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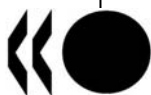
**FREQUENT AND FLEXIBLE: OPTIONS FOR REPORTING GUIDELINES FOR BIENNIAL
REPORTS**

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The ideas expressed in this paper are those of the authors and do not necessarily represent views of the OECD, the IEA, or their member countries, or the endorsement of any approach described herein.

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FOREWORD

This document was prepared by the OECD and IEA Secretariats in Spring 2011 in response to a request from the Climate Change Expert Group (CCXG) on the United Nations Framework Convention on Climate Change (UNFCCC). The CCXG oversees development of analytical papers for the purpose of providing useful and timely input to the climate change negotiations. These papers may also be useful to national policy-makers and other decision-makers. Authors work with the CCXG to develop these papers in a collaborative effort. However, the papers do not necessarily represent the views of the OECD or the IEA, nor are they intended to prejudge the views of countries participating in the CCXG. Rather, they are Secretariat information papers intended to inform Member countries, as well as the UNFCCC audience.

Members of the CCXG are Annex I and OECD countries. The Annex I Parties or countries referred to in this document are those listed in Annex I of the UNFCCC (as amended by the Conference of the Parties in 1997 and 2010): Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, the European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. As OECD member countries, Korea, Mexico, Chile, and Israel are also members of the CCXG. Where this document refers to “countries” or “governments”, it is also intended to include “regional economic organisations”, if appropriate.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	6
1. INTRODUCTION	11
2. OVERVIEW OF THE STRUCTURE AND CONTENT OF BIENNIAL REPORTS	12
3. GHG INVENTORY INFORMATION	19
3.1 Outline of issues and key questions.....	19
3.2 Suggested structure.....	19
3.3 Opportunities to introduce flexibility	20
4. EMISSIONS PROJECTIONS	23
4.1 Outline of issues and key questions.....	23
4.2 Suggested structure.....	24
4.3 Opportunities to introduce flexibility	24
5. PROGRESS ON MITIGATION	25
5.1 Outline of issues and key questions.....	26
5.2 Suggested structure.....	27
5.3 Opportunities to introduce flexibility	27
6. FINANCIAL, TECHNOLOGY AND CAPACITY BUILDING SUPPORT	30
6.1 Outline of issues and key questions.....	30
6.2 Suggested structure.....	31
6.3 Opportunities to introduce flexibility	33
CONCLUSIONS	35
GLOSSARY	38
REFERENCES	39
7. ANNEX: PROPOSED REPORTING FORMATS FOR BIENNIAL REPORTS	40
7.1 Reporting format for executive summary of biennial reports	40
7.2 Reporting formats for GHG inventory information section	40
7.3 Reporting formats for emissions projections section	44
7.4 Reporting formats for the information on mitigation actions section.....	48
7.5 Reporting formats for the financial, technology and capacity building support section	52

LIST OF TABLES

Table 1: Key questions to guide decisions on biennial reports	9
Table 2: Proposed outline for biennial reports from developed and developing countries	10
Table 3: Summary of suggested levels in reporting guidelines for biennial reports	17
Table 4: Suggested outline for the GHG inventory information section.....	21
Table 5: Suggested reporting levels for the GHG inventory information section.....	22
Table 6: Suggested outline of the emissions projections section	24
Table 7: Suggested reporting levels for the emissions projections section	25
Table 8: Suggested outline of the progress on mitigation section.....	27
Table 9: Opportunities to introduce flexibility in the progress on mitigation section.....	29
Table 10: Suggested outline of the support section for developed countries	32
Table 11: Suggested outline of the support section for developing countries.....	33
Table 12: Suggested reporting levels in the section on climate support - developed countries	34
Table 13: Suggested reporting levels in the support section for developing countries	34
Table A.14: Executive summary – Summary table.....	40
Table A.15: GHG inventory - Summary report for national GHG inventories.....	41
Table A.16: GHG inventory – Summary of trends in GHG emissions, by gas and by sector	42
Table A.17: GHG inventory - Summary of trends in GHG emissions, by key category	43
Table A.17: GHG inventory – Summary of trends in GHG emissions, by key category	44
Table A.18: GHG inventory - Summary of key source categories	44
Table A.19: Projections – Summary table.....	44
Table A.20: Projections - Actual and projected emissions and removals by sector.....	46
Table A.21: Projections – Projections by sector and by gas	47
Table A.22: Projections - Differences in projections since [Nth] national communication.....	47
Table A.23: Projections - Sector mapping	47
Table A.24: Mitigation actions - Summary of emissions reduction targets/goals.....	48
Table A.25: Mitigation actions - Progress made towards absolute emissions reduction targets/emissions goals	49
Table A.26: Mitigation actions - Progress made towards emissions goals relative to BAU.....	49
Table A.27: Mitigation actions - Progress made towards emissions intensity goals	49
Table A.28: Mitigation actions - Summary of mitigation actions.....	51
Table A.29: FTCB - Finance/support trend table (finance/support provided or received)	52
Table A.30: FTCB - Aggregate picture of climate-specific financial flows to finance climate action (annual, disbursed)	53
Table A.31: FTCB - Bilateral, climate-specific financial flows to finance climate action (annual).....	54
Table A.32: FTCB – Multilateral financial flows to support climate actions (annual).....	55
Table A.33: FTCB – Non-monetised capacity building and technology support provided.....	56
Table A.34: FTCB – Summary of support needs and requested.....	57
Table A.35: FTCB – Financial flows/support received (annual, actually received).....	58
Table A.36: FTCB – Non-monetised capacity building and technology support received/needed	59

LIST OF FIGURES

Figure 1: Possible new reporting timetable for developed countries	13
Figure 2: Possible new reporting timetable for developing countries.....	13
Figure 3: Comparison of information provided in national communications and biennial reports.....	16
Figure A.4: Hypothetical Party’s projections of total GHG emissions	45
Figure A.5: Reporting sectoral GHG emission projections (subdivided by gas)	45

Executive Summary

The decisions adopted at the sixteenth meeting of the Conference of the Parties (COP 16) to the UN Framework Convention on Climate Change (FCCC) in Cancún represent a considerable step forward towards more frequent, transparent, comprehensive and consistent reporting of climate change data and information for all countries. At present, developed countries submit national communications every 3-5 years and national inventory reports annually, and developing countries submit national communications on an irregular basis.² The Cancún Agreements outlined that, in addition to these reports, all countries will in future submit “biennial reports” on specific topics.

The Cancún Agreements outline the list of topics to be included in biennial reports and indicate that guidelines for them are to be developed, but provide limited guidance on their structure and content. This paper makes suggestions for the structure and content of biennial reports, including proposed reporting formats, building upon the outcomes of COP 16 and previous OECD/IEA analysis on the topic of reporting (e.g. Ellis *et al.*, 2010a; 2010b).

The development of reporting guidelines for biennial reports is important as it provides an opportunity to:

- **Increase the comprehensiveness** of information reported. This is important because Parties decided at COP 16 to periodically review progress made towards the long-term goal to hold the increase in global average temperature to below 2 degrees Celsius, and the first such review is scheduled for 2013-2015. Providing detailed guidance on the content of information to be included in countries’ biennial reports could therefore help countries to provide key inputs for this review.
- **Enhance transparency** by increasing understanding of what the information and data reported by countries represents. This would help build trust between Parties to the UNFCCC. In response to this issue, Parties decided in Cancún to conduct international consultations and analysis (ICA) of biennial reports from developing countries. They also decided to establish a transparent process for “international assessment and review” (IAR) of greenhouse gas (GHG) emissions and removals relating to emissions reduction targets, and enhance guidelines for “review” of national communications, including biennial reports, for developed countries. Reporting guidelines can help enhance transparency by clarifying the level of detail to which methodologies and assumptions are to be reported in biennial reports in order to facilitate ICA and review (and potentially also IAR).
- **Improve the consistency** of information reported across different reports by making increased use of standardised reporting formats. (The existing guidelines for national communications provide limited guidance on how information is to be presented.)

