February, 2011

Japan's submission on information on the forest management reference level

Japan submits its information on the forest management reference level, in accordance with Decision -/CMP.6 (Land use, land-use change and forestry) adopted in CMP6 last December in Cancun, inscribed in the Annex I of document FCCC/KP/AWG/2010/L.8/Add.2. The following information is described by each paragraph of Part I: "Guidelines of submissions of information on forest management reference levels" of Annex II of decision -/CMP.6.

Introduction

At the beginning, the background information on Japan's forest and forestry is described for the better understanding of Japan's proposed forest management reference level.

Japan, a country with high proportion of forest (66% of land is covered by forest), has been promoting sustainable forest management for a long period of time. In addition, during the 1st commitment period under the Kyoto Protocol, sustainable forest management activities including thinning in particular have been further promoted owing to the rules of forest management under 16/CMP.1.

To achieve the target removal by forest of 13.00 million t-C (47.67 million t-CO2) during the 1st commitment period under Kyoto Target Achievement Plan (2008), various additional domestic measures have been introduced to forestry sector, including (1) promoting thinning under Special Measures Law for Promotion of Thinning (2008), (2) introducing longer rotation period and conversion to broad-leaf forests, (3) strengthening the conservation of 'Tennenseirin-forest', (4) promoting broader participation including private companies and NPOs, (5) promoting use of timber and woody biomass, and (6)enhancing reporting and verification system for forest carbon accounting. Through implementing these measures, GHG removal from forest management is increasing.

In December 2009, Forest and Forestry revitalization plan was developed for sustainable, efficient and stable forest management under three principles: (1) to provide and sustain multifunctional roles of forest, (2) to revitalize forestry and wood products industry utilizing regional natural resources, and (3) to contribute to the realization of the "low-carbon society through expanding use for both material and energy. Based on the plan, the Forest and Forestry basic plan is to be revised in 2011 for continuously promoting sustainable forest management, taking into account the current situation of forest resources in Japan.

Under the situation above, the accounting rule of forest management is important for sustainable

forest management as well as contribution of forest to climate change mitigation in Japan. In this context, Japan's forest management reference level is set as described below.

General description

1. **Provide a general description of the construction of the forest management reference levels consistent with footnote 1 in paragraph 4 of this decision (Annex II, Paragraph 4)**

Japan's proposed reference level is 0. Japan considers that Gross-net with "narrow approach", which identifies and exclusively accounts forests subject to specific forest management activities since 1990, is the best approach in providing appropriate incentives for continued sustainable forest management in the long term that realizes maximum overall benefits of mitigation of climate change as described in IPCC AR4. In addition, from this basic stance, Japan has developed its domestic policies and measures during the 1st commitment period on the premise of Gross-net approach. To maximize effects of these policies and measures, it is necessary to continuously use the same approach as under the 1st commitment period in the future. Japan, therefore, proposes to set the reference level as zero, which represents Gross-net.

The narrow approach is appropriate because it gives incentives to sustainable forest management activities as well as to contributions to climate change mitigation as forest carbon sinks, by limiting the forest under forest management to forest subject to clear human activities. For this reason, Japan sets its reference level =0 on the premise of applying the narrow approach. In detail, Japan interprets the definition of "forest management" during the 1st commitment period, based on "narrow approach" described in Chapter4, 4.2.7.1 of IPCC GPG LULUCF. Japan's reference level is set on the assumption that the same interpretation of forest management definition will be applied as during the 1st commitment period.

Japan interprets the definition of forest management as follows (it is described in Part 2, II. 9. 2.1 of Initial Report submitted in 2006, and in Annex 11, 11.2.2.1 of NIR submitted in 2010)
Japan classifies Japan's forest into two sub-categories:"Ikusei-rin forest" and "Tennensei-rin forest". "Ikusei-rin forest" is forest where practices for establishment and maintenance under human intervention, and "Tennensei-rin forest" is forest where practices for establishment and maintenance mainly depending on natural power.

- In "Ikusei-rin forest", activities for "Forest Management" are appropriate forest practices including regeneration (land preparation, soil scarification, planting and etc.), tending (weeding, pre-commercial cutting and etc.), thinning and harvesting which have been carried out since 1990; In "Tennensei-rin forest", activities for "Forest Management" are practices for protection or conservation of forests including controlling logging activities and land-use change which have been carried out by laws.

