level, mainly from the perspective of sustainability of forest resources.

27. The domestic wood supply is forecast to increase from 17 million cubic metres (m³) in 2004 to 23 million m³ in 2015 and 29 million m³ in 2025 owing to age-class structure, in accordance with the Forest and Forestry Basic Plan of 2006, which covers an approximately 20-year period, and is consistent with the Nationwide Forest Plan of 2008, which covers a 15-year period.

5. Harvested wood products

28. Japan has provided a preliminary projection for harvested wood products (HWP) using a tier 3 approach from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* for products used in building structures, and a simple decay approach with half-lives of two years and 20 years, respectively, for paper products and other products. The projected removals from the HWP pool in 2020 are about 0.1 per cent of the total Japanese emissions in the base year.

29. The projection of net removals from forest management using the narrow approach provided under the zero reference level does not include the HWP pool.

6. Disturbances in the context of force majeure

30. Japan's FMRL is based on the assumption that emissions from disturbances such as forest fires, typhoons and volcanic eruptions are to be accounted for if they are not categorized as force majeure.

31. The projection does not include emissions from disturbances which may qualify as force majeure.

7. Factoring out

32. The zero FMRL and the projection provided by Japan essentially show an expectation for forest management in Japan to contribute to future commitments. Activities resulting in additional credits or debits relative to the projection will factor out age-class effects and other effects to a reasonable approximation since they occur in both the FMRL and the actual out-turn.

F. Policies included

1. Description of policies

33. The Forest and Forestry Basic Plan of 2006 stipulates Japan's national long-term, comprehensive strategy and targets for forests and forestry policies, including promoting thinning, introducing longer rotation periods and conversion to broadleaved forests, strengthening the conservation of the 'Tennensei-rin' forest and promoting the use of timber and woody biomass. Based on the Forest and Forestry Basic Plan, the Nationwide Forest Plan of 2008 was formulated to set the strategy for regional forests and principles for the formulation of regional forest plans. The Act on Special Measures Concerning the Promotion of the Implementation of Thinning of 2008 specifically promotes thinning to achieve the target removal of 13.00 Mt carbon (47.67 Mt CO₂) during the first commitment period under the Kyoto Protocol.

2. How policies are taken into account in the construction of the reference level

34. The policies described in paragraph 33 above are not directly taken into account in the construction of the FMRL. However, these policies are indirectly taken into account in applying the concept of gross-net accounting using the narrow approach to Japan's reference level.

III. Conclusions and recommendations

35. Japan's FMRL submission provides transparent information on how the Party intends to apply the narrow approach to its forest management activities. The ERT has no recommendations concerning Japan's FMRL since this is zero by definition.

Annex

Documents and information used during the technical assessment

Reference documents

Japan's submission of information on the forest management reference level, 28 February 2011. Available at <http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/awgkp_japan_2011.pdf>.

National greenhouse gas inventory of Japan submitted in 2010. Available at <<http://unfccc.int/5270.php>>.

National greenhouse gas inventory of Japan submitted in 2011. Available at <<http://unfccc.int/5888.php>>.

Fifth national communication of Japan. Available at <http://unfccc.int/resource/docs/natc/jpn_nc5.pdf>.