Reporting guidelines will thus influence the scope, level of detail and flexibility of biennial reports, as well as the resources needed to prepare and examine them. Greater standardisation of the structure and content of reporting formats (both for biennial reports and national communications) would guide countries on what information needs to be presented and how. At the same time, flexibility needs to be maintained to reflect the range of reporting capabilities and national circumstances in different countries – particularly within the group of developing countries. To this end, the decision text highlights that for developing countries the preparation of biennial reports is to be consistent with their capabilities and the level of

² At present, developing countries submit an initial national communication within three years of entry into force of the Convention for that country, or of the availability of financial resources. The timing of subsequent national communications is unspecified. Least developed countries may submit national communications at their discretion.

support provided, with additional flexibility in terms of frequency and content given to least developed countries and small island developing states. Further, it states that the content and frequency of national communications from non-Annex I Parties will not be more onerous than that for Annex I Parties.

In terms of content, the COP 16 decisions indicate that the topics to be included in biennial reports are: GHG inventories; emissions projections (for developed countries); progress on mitigation commitments/actions; and financial, technology and capacity building support. National communications are currently encouraged to explicitly include much of this information, but gaps remain – particularly for developing countries. Some of the other topics currently addressed in national communications, such as information on adaptation actions and climate vulnerability, will not be included in biennial reports.

In order to increase standardisation of reporting formats and maintain flexibility in terms of what is reported, this paper explores the concept of flexible reporting guidelines which provide for different “levels” of reporting for topics covered in a biennial report. Parties with greater capacities would use higher reporting levels and provide more comprehensive information. The reporting levels could reflect the different national circumstances and capacities of Parties, and could be applied to, *inter alia*:

- the **list of topics** that a country reports on (e.g. emission projections could be reported for those developing countries with a national or sectoral-level GHG goal);
- the **coverage of topics** included in biennial reports (e.g. how many gases a GHG inventory or projection includes, or what time period is covered);
- the **methods used** to calculate GHG inventories or mitigation impacts (e.g. activity level data or economy-wide modelling);
- the **indicators used** to measure progress in implementation of mitigation actions (e.g. input indicators such as MW installed, intermediate output indicators such as MWh generated, or output indicators such as tCO₂-eq saved).

Further, countries’ initial biennial reports could contain a different level of detail to subsequent reports. For example, initial biennial reports from developing countries could contain less detail in some sections (e.g. support needs, as detailed information on this can only be established once potential NAMAs have been identified) in order to facilitate a phased-in approach and enable learning-by-doing. Other sections may need to contain additional detail in order to facilitate the 2013-2015 review (e.g. an initial biennial report could provide information on countries’ key mitigation actions whereas subsequent reports focus on changes in such actions).

A balance is needed between encouraging biennial reports that are both (i) concise, and (ii) more complete/transparent. The latter qualities are important as Parties decided in Cancún to conduct ICA of biennial reports (but not of national communications) from developing countries and enhance review of national communications, including biennial reports, for developed countries. The level of detail in biennial reports will therefore need to be sufficient to facilitate ICA and review (and potentially also IAR for developed countries).³ However, if the topics in biennial reports were to be reported on in as much detail as they currently are in national communications and national inventory reports, then biennial reports

³ It is possible that other inputs, in addition to biennial reports, may be used to facilitate ICA, IAR and review. The details of the ICA, IAR and enhanced review processes are yet to be defined.

could be several hundred pages long. This would limit their user-friendliness and increase the resources needed for their preparation.⁴

This paper therefore proposes that biennial reports focus on key information for the topics covered and/or information that has changed significantly since the previous submission. Detailed explanations and background information could either be reported separately, or reported less frequently in national communications. Thus, for all sections of a biennial report, the information presented on a topic may represent only a sub-set of information presented on the same topic in national communications.

Table 1 illustrates how several over-arching as well as topic-specific questions remain relating to the structure and content of biennial reports. It highlights that further decisions are needed on the scope, level of detail, and level of flexibility of biennial reports, as well as the interaction between biennial reports and other reporting or recording mechanisms under the UNFCCC. The provision for incentives for countries to improve their reporting over time is also not yet clear.

The proposal in this paper for the outline of biennial reports for developed and developing countries is summarised in Table 2. While a similar general structure is proposed for biennial reports from both developed and developing countries, additional flexibility in terms of content is provided within each section for developing countries.

⁴ For example, biennial reports from developing countries are to contain national inventory reports; however, national inventory reports are already prepared by developed countries and can be over 1,000 pages long.

Table 1: Key questions to guide decisions on biennial reports

Topic	Key questions for consideration
General	<ol style="list-style-type: none"> 1. What level of detail is required for the information in biennial reports? How can a balance be achieved between including enough information to facilitate ICA/IAR/review and keeping biennial reports short and concise? Which documents could be considered during ICA/IAR/review? 2. What is the interaction between biennial reports and other reporting and recording mechanisms, such as national communications, national inventory reports for developed countries and the registry of NAMAs? How much overlap between them is appropriate? 3. What funding arrangements are needed to facilitate biennial reports from developing countries? 4. Are guidelines for reporting formats needed for optional items, such as projections from developing countries? 5. On what basis should reporting levels in the guidelines be provided? Should they reflect differing availability of data or levels of resources for analysis between Parties, and/or different types of mitigation actions/goals? 6. How can improvements in reporting be encouraged?
GHG inventory information	<ol style="list-style-type: none"> 7. What are appropriate minimum standards for GHG inventories? 8. As national inventory reports can be lengthy documents, should they be included in biennial reports, possibly in summary form, or reported separately? 9. Could GHG information in biennial reports, particularly for developing countries, focus solely on emissions from key categories (with complete inventories being provided in national communications)?
Emissions projections	<ol style="list-style-type: none"> 10. Could developing countries with national or sectoral goals demonstrate “progress in implementation” without providing projections? If so, how? 11. What degree of transparency on assumptions should be required?
Progress on mitigation	<ol style="list-style-type: none"> 12. How can a country’s progress towards its mitigation targets/actions for specific years in the future be identified given that multiple emissions pathways are possible? 13. How can double-counting of emission reductions be avoided, and would this require reporting of GHG unit transfers by developing as well as developed countries? 14. Should biennial reports from developing countries include information on supported as well as unsupported actions? 15. Which sub-set of information on mitigation actions in national communications and other reporting/recording mechanisms should be reported in biennial reports?
Financial, technology and capacity building support	<ol style="list-style-type: none"> 16. How can consistency in reporting on finance be encouraged, given the current lack of a definition of “new and additional”? 17. Should reporting of support provided/received/needed include information on mitigation only, or also cover adaptation and other related support (e.g. enabling activities, support for reporting, etc.)? 18. In order to provide a complete picture of financial support, information on private flows, as well as South-South flows, would be needed. Can this information be collected, and if so, where should it be reported?