Regarding force majeure, Japan's reference level is 0 regardless of inclusion or exclusion of force majeure. In terms of natural disturbance related to force majeure, Japan accounts for emissions associated with natural disturbances including fire, typhoon and volcanic eruption during the 1st commitment period. At the time of accounting using its reference level, Japan is to account for emissions associated with these natural disturbances which are not subject to the force majeure rule. On the other hand, Japan's accounting system is conservative in that these natural disturbances do not include Japan's reference level. Japan has implemented preliminary study on natural disturbances in the context of force majeure, and its preliminary result shows that emissions associated with natural disturbances in Japan are beyond 1% of Japan's base year total emission occurred only once in a several decades.

2. Provide a general description on how each element contained in footnote 1 in paragraph 4 of this decision was taken into account in the construction of the forest management reference level (Annex II, Paragraph 5)

Element (a) Removals or emissions from forest management as shown in greenhouse gas inventories and relevant historical data
Element (b) Age-class structure

Japan's total GHG removal from all forest land (approximately equal to "managed forest") has been decreasing since its peak in 2003(see Attachment 1), according to National Inventory Report of Japan submitted in 2010. Judging from Japan's age-class structure of forest (see Attachment 2) together with the trend of GHG removal, Japan's forest is becoming mature, and its removal will continue to decline even with continued sustainable forest management. The rule of forest management should give incentives to continuation of sustainable forest management practices in the future for countries like Japan's situation.

The current rule during the 1st commitment period (Gross-net) gives incentives to these practices, and from this perspective, Japan is proposing its reference level equivalent to the Gross-net.

Element (c) Forest management activities already undertaken
Element (e) Continuity with the treatment of forest management in the first commitment period

Japan has been promoting sustainable forest management for a long time. In addition, during 1st commitment period, sustainable forest management activities including thinning in particular have been further promoted owing to the rules of forest management under 16/CMP.1. Therefore, the current rule (16/CMP.1) is confirmed as the rule to promote sustainable forest management, which contributes to maintaining and enhancing forest carbon sink for countries whose forest

and forestry conditions are similar to those of Japan. Because establishment of forest requires a long period of time, continuation of sustainable forest management requires long-term consistent policy principles. The new rule should also give incentive to forest management practices including thinning for assuring continuation of current sustainable forest management practices without adversely affecting countries' promotion of continuing current sustainable forest management practices due to dramatic change of current accounting rules.

From this point of view, reference level =0, which is equivalent to the current Gross-net rule, with narrow approach is proper for countries like Japan. The detail explanation of "narrow approach" is described in paragraph 1 above.

Element (d) Projected forest management activities under a business as usual scenario

The element is not taken into account.

Element (f) The need to exclude removals from accounting in accordance with decision 16/CMP.1, paragraph 1

As a result of our consideration of treatment on the element, Japan reconfirmed the conclusion by IPCC in 2003 that the exclusion of factoring out is scientifically difficult.

3. Identify pools and gases which have been included in the reference level and explain the reasons for omitting a pool from the reference level construction (Annex II, Paragraph 6)

Japan's reference level is set as 0 so that it is equivalent to Gross-net, thus, it is not constructed by judging inclusions of each pool or gases as well as calculating using its judgments.

At the time of accounting based on Japan's proposed reference level, the emission/removal will be accounted for on the assumption that all pools and gases are 0.

4. Explain consistency between the pools included in the reference level (Annex II, Paragraph 7)

As described in paragraph 3 above, Japan's reference level is set as 0 so that it is equivalent to Gross-net, therefore, it is not constructed by judging inclusions of each pool or gases as well as calculating using its judgments.

At the time of accounting based on Japan's proposed reference level, there is consistency among the pools, because the emission/removal will be accounted for on the assumption that all pools and gases are 0, as described in paragraph 3 above.

Approaches, methods and models used

5. Provide a description of approaches, methods and models, including assumptions used in the construction of the forest management reference level, referring, where relevant, to the most recently submitted National Inventory Report. (Annex II, Paragraph 8)

Japan's reference level is set as 0 so that it is equivalent to Gross-net, therefore, it is not constructed by calculating using any approach, methods or models. The detail of "narrow approach", which is the premise to set Japan's reference level =0, is described in paragraph 1 above.

Description of construction of reference levels

6. Provide description of how each of the following elements were considered or treated in the construction of the forest management reference level, taking into account the principles in decision 16/CMP.1(Annex II, Paragraph 9),

(a) Area under forest management;

(b) Emissions and removals from forest management and the relationship between forest management and forest land remaining forest land as shown in GHG inventories and relevant historical data, including information provided under Article 3.3., and, if applicable, Article 3.4 forest management of the Kyoto Protocol and under forest land remaining forest land under the Convention;

(c) Forest characteristics including age class structure, increments, rotation length, and other relevant information, including information on forest management activities under "business as usual";

(d) Historical and assumed harvesting rates;

(e) Harvested wood products;

(f) Disturbances in the context of force majeure;

(g) Factoring out in accordance with paragraph 1(h) (i) and 1(h) (ii) of decision 16/CMP.1.

Japan's reference level =0 is set to be equivalent to Gross-net under narrow approach, but is not constructed by calculating using elements (a)-(g) of Annex II paragraph 10 of the CMP decision.

On the other hand, the treatment or conditions of these elements are explained in paragraph 7 below, along with the description of projection of removal from forest management in 2020 and

its related information.

7. Provide description of any other relevant elements considered or treated in the construction of the forest management reference level, including any additional information related to footnote 1 in paragraph 4 of this decision (Annex II, Paragraph 10)

Japan shows a projection of removal from forest management in 2020 and its related information, in the case of applying Japan's reference level(=0) and its underlying assumption, narrow approach, as described in paragraph 1 above, for the purpose of transparency. The projection is the same as that submitted to the UNFCCC secretariat in October and December 2009[1].

The projected removal from forest management in 2020 is 37MtCO2/year (2.9% of the total base year emission in Japan). As the narrow approach is applied, the projected removal is 25 MtCO2/year lower than the projected removal from all forest land in 2020 (62MtCO2/year) (see Attachment III). As described below, the removal from forest management is expected to decline toward 2020 mainly due to the maturity of forest and the fact that only limited forest in "Ikusei-rin forest" newly requires specific forest management activities.

It is noted that the projection in 2020 is presented for the purpose of transparency, and the change of the projection will neither affect Japan's reference level itself nor affect its accounting method under its reference level.

The projections are developed using the following assumptions;

- The current level of forest management activities including thinning continues to be maintained.
- The trend of harvesting and planting and subsequent change of forest area and age class structure are in accordance with the Nationwide Forest Plan (2008). The area subject to forest management is estimated using "narrow approach" described in paragraph 1 above.
- This estimation only includes carbon stock change of living biomass. Emissions/ removals from soil, dead wood and litter are not included because their proper projections are difficult. Non-CO2 gases are not included because emissions/ removals of these gases share small portions of total forest management emissions/removals. Emissions associated with disturbances including fires are not included because proper projection is difficult. HWP is not included because its accounting rule is under negotiation.

[1] http://unfccc.int/files/kyoto_protocol/application/pdf/awgkplulucf_japan311009.pdf, http://unfccc.int/files/kyoto_protocol/application/pdf/awgkplulucfjapan041209.pdf

Forest and Forestry revitalization plan was developed in December 2009, and based on the plan, the forest and forestry basic plan is to be revised in 2011. As a result of the revision, the level of removal under the projection in 2020 may change.

For the purpose of enhancing transparency, the treatment or conditions of elements (a)-(g) of Annex II paragraph 10 of the CMP decision at the time of accounting are described as follows.

- In terms of "area under forest management", it will increase with the increase in forest area subject to specific forest management practices under the narrow approach, though the level of area increase is limited, taking into account the condition of Japan's forest and forestry including the fact that only limited forest in "Ikusei-rin forest" newly requires specific forest management activities as a result of promotion of thinning so far.