Table 2: Proposed outline for biennial reports from developed and developing countries

Developed countries	Developing countries
Executive summary	Executive summary
1. GHG inventory information <ul style="list-style-type: none"> 1.1. Introduction 1.2. Summary of annual national GHG emissions 1.3. Key source categories 1.4. System to develop national inventory 	1. GHG inventory information <ul style="list-style-type: none"> 1.1. Introduction 1.2. Summary of annual national GHG emissions 1.3. Key source categories (to extent capacities permit) 1.4. System to develop national inventory
2. Emissions projections <ul style="list-style-type: none"> 2.1. Introduction 2.2. Results (“reference”, “with measures”, “with additional measures” (optional), by sector, subdivided by gas) 2.3. Differences since previous report 2.4. Key assumptions 2.5. Models used 2.6. Sector map 	2. Emissions projections (optional) <ul style="list-style-type: none"> 2.1. Introduction 2.2. Results (by sector, subdivided by gas) 2.3. Key assumptions 2.4. Models used 2.5. Sector map
3. Progress on mitigation <ul style="list-style-type: none"> 3.1. Summary of mitigation targets 3.2. Summary of progress made towards targets 3.3. Information on new/updated individual mitigation actions, progress with their implementation and their effects, including information on methodologies and assumptions used 	3. Progress on mitigation <ul style="list-style-type: none"> 3.1. Summary of mitigation goals (if applicable) 3.1. Summary of progress towards mitigation goals (if applicable) 3.2. Information on new/updated individual mitigation actions, progress with their implementation and their effects (if applicable), including information on methodologies and assumptions used
4. Financial, technology and capacity building support <ul style="list-style-type: none"> 4.1. Introduction 4.2. Financial support provided 4.3. Other support provided 	4. Financial, technology and capacity building support <ul style="list-style-type: none"> 4.1. Introduction 4.2. Financial support received 4.3. Other support received 4.4. Support needs

1. Introduction

More regular and comprehensive reporting is needed in order to fill the climate-related data and information gaps that currently exist, and to enhance transparency and build trust between Parties to the UN Framework Convention on Climate Change (FCCC). This is reflected in the decisions adopted at the sixteenth meeting of the Conference of the Parties to the UNFCCC (COP 16) in Cancún, which indicate that both developed and developing countries are to enhance reporting via national communications and biennial reports (UNFCCC, 2011a). Parties also agreed in Cancún to develop modalities and guidelines for, inter alia, biennial reports from developed and developing countries.

Current reporting guidelines are in place for national communications from Annex I and non-Annex I countries, as well as national inventory reports for Annex I countries. This guidance for national communications currently requests information on a wide range of topics. The COP 16 decisions outlined which of these topics were also to be included in biennial reports. However, for many topics there is currently limited guidance as to where to report information, how, and at what level of detail. This may change in future; in particular, Decision 1/CP.16 (UNFCCC, 2001a) refers to the development of “common reporting formats” for the reporting of information in national communications from developed countries. The use of standardised reporting formats could also be useful for simplifying the structure of national communications and biennial reports from developing countries.

This paper makes suggestions for the structure and content of biennial reports to the UNFCCC and builds upon the outcomes of COP 16 as well as previous analysis (e.g. Ellis *et al.*, 2010a; 2010b). It explores how reporting could be flexible to reflect the different national circumstances of different countries, and includes suggestions for reporting formats for each section of biennial reports. Section 2 provides an overview of the proposed structure for biennial reports; Sections 3 to 6 make detailed suggestions for each of the proposed chapters of an update report; and the final section outlines conclusions. Proposed reporting formats for each section of an update report are provided in the Annex.

Greater standardisation of the structure and content of reporting formats could make it easier to identify what information needs to be presented, and how. Such formats could also facilitate international consultations and analysis (ICA) of biennial reports for developing countries and review of biennial reports (and potentially also international assessment and review (IAR) of emissions and removals) for developed countries. The use of standardised reporting formats could be supplemented by further qualitative information (as is currently the case for the emissions inventory section of national communications for developed countries).

Any future reporting framework needs to reflect the great variety in national circumstances between Parties – particularly within the group of developing countries. Due to this variety, flexibility in terms of what topics to report, and in what level of detail, needs to be maintained. This paper explores the use of flexible reporting guidelines as a potential way to both increase standardisation of reporting formats and maintain flexibility in terms of what is reported.

This paper does not cover reporting guidelines for national communications nor the registry for nationally appropriate mitigation actions (NAMAs) of developing countries.⁵ Nor does the paper propose modifications to the already detailed guidance on the content of annual national inventory reports from developed countries.

⁵ While a discussion of the role of the registry is beyond the scope of this paper, we note that the Cancún Agreements do not indicate the registry should replace the role of national communications and biennial reports for reporting information, but that these mechanisms are to operate in parallel.

2. Overview of the structure and content of biennial reports

The decisions adopted at COP 16 in Cancún (UNFCCC, 2011a) provide for enhanced reporting from both developed and developing countries, particularly on GHG inventories, mitigation actions, and financial, technical and capacity building support provided, received, and needed. Parties also agreed in Cancún to increase the frequency of reporting as follows: developed country Parties “should” submit biennial reports, in addition to national communications and annual national inventory reports, while developing country Parties “should” also submit biennial reports including national inventory reports in addition to national communications every four years (consistent with their capabilities and the level of support provided). Although the frequency of national communications from developed countries is not explicitly specified in the text, it is stipulated that “the content and frequency of national communications from non-Annex I Parties will not be more onerous than that for [Annex I] Parties”.

Figures 1 and 2 summarise the new reporting timetables for developed and developing countries, following the decisions adopted in Cancún. Since Parties agreed to conduct ICA of biennial reports rather than national communications, the implications are that biennial reports will need to be produced every two years, even if national communications are produced in the same year. In such years, clarification is needed on whether a biennial report would be included in national communications or submitted as a separate document.⁶ In addition, financial support is currently linked to national communications, not biennial reports, under the Convention, so further clarification is needed on the implications of the new reporting timetable for funding arrangements.

The COP 16 decisions (see Box 1) specify that biennial reports from developed countries should include information on progress in achieving emission reductions, mitigation actions and emissions reductions achieved, projected emissions, and the provision of financial, technical and capacity building support. Biennial reports from developing countries should include a GHG inventory and national inventory report, information on mitigation actions, and information on financial, technical and capacity building support needed and received. The decision text indicates that ICA of biennial reports from developing countries will consider information on “methodologies and assumptions, progress in implementation and domestic measurement, reporting and verification” (UNFCCC, 2011a). This paper therefore assumes that these topics are also to be included in biennial reports for developing countries.⁷

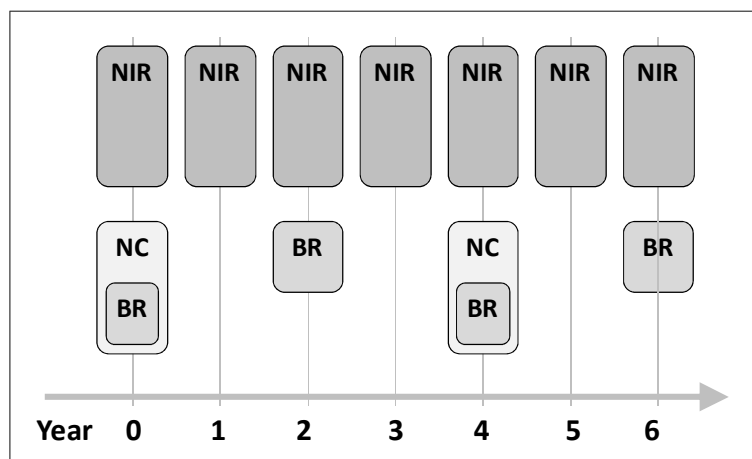
Some of the topics that are currently included in national communications are not designated by the COP 16 text to be included in biennial reports. These include: information on vulnerability, climate change impacts and adaptation; research and systematic observation; education, training and public awareness; and national circumstances.

⁶ For developing countries, the decision text refers to “biennial reports as part of national communications” (UNFCCC, 2011a), although the inclusion of biennial reports in national communications themselves could result in long and potentially repetitive documents.

⁷ Alternatively, ICA could draw on other documents in addition to biennial reports, in which case these topics would not need to be covered comprehensively in biennial reports themselves.