- In terms of relationship between "forest management" and "forest land remaining forest land", the area under "forest management" and the area under "forest land remaining forest land" are different due to the narrow approach as described above. As a result, the removals between the two are also different (e.g. the removal from "forest management" in 2008 is 45 $MtCO_2$/year; while the removal from "forest land remaining forest land" in 2008 is 80 $MtCO_2$/year, according to NIR submitted in 2010) . Net emission under Article 3.3 is also accounted without double counting with Article 3.4 "Forest management" (the net emission from Article 3.3. in 2008 is 2 $MtCO_2$/year, according to NIR submitted in 2010). It is assumed that the accounting under Japan's proposed reference level regarding the relationship among "forest management", "forest land remaining forest land" and Article 3.3 is the same as that during the 1st commitment period because narrow approach is applied.

- In terms of forest characteristics including age-class structure, increments, rotation length, and other relevant information, including information on forest management activities under "business as usual", forest management activities under the rule during the 1st commitment period cannot be considered as business as usual because Japan introduced policies and measures to give incentives to sustainable forest management. As it was difficult to define BAU in Japan's situation, forest management activities under BAU were not considered. Regarding age-class structure, Japan's intensively managed forest (planted forest) will be mature in the future as described in paragraph 2 above; regarding increment, the increment of forest volume is expected to decline as a result of the maturity of planted forest; regarding rotation length, current policies are to harvest at normal rotation length, and in addition, to harvest at longer rotation length for some planted forests, and the policies will likely be continued. All the emissions from harvesting are accounted during the 1st commitment period, and Japan's reference level is set on the assumption that all the emissions from harvesting will continue to be

accounted.

- In terms of historical and assumed harvesting rates, Japan has developed forest resources utilization plans including harvesting plan taking into account the current resources level, mainly from the perspective of sustainability of forest resources. From the current age-class structure and general harvesting age of planted forest (over 50 years), majority of planted forest will become the age for harvesting within 10 years. In addition, emissions from harvesting are accounted for reports during the 1st commitment period, and Japan's reference level is set on the assumption that all the emissions will continue to be accounted.

- In terms of HWP, Japan considers the possibility that a new HWP rule will be introduced, which is currently under negotiation where Japan has advocated the new HWP accounting rule for the purpose of giving incentives to wood products use as well as long-term and cascade use of wood products. Though the projection above does not include HWP, the preliminary projection for HWP removal in 2020 was implemented, based on only accounting of domestically produced wood products with existing HWP pool included but all the exported HWPs treated as instantaneous oxidation. The projection shows that the projected removal in 2020 is only about 0.1% of total base year emissions in Japan (The projection is the same as that submitted to the UNFCCC secretariat in December 2009[2]), taking into account Japan's situation of forest and forestry as well as demographic trend. Therefore, the level of emissions or removals accounted for is considered to be very small compared with total removals from forest management. Accounting emissions or removals of HWP using the possible new rule is likely to be the same as that by default method (instantaneous oxidation) for the long period of time, if the new rule only accounts domestically produced wood products.

- In terms of disturbances in the context of force majeure, emissions from disturbances including fire, typhoon and eruption of volcano are accounted during the 1st commitment period in accordance with the current accounting rule whether these disturbances are to be categorized as force majeure or not. Japan's reference level is considered on the assumption that emissions from these disturbances are to be accounted. However, the projection above does not include emissions from the disturbances because proper projection is difficult. On the other hand, preliminary study on natural disturbances in the context of force majeure was conducted, and its preliminary result shows that natural disturbances, from which emissions are over 1% of total base year GHG emissions in Japan, occurred only once a few decades.

- In terms of factoring out in accordance with paragraph 1(h) (i) and 1(h) (ii) of decision

[2] http://unfccc.int/files/kyoto_protocol/application/pdf/awgkplulucfjapan041209.pdf

16/CMP.1, Japan considered factoring out related to paragraph 1(h) (i) and 1(h) (ii) of decision 16/CMP.1, and concluded the difficulty of scientifically factoring out. Thus, it is not considered for this projection.

Policies included

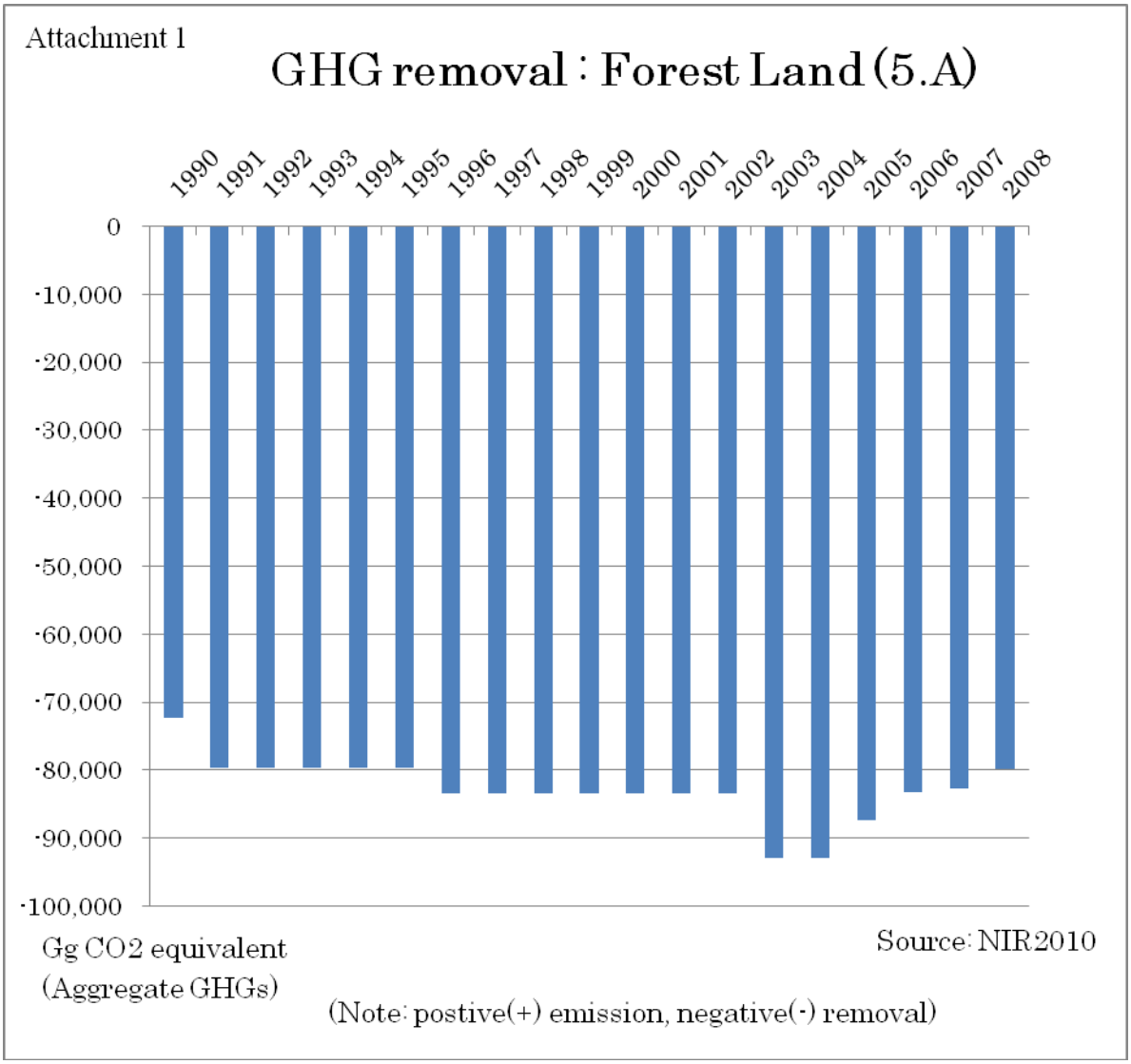
8. **Provide description of the domestic policies adopted and implemented no later than December 2009 considered in the construction of the forest management reference level and explain how these polices have been considered in the construction of the reference level(Annex II, Paragraph 11).**

9. **Provide confirmation that the construction of the forest management reference level neither includes assumptions about changes to domestic policies adopted and implemented after December 2009, nor includes new domestic policies (Annex II, Paragraph 12).**