Figure 1: Possible new reporting timetable for developed countries*

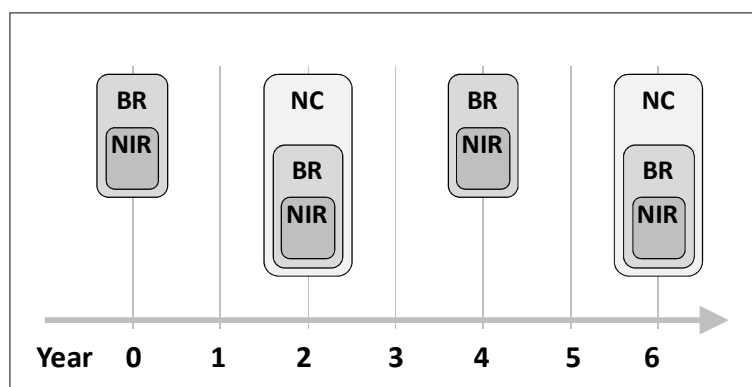
NC = National communication BR = Biennial report NIR = National inventory report



* Figure adapted from Ellis *et al.* (2010a). The exact timing of national communications from developed countries will depend on COP decisions. The submission date for sixth national communications for Annex I countries is 1 January 2014. It is not yet clear whether Annex I countries will prepare a biennial report before this date. It is also mandatory for members of the Development Assistance Committee (DAC) of the OECD to provide annual information on financial flows to the DAC. DAC members are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the UK, the US, and the EU.

Figure 2: Possible new reporting timetable for developing countries**

NC = National communication BR = Biennial report NIR = National inventory report



** Figure adapted from Ellis *et al.* (2010a). The timing is premised on the availability of support, with additional flexibility to be given to least developed countries and small island developing states. Since many developing countries are currently finalising their second national communication, it is possible that the first report prepared in the 2013-2015 timeframe will be a biennial report. The national inventory report could be included as an annex of the biennial report.

Box 1: Decision text adopted at COP 16 relevant to climate change reporting via national communications and biennial reports

The following are excerpts from the decision text adopted at COP 16 that are relevant to climate change reporting via national communications and biennial reports (UNFCCC, 2011a):

Developed countries

Paragraph 40: *“Decides, building on existing reporting and review guidelines, processes and experiences, to enhance reporting in the national communications of Parties included in Annex I to the Convention on mitigation targets and on the provision of financial, technological and capacity-building support to developing country Parties as follows:*

(a) Developed countries should submit annual greenhouse gas inventories and inventory reports and biennial reports on their progress in achieving emission reductions, including information on mitigation actions to achieve their quantified economy-wide emissions targets and emission reductions achieved, projected emissions and on the provision of financial, technological and capacity-building support to developing country Parties;

(b) Developed countries shall submit supplementary information on the achievement of quantified economy-wide emission reductions;

(c) Developed countries shall improve the reporting of information on the provision of financial, technology and capacity-building support to developing country Parties”.

Paragraph 41: *“Decides to enhance the guidelines for the reporting of information in national communications by Parties included in Annex I to the Convention, including the development of common reporting formats, methodologies for finance, and in order to ensure that information provided is complete, comparable, transparent and accurate”.*

Developing countries

Paragraph 60: *“Decides to enhance reporting in national communications, including inventories, from Parties not included in Annex I to the Convention (non-Annex I Parties) on mitigation actions and their effects, and support received; with additional flexibility to be given to the least developed country Parties and small island developing states:*

(a) The content and frequency of national communications from non-Annex I Parties will not be more onerous than that for Parties included in Annex I to the Convention;

(b) Non-Annex I Parties should submit their national communications to the Conference of the Parties, in accordance with Article 12, paragraph 1, of the Convention every four years or in accordance with any further decisions on frequency by the Conference of the Parties taking into account a differentiated timetable and the prompt provision of financial resources to cover the agreed full costs incurred by non-Annex I Parties in preparing their national communications;

(c) Developing countries, consistent with their capabilities and the level of support provided for reporting, should also submit biennial update reports, containing updates of national greenhouse gas inventories including a national inventory report and information on mitigation actions, needs and support received”.

Paragraph 64: *“Also decides that information considered [in ICA] should include information on mitigation actions, the national greenhouse gas inventory report, including a description, analysis of the impacts and associated methodologies and assumptions, progress in implementation and information on domestic measurement, reporting and verification and support received.... Discussions should be intended to provide transparency on information related to unsupported actions.”*

Figure 3 outlines information that could be included in biennial reports, based upon the decisions adopted at COP 16, and illustrates how this could be a sub-set of the information provided included in national communications. It highlights that biennial reports:

- Would not include information on some topics that are included in national communications (e.g. adaptation and vulnerability; research and scientific observation);
- Could include more streamlined information than national communications for most sections (e.g. the “GHG inventory”, “emissions projections”, “information on mitigation actions” and “finance, technology and capacity building support” sections).

A balance is needed between the inclusion of enough information in biennial reports to facilitate ICA/IAR/review, and the preparation of short and concise reports. For example, biennial reports from developing countries are to include “updates of GHG inventories including a national inventory report” (UNFCCC, 2001a); however, the average length of 2011 national inventory reports from developed countries was 430 pages and the longest were over 1,000 pages.⁸ Therefore the inclusion of full national inventory reports in biennial reports could result in long documents. A challenge remains to decide what key information is required in biennial reports for each section (and hence will be available for ICA) and what information could be reported less frequently in national communications.

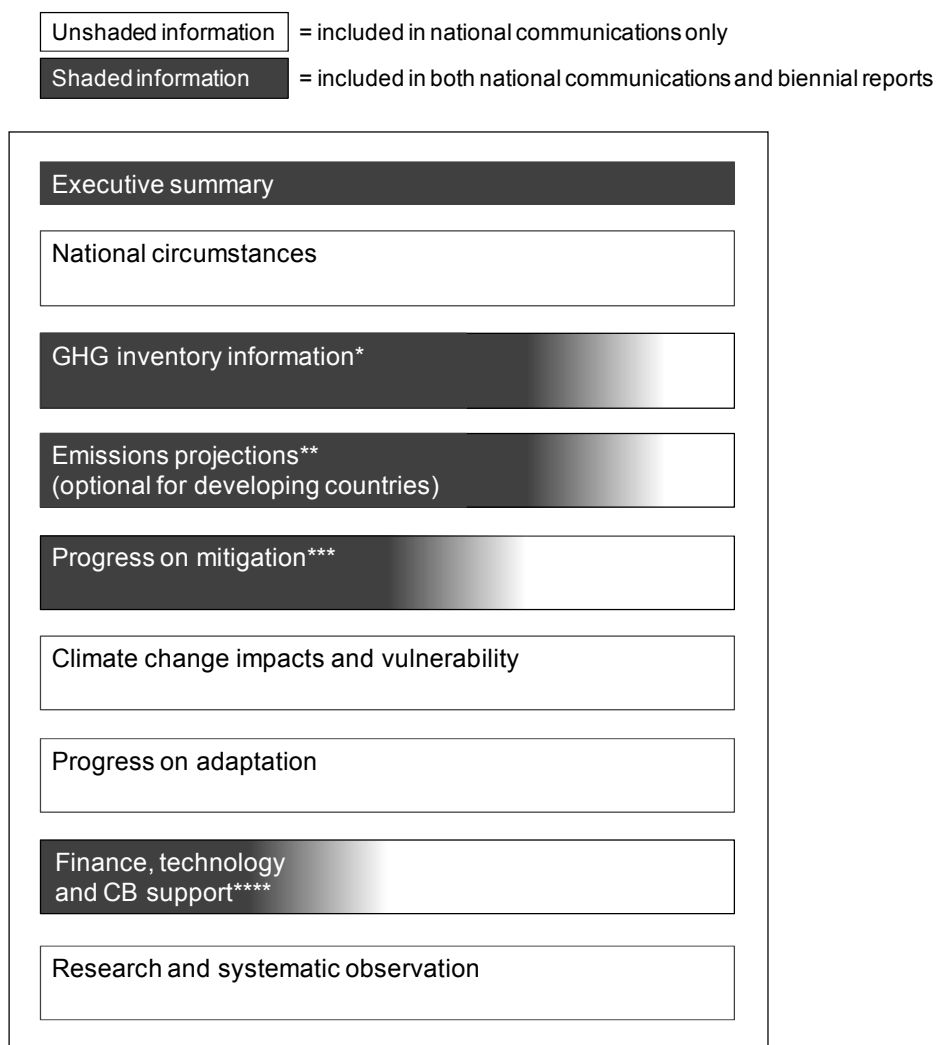
In order to reflect the broad range of reporting capabilities between Parties, particularly within the group of developing countries, some aspects of the guidelines for biennial reports could contain different reporting levels. Higher levels could generally provide for more comprehensive, accurate, and/or transparent reporting of information than lower levels. The guidelines could also reflect the broad range of different mitigation goals and actions being undertaken by developing countries, which include absolute emissions goals, goals relative to BAU levels, and emissions intensity goals.

This paper suggests that different numbers of levels are introduced into different aspects of the guidelines, and that Parties are able to choose the appropriate level for each aspect of their update report; rather than being constrained to use one level throughout. To give a hypothetical example, a Party could use “Level 1” for the chapter on mitigation actions; “Level 3” for the coverage of gases in the GHG inventory; “Level 2” for the timeline used in emission projections; and so on.

Table 3 provides an overview of the reporting levels that could be incorporated into the reporting guidelines for biennial reports from developed and developing countries. The limited number of levels for developed countries reflects how reporting guidance for these countries has already been agreed on many of these issues.

⁸ The length of 2011 national inventory reports from Denmark and France were 1,199 and 1,190 pages respectively. The shortest was a 43-page NIR submitted by the EU.

Figure 3: Comparison of information provided in national communications and biennial reports⁹



* National communications could include additional information on precursor gases.

**National communications could include additional detail on methodologies and assumptions used for projections.

*** National communications could include additional information on policy-making processes, policy frameworks, lessons learned, holdings and transactions of different GHG units, and information on a wider set of mitigation actions (including ungrouped actions).

**** National communications could contain additional information on: support needs for research and scientific observation; education, training and public awareness; impacts of support already received; barriers in developing countries to receiving/using support; developing country provision of support (where applicable); indicators to measure support for capacity building and technology transfer; and detail on who support is provided to and received from.

⁹ The chapter titles and structure for update reports and national communications are suggestions building on the COP 16 decisions and Ellis *et al.* (2010a)

Table 3: Summary of suggested levels in reporting guidelines for biennial reports

Aspect of guidelines	Which Parties? ¹⁰	Outline of reporting levels
GHG inventory - coverage	NAI only	Level 1: Key categories only Level 2: Six gases, all sectors (excluding LULUCF) Level 3: All gases (including the new F-gases included in the IPCC 2006 guidelines), all sectors (including LULUCF)
GHG inventory - time period	NAI only	Level 1: Initial report 2010 only; subsequent reports (N-4) Level 2: Multiple years, including 2010, for the initial update report (but not a complete time series) Level 3: Complete time series, including 2010, in the initial report (then to (N-4) or later)
GHG inventory - national inventory report	NAI only	Level 1: Institutional arrangements; data collection; sources; methods; completeness; GHG trends; information on QA/QC; accounting of units (if applicable) Level 2: Level 1 (as above) + information on recalculations and improvements Level 3: Level 2 (as above) + uncertainties
GHG inventory - key categories	NAI only	Level 1: Identify the top [X] emission sources in a country Level 2: Identify, to as high a level of disaggregation as possible, emission sources that account for 80% or more of emissions in a country, and show trends in these emission sources Level 3: Identify disaggregated emission sources that account for 95% or more of a country's emissions, and show trends in these emission sources
Emissions projections - coverage	AI and NAI (those with projections)	Level 1 (developing countries only): Some gases, some sectors Level 2: Six gases, all sectors (excluding LULUCF) Level 3: All gases, all sectors (including LULUCF)
Emissions projections - timeline	AI and NAI (those with projections)	Level 1 (developing countries only): (N+5) and/or the year corresponding to emissions target/goal Level 2: 2020, 2030, subsequent reports (N+15), (N+25) Level 3: Beyond 2030, subsequent reports > (N+25)
Emissions projections - scenarios	AI and NAI (those with projections)	Level 1 (developing countries only): Reference and "with measures" scenarios (i.e. measures currently implemented or planned) Level 2: Reference and "with measures" scenarios (start date of scenario from 2005, then 2015, etc.) Level 3: Level 2 + "with additional measures" (start date of scenario from 2005, then 2015, etc.)
Emissions projections - transparency	AI and NAI (those with projections)	Level 1: Information on key assumptions (e.g. GDP growth, population growth, energy prices, number of households) Level 2: Level 1 + information on model/analysis methods; mapping between sectors used in the "inventory", "progress on mitigation" and "mitigation actions" section Level 3: Level 2 + sensitivity analysis.

¹⁰ The limited number of reporting levels for developed countries reflects how reporting guidance for these countries has already been agreed on many of these issues.

Emissions projections – metric	NAI only (those with projections)	Level 1: Activity data projections (e.g. natural gas use, forestry coverage) for key emitting sectors Level 2: Activity data projections for all sectors Level 3: GHG projections
Progress on mitigation ¹¹ - type of goal	NAI only (those with mitigation goals)	Option 1: Absolute emissions goals Option 2: Emissions goals relative to BAU Option 3: Emissions intensity goals
Progress on mitigation - indicators of progress	NAI only	Level 1: Input indicators (e.g. number of light bulbs distributed) Level 2: Intermediate output indicators (e.g. MWh of energy generated) Level 3: Output indicators (e.g. emissions reductions achieved in tCO ₂ -eq)
Progress on mitigation - coverage	NAI only	Level 1: Implemented actions that impact emissions from key categories and/or relate to specific mitigation goals Level 2: Implemented, adopted and/or planned actions that would impact emissions from key categories and/or relate to specific mitigation goals Level 3: Implemented, adopted and/or planned actions that would impact emissions from all sectors
Progress on mitigation - aggregation	NAI only	Level 1: Grouped actions Level 2: Individual actions
Financial flows, technology and capacity building (FTCB) - support provided (detail)	Annex II (and other AI providing support)	Level 1: Total flows (bilateral, by country, and multilateral) Level 2: Level 1 + information on focus of support (mitigation/adaptation/general or unspecified) + information on leveraging ratios and – if available - finance flowing through carbon markets and other mechanisms (CDM, REDD+ and any new market mechanisms) Level 3: Level 2 + sector/action-specific detail
FTCB - support provided (time period)	Annex II (and other AI providing support)	Level 1: Two years (e.g. 2010 and 2011) Level 2: Multi-year Level 3: Longer time series
FTCB - support needed	NAI only	Level 1: Total support needed (with some disaggregation, e.g. mitigation/adaptation) Level 2: Sector-specific information on total international support needs, type of support Level 3: Level 2 + expected impact (GHG or other terms) of support
FTCB – support received	NAI only	Level 1: Total public support received (bilateral and multilateral) Level 2: Level 1 + CDM investment (and any other market mechanism-related or other flows, such as REDD+) Level 3: Level 2 + FDI (if available) and other flows

¹¹ Unlike other sections, these are listed as “options” rather than “levels” because they do not represent successive levels of reporting, but rather reflect the different types of mitigation goal that are being implemented.

3. GHG inventory information

23. Robust information on a country's GHG emissions is key to developing a sound policy response to climate change mitigation. Both developed and developing countries are currently required to submit GHG inventory information to the UNFCCC. Developed countries currently do this on an annual basis and include information on methods and processes as part of their national inventory report. Developing countries currently report GHG inventory information as part of their national communications. For this reason information is currently patchy on GHG emission levels in developing countries and the methods used to calculate them.