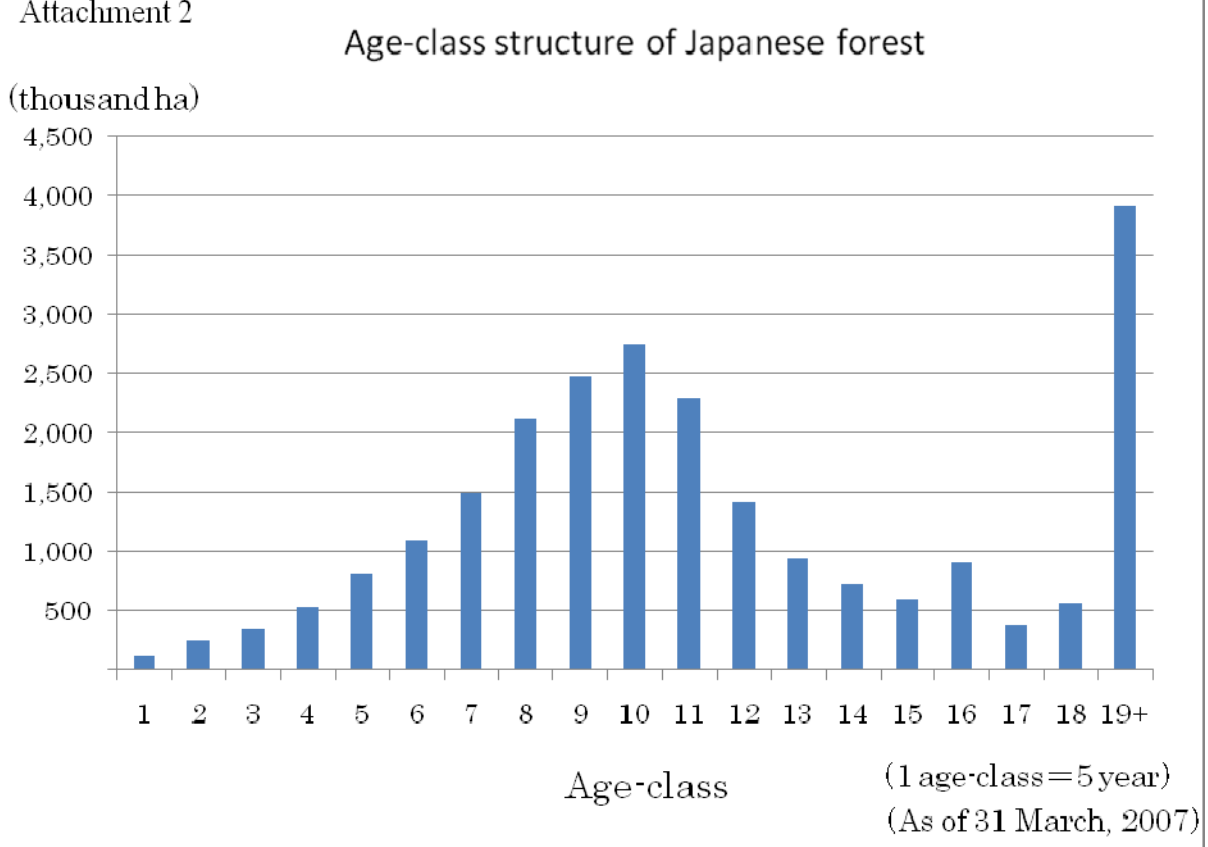
Japan's reference level =0 is set so that its reference level is equivalent to Gross-net with narrow approach, therefore, it is not constructed by considering domestic policies. It is clear that the construction of the forest management reference level neither includes assumptions about changes to domestic policies adopted and implemented after December 2009, nor includes new domestic policies.

As described in paragraphs 7 above, the projection of removal in 2020 described in paragraph 7 above only considers using the Nationwide forest plan (2008) and measures to promote thinning described in paragraph 7 above, but the projection does not include assumptions about changes to domestic policies adopted and implemented after December 2009, nor includes new domestic policies. It is noted that Japan's reference level itself will not be affected by including domestic policies adopted and implemented after December 2009, or including new domestic policies.

Attachment 1



Attachment 2



Attachment 3

Historical data and projections of net GHGs removals from Forest Land(5.A.) under UNFCCC and Forest Management under KP