3.1 Outline of issues and key questions

Decision text adopted at COP 16 (UNFCCC, 2011a) relevant to GHG inventories stipulates that:

- Developed countries “should” submit annual GHG inventories and national inventory reports. This wording reflects the current practice of annual GHG inventory submissions for developed countries.
- Developing countries, “consistent with their capabilities and the level of support provided for reporting, should” submit biennial update reports containing “updates of national greenhouse gas inventories including a national inventory report”. This wording represents a significant increase in reporting frequency and content compared to current practice, but also allows for flexible reporting guidelines for developing countries.

Key questions related to reporting of GHG inventory data and information include:

- How much inventory information should be included in developed country biennial reports? (The text does not explicitly request inventory information to be included in biennial reports from developed countries.)
- Should the update report for developing countries include an entire national inventory report, or just a summary? (Developed countries currently produce a separate national inventory report - which can stretch to several hundred pages long - and include a summary of it in their national communications.)
- What should be the minimum standards for developing country inventories and national inventory reports, and how can improvements over time be encouraged? Should reporting guidelines make specific reference to particular IPCC guidance?¹²

3.2 Suggested structure

In order to be user-friendly, it would be useful if biennial reports were of limited length. This could be achieved if summary GHG inventory information is included in biennial reports, with details on source-specific calculation methods, assumptions, quality assurance and quality control (QA/QC), and other relevant information reported in a separate national inventory report (as is current practice for developed countries). However, the Cancún agreements indicate that developing countries are to include a national

¹² As part of its National Greenhouse Gas Inventories Programme, the IPCC has developed a series of guidelines and Good Practice Guidance (GPG) documents for the preparation of GHG inventories; these include the 1996 IPCC Guidelines, GPGs on uncertainty management (2000) and LULUCF (2003), and the 2006 IPCC Guidelines. The 2006 IPCC Guidelines build upon previous guidance and contain new sources and gases as well as updated methodologies. They feature a tiered structure and were designed to be used by countries with different capabilities. Developed countries are to use the 2006 IPCC Guidelines for their NIRs starting in 2015.

inventory report in their biennial reports. If this were included in the body of an update report (rather than as an annex or “Part II” of the report) it could make biennial reports several hundred pages long.

Under current reporting guidelines for developing countries (UNFCCC, 2003), the content of the GHG inventory section of national communications can be both patchy (in terms of content) and of limited transparency (in terms of methods and assumptions used). However, many recent national communications from developing countries exceed these minimum requirements – often substantially. For example, although it is not required by current guidelines, several recent non-Annex I national communications include inventory data for all six GHGs and use IPCC methodologies (including “Good Practice Guidance”) to calculate emission levels. In addition, some second national communications from developing countries also include elements of a national inventory report, such as discussions of uncertainty estimates, QA/QC, and key emission sources. It would therefore be appropriate for reporting guidelines for biennial reports (including national inventory reports for developing countries) to encourage continued improvements.

A possible structure for the GHG inventory section of biennial reports is outlined in Table 4.

3.3 Opportunities to introduce flexibility

There are several different possible levels of reporting for GHG inventory information. Countries could use different levels for different aspects of reporting, such that a country constrained to use a lower level for one area of reporting could use a higher level in another - if its capacities permitted. The following aspects could have a different reporting level in the GHG inventory information section of biennial reports from developing countries:¹³

- **Coverage** - reporting on six GHGs is currently required for developed countries but not for developing countries. Flexibility in coverage could continue into the future, particularly if new fluorinated GHGs are included.
- **Time period** - Developed countries currently report a complete time series from 1990 to (N-2) (where N is the reporting year). Developing country reporting varies widely, ranging from 2000 only in the second national communications of Singapore and Vietnam, to a multi-year time series from 1990-2005 in the second national communication of Brazil. In order to facilitate assessment of the aggregated effect of steps taken by all Parties (as referenced in the COP 16 decisions), it would be helpful to specify one year (e.g. 2010), or a specific set of years, for which all Parties should provide data at a minimum.
- **National inventory report** - Developed countries are currently required to submit annual national inventory reports containing data for the period 1990 to (N-2). Decisions at COP 16 (UNFCCC, 2011a) outlined that developing countries are to submit biennial national inventory reports, consistent with their capabilities and the level of support provided. Future guidelines could set out reporting requirements that could allow for flexibility in reporting. For example, some of the information on uncertainties and recalculations may not be needed for “Level 1” reporting.
- **Key categories** - reporting on key GHG emission categories provides crucial context for readers and facilitates understanding of a country’s emissions trends, mitigation potential, and mitigation priorities.

Table 5 outlines proposed reporting levels for each aspect. For developed countries, current guidance already requires a minimum of Level 2 or 3 reporting.

¹³ Current requirements for developed countries already include reporting to Level 2 or 3, as outlined below.

Table 4: Suggested outline for the GHG inventory information section

Sub-section	Which countries? ¹⁴	Comment (see Annex for tables)
1. Introduction		
1.1 Coverage (in terms of gases, time periods, and sectors)	AI and NAI	Textual description, including an overall assessment of the completeness of the GHG inventory provided.
1.2 Summary of methods used and reference to where more detailed information can be found (e.g. in the national inventory report)	AI and NAI	
2. Summary tables of annual national GHG emissions in tCO ₂ -eq		Quantitative section of update report.
2.1 Total GHG emissions in year(s) YYYY by gas and by sector, with and without LULUCF	AI and NAI	Table A.15 (page 41) ¹⁵ outlines a possible reporting format. The number of years for which data are reported can vary for developing countries.
2.2 Trends in GHG emissions, tCO ₂ -eq	AI; NAI if available	Trends could be reporting using a modified version of IPCC common reporting format table 10s5.2 - see Tables A.16 and A.17 (pages 42-43).
3. Key categories ¹⁶	AI; NAI to extent capacities permit	Textual description identifying key categories – this is crucial to understanding of country priorities for mitigation actions. It is helpful to include a summary description of what a country's key categories are, and how they are identified. ¹⁷
4. System to develop national inventory	AI and NAI to extent capacities permit	This textual description could summarise information contained in the national inventory report on changes since the last national communication. A detailed outline for national inventory reports from developed countries has already been agreed (UNFCCC, 2006), and includes descriptions of institutional roles and responsibilities; processes and challenges in collecting activity data, selecting emission factors and methods; QA/QC; uncertainties; recalculations; planned improvements.

¹⁴ For all topics, developing countries would report this information to the extent their capacities permit.

¹⁵ The prefix "A" has been added to table numbers for tables located in the Annex.

¹⁶ A more detailed description of key categories could be included in countries' national communications. For example, NCs could outline for [all] [the top N] categories what emission trends are, and how they are affected by national circumstances.

¹⁷ Developing countries could potentially use a different definition of what constitutes a key category in order to reduce the reporting burden. Table A.18 outlines a possible reporting format.

Table 5: Suggested reporting levels for the GHG inventory information section

Topic	Description of reporting levels	Comment
Coverage	<p>Level 1: Key categories only</p> <p>Level 2: Six gases, all sectors (excluding LULUCF)</p> <p>Level 3: All gases (including the new F-gases included in the IPCC 2006 guidelines), all sectors (including LULUCF)</p>	Some recent NAI national communications include estimates for three gases only, although many include estimates for the full basket of six gases as well as precursors. Most countries will therefore have a good idea of their key emission categories. Countries with national or sectoral targets/goals would need to report at a higher level.
Time period	<p>Level 1: Initial report 2010 only; subsequent reports [N-4]</p> <p>Level 2: Multiple years, including 2010, for the initial update report (but not a complete time series)</p> <p>Level 3: Complete time series, including 2010, in the initial report (then to [N-4] or later)</p>	Some recent NAI national communications include emission estimates for one year only, but the majority include estimates for multiple years or a time series.
National inventory report	<p>Level 1: Institutional arrangements; data collection; sources; methods; completeness; GHG trends; information on QA/QC; accounting of units (if applicable)</p> <p>Level 2: Level 1 (as above) + information on recalculations and improvements</p> <p>Level 3: Level 2 (as above) + uncertainties</p>	Several recent NAI national communications include a comparison between GHG inventory information in the first and second national communications. Some also include discussions of QA/QC and uncertainties. A few also include information on recalculations and improvements.
Key categories	<p>Level 1: Identify the top [X] emission sources in a country</p> <p>Level 2: Identify, to as high a level of disaggregation as possible, emission sources that account for 80% or more of emissions in a country, and show trends in these emission sources</p> <p>Level 3: Identify disaggregated emission sources that account for 95% or more of a country's emissions, and show trends in these emission sources</p>	Some recent NAI national communications include a discussion of key sources. This information may be helpful in helping countries to identify areas of promising mitigation potential.

4. Emissions projections

Emissions projections can show the expected trajectory of emissions and the extent to which a country is on track to meet any economy- or sector-wide GHG goals. They are currently regularly reported by developed countries in their national communications (approximately every 3-5 years).¹⁸ Some developing countries have also undertaken projections of GHG emissions or underlying activity data. This paper suggests that the projections section of an update report should only be mandatory for developed countries. However, following current practice in national communications, it would also be useful if some developing countries were to provide such information in biennial reports to the extent that their capacities permit.

4.1 Outline of issues and key questions

The text agreed at COP 16 (UNFCCC, 2011a) relevant to emission projections is that:

- Developed countries “should submit ... biennial reports on their progress in achieving emission reductions, including ... emission reductions achieved, projected emissions”. This text increases the frequency with which projections are requested, compared to current reporting requirements.

The text does not explicitly refer to the need for projections from developing countries, although it does stipulate that information on “progress in implementation” is to be considered in ICA of biennial reports. As outlined in Section 5, reporting on progress in implementing mitigation actions depends on the form of a developing country’s mitigation actions and could either be done at the level of individual actions or at a broader scale (including economy-wide goals). In order to reduce overlap, this report suggests that developing countries report all issues related to progress in implementation in the progress on mitigation section of biennial reports. The rest of this section therefore focuses on reporting of projections by developed countries, but also highlights reporting levels which could be used by developing countries that choose to report information on emissions projections.

Key questions related to reporting on projections include:

- Is reporting guidance needed for developing countries wishing to report information on emissions projections?
- Is revised guidance needed on what should be included in the various scenarios¹⁹ presented by countries, as well as their start date?
- If different sector definitions are used for the inventories and projections sections in a biennial report, how can consistency between these sections be ensured?

¹⁸ Although several Annex I countries develop projections more regularly than this. Under the European Commission decision 2005/166/EC, for example, EU countries are required to report GHG projections every two years.

¹⁹ Current guidance for developed countries indicates that a “with measures” projection shall encompass currently implemented and adopted policies and measures. If provided, a “with additional measures” projection also encompasses planned policies and measures. If provided, a “without measures” projection excludes all policies and measures implemented, adopted or planned after the year chosen as the starting point for this projection. In reporting, Parties may entitle their “without measures” projection as a “baseline” or “reference” projection, if preferred, but should explain the nature of this projection (UNFCCC, 2000).

4.2 Suggested structure

Table 6 presents the suggested structure of the projections section of developed country biennial reports. This structure, or an abbreviated version, could also be used by developing countries reporting on emission projections.

Table 6: Suggested outline of the emissions projections section

Sub-section	Content	Format (see Annex for tables and figures)
1. Introduction	Coverage of information on projections, indication of any changes since last report in terms of methodological approach, institutional arrangements (who is in charge of making projections), references to models.	Textual description and Table A.19 (page 44)
2. Results (sector, subdivided by gas)	Description of results	Textual description, Figures A.4-A.5 (page 45), Tables A.20-A.21 (pages 46-47)
2.1 Summary overview	The level of detail (e.g. sector, sub-sector) and metric by which projections are expressed (GHG emissions, activity data, etc.) may be different for developing countries.	
2.2 Energy		
2.3 Industrial processes		
2.4 Agriculture		
2.5 LULUCF		
2.6 Waste		
3. Differences since previous report*	Description of any major changes since previous report	Table A.22 (page 47)
4. Key assumptions*	Indication if any changes since previous report in terms of key assumptions, e.g. GDP growth, population growth and age structure, exchange rate, energy price, number and size of households, area of forested land, number of animals under husbandry, and other policies and measures. List of any changed key assumptions.	Textual description, as applicable
5. Models used*	Indication if any changes since previous report in terms of models or methods used. If so, summary description of models or methods used per sector, comparison top-down/bottom-up.	Textual description, as applicable
6. Sector map*	If any changes since previous report, explanation of how the sector categories used in the mitigation actions section relate to those used in the inventory and projections sections	Table A.23 (page 47), supplemented by textual description

* In order to reduce the length of biennial reports, these sections could focus on updates since the previous national communication/biennial report.

4.3 Opportunities to introduce flexibility

In order to develop emission projections, countries need robust information on current emissions and detailed information on mitigation policies (as well as a projection methodology which could include one or more models). Due to time lags in collecting the information needed, resource requirements, and variability in data availability, scope remains for improvement of projections from developed countries in terms of scope and coverage. It is therefore appropriate to provide levels for reporting guidelines, even for

developed countries. However, ideally the scope of the projections presented should match the scope of a country's target or goal. Table 7 outlines proposed reporting levels for the emissions projections section.

Table 7: Suggested reporting levels for the emissions projections section²⁰

Topic	Description of Levels	Comment
Coverage	<p>Level 1 (developing countries only): Some gases, some sectors</p> <p>Level 2: Six gases, all sectors (excluding LULUCF)</p> <p>Level 3: All gases, all sectors (including LULUCF)</p>	Although the majority of fifth national communications (NC5s) from developed countries include projections for all six gases and LULUCF, some do not. Not all projections by gas are subdivided by sector at present.
Timeline	<p>Level 1 (developing countries only): (N+5) and/or the year corresponding to emissions target/goal</p> <p>Level 2: 2020, 2030, subsequent reports (N+15), (N+25)</p> <p>Level 3: Beyond 2030, subsequent reports > (N+25)</p>	The current time period for projections provided in NC5s varies from 2010-2030. Some NAI NCs also provide projections to 2020-2030, e.g. Costa Rica, Indonesia, Morocco.
Scenarios	<p>Level 1 (developing countries only): Reference and “with measures” scenarios (i.e. measures currently implemented or planned) – start date to be decided by country</p> <p>Level 2: Reference and “with measures” scenarios (start date of scenario from 2005, then 2015, etc.)</p> <p>Level 3: Level 2 + “with additional measures” (start date of scenario from 2005, then 2015, etc.)</p>	Current guidelines indicate that the “without measures” scenario is to be established from 1995 or an earlier year, as appropriate (UNFCCC, 2000). This should be updated on a rolling basis. The “without measures” scenario could be used as the reference scenario, or an additional scenario.
Transparency	<p>Level 1: Information on key assumptions (e.g. GDP growth, population growth, energy prices, number of households)</p> <p>Level 2: Level 1 + information on model/analysis methods; mapping between sectors used in the “inventory”, “progress on mitigation” and “mitigation actions” section</p> <p>Level 3: Level 2 + sensitivity analysis.</p>	As indicated in Table 6, information in biennial reports can refer to a country's previous report (e.g. national communication) if there are no changes.
Metric	<p>Level 1: Activity data projections (e.g. natural gas use, forestry coverage) for key emitting sectors</p> <p>Level 2: Activity data projections for all sectors</p> <p>Level 3: GHG projections</p>	For developing countries only (those with projections)

5. Progress on mitigation

At COP 16, Parties called for enhanced reporting on mitigation actions from both developed and developing countries and agreed that information on mitigation actions should be provided in biennial reports for all countries. For developed countries, this section of biennial reports could be used to outline

²⁰ No reporting levels are provided for developed countries in terms of the metric of reporting projections, as this is to be done in terms of GHG (tCO₂-eq). However, for developing countries that provide projections, this could be expressed in non-GHG metrics (particularly if this is consistent with the metric by which a mitigation goal/action is described).

emissions reduction targets, progress made in achieving them, and mitigation actions and their expected impacts. For developing countries, this section could outline any mitigation goals/NAMAs and provide information on progress in implementation of actions and their actual or expected impacts. Some information relating to Parties' mitigation targets, goals and/or actions may also be available via other reporting and recording mechanisms; however, the function of this section in biennial reports on progress in mitigation could be to bring this information together in one place and provide a concise summary of progress made.

5.1 Outline of issues and key questions

The text of Decision 1/CP.16 (UNFCCC, 2011a) stipulates that:

- Developed countries “should” submit “biennial reports on their progress in achieving emission reductions, including information on mitigation actions to achieve their quantified economy-wide emissions targets and emissions reductions achieved”, as well as “supplementary information” on the achievement of quantified economy-wide emissions reductions.
- For developed countries, revision of the guidelines for the “review of national communications, including biennial reports” is included in the work programme are to be revised and a process is to be established for “international assessment and review” (IAR) of emissions and removals related to quantified economy-wide emissions reduction targets.²¹
- Developing countries “should” submit biennial reports containing “information on mitigation actions”. Parties also decided to conduct “international consultations and analysis” (ICA) of biennial reports and information considered should include “analysis of the impacts”, “progress in implementation” and “information on domestic MRV”.

Key outstanding questions for negotiators include:

- For all countries, which sub-set of information on mitigation actions should be reported in biennial reports, and which could be reported less frequently in national communications? Parties need to decide which of the following actions are to be included in biennial reports: new/updated; implemented/adopted/planned; supported/unsupported; affecting key categories only.
- For developing countries, should biennial reports contain information on internationally supported mitigation actions?²² If so, should information on actions supported by carbon market finance be included?
- For developed countries, is the information contained in biennial reports (potentially along with other national reports such as NIRs) to provide input to the IAR process?
- To what extent should the reporting guidelines request additional information, such as BAU emissions projections or GDP projections, from developing countries with absolute, relative or emissions intensity-based mitigation goals?

²¹ Paragraph 44 of Decision 1/CP.16 (UNFCCC, 2011a) refers to “international assessment” (IA) of emissions and removals related to emissions reduction targets, while paragraph 46(d) refers to “international assessment and review” (IAR) of emissions and removals related to emissions reduction targets. Clarification is needed on the difference, if any, between IA and IAR.

²² Since one of the purposes of ICA of biennial reports is to “provide transparency on information related to unsupported actions”, this paper assumes that information on unsupported actions will be included in biennial reports.

- How could measuring and reporting for developed and developing countries be designed so as to avoid “double-counting” of emissions reductions achieved via international offset mechanisms such as the Clean Development Mechanism?
- What minimum information on mitigation actions is required in biennial reports and national communications to facilitate the review of the long-term global goal in 2013-2015?

5.2 Suggested structure

The progress on mitigation section could contain the following three parts: (i) what mitigation targets/goals are; (ii) a summary of progress towards targets/goals, and (iii) information on individual or grouped mitigation actions, including progress in implementation and expected impacts. Table 8 outlines the suggested structure and content for the progress on mitigation section. The information provided in this section of biennial reports could be a sub-set of that provided in national communications; for example, national communications could include additional information on the policy-making process, policy framework, longer textual descriptions of new mitigation actions, lessons learned, and holding and transactions of different units.

Table 8: Suggested outline of the progress on mitigation section

Sub-section	Which Parties?	Content	Possible format of content
1. Summary of targets/goals ²³	AI; NAI with goals	Description of target/goal, including scope, timeline, conditions attached (if applicable), treatment of LULUCF, use of offsets (if applicable), pathway to target/goal (if applicable)	Table A.24 (page 48)
2. Progress towards targets/goals	AI; NAI with goals	Depends on target/goal type; may include information on national/sectoral emissions; information on GHG units (if applicable); BAU emissions (for goals relative to BAU); GDP projections (for emissions intensity goals); other	Tables A.25-A.27 (page 49)
3. Mitigation actions	AI and NAI	Tables of mitigation actions ²⁴ , including information on scope, progress in implementation and estimation of impacts; description of methods and assumptions used to estimate impacts, including entity/entities responsible and MRV provisions.	Table A.28 (page 51); textual description of methods and assumptions used

5.3 Opportunities to introduce flexibility

The reporting guidelines for the section on progress on mitigation for developing countries could contain flexibility in the following aspects:

1. **Type of mitigation goals:** the goals/actions that have been proposed by developing countries vary widely in terms of their type and scope; they include absolute emissions goals, emissions goals relative to BAU levels, emissions intensity goals, forest coverage goals, goals for renewable electricity generation capacity, energy efficiency projects, etc. The information

²³ Some countries may choose to include information on key recent developments for national mitigation policy at the start of this section; several developed countries (e.g. UK, Australia, US) included such information at the start of the policies and measures section in their fifth national communication.

²⁴ Parties need to decide which of the following actions are to be included in biennial reports: new/updated; existing/implemented/adopted/planned; supported/unsupported; affecting key categories only. Longer textual descriptions of mitigation actions could be included in national communications. Additional flexibility could be included in the guidelines for initial biennial reports from developing countries in terms of which sub-set of mitigation actions is reported.

reported and indicators used to measure progress in implementation could therefore be flexible depending on the type of mitigation actions undertaken.

2. **Type of indicators used to measure progress in implementation:** indicators used could be input indicators (e.g. MW of installed capacity built, hectares of forest planted, number of light bulbs distributed), intermediate output indicators (e.g. MWh of energy generated), or output indicators (e.g. emissions reductions achieved in tCO₂-eq). Some developing countries already report estimates of mitigation impacts; for example, Brazil provided estimates of the GHG emissions reductions that could be achieved by its energy efficiency, fridge replacement, and solar thermal heating programmes in its *National Plan on Climate Change* (CIM, 2008) and published expected mitigation estimates by sector in its submission under the Cancún Agreements (UNFCCC, 2011b).
3. **Coverage:** mitigation actions included in biennial reports could be actions that address gases from all sectors, or only those that address gases from key categories. Description could focus on actions that are implemented, or also include those that are adopted or planned.
4. **Aggregation:** depending on scope of individual mitigation actions and the methods used domestically to measure them, some Parties may prefer to submit information related to groups of actions rather than individual actions.

Table 9 summarises opportunities to introduce flexibility into the guidelines of the progress on mitigation section for developing countries. Flexible guidelines have not been proposed for developed countries because provision of information relating to mitigation actions is already mandatory for this set of countries.

Table 9: Opportunities to introduce flexibility in the progress on mitigation section

Topic	Which Parties?	Reporting options/levels	Comment
Type of mitigation goal ²⁵	NAI with mitigation goals	<p>Option 1: Absolute emissions goals</p> <p>Option 2: Emissions goals relative to BAU</p> <p>Option 3: Emissions intensity goals</p>	Parties with intensity goals could provide GDP projections; Parties with goals relative to BAU could provide BAU projections.
Indicators used to measure progress in implementation of NAMAs	NAI	<p>Level 1: Input indicators (e.g. number of light bulbs distributed)</p> <p>Level 2: Intermediate output indicators (e.g. MWh of energy saved)</p> <p>Level 3: Output indicators (e.g. emissions reductions achieved in tCO₂-eq)</p>	Note that in this case higher levels may not necessarily correspond to an increased accuracy of information relative to lower levels, as additional uncertainty is generally introduced when converting intermediate indicators into estimates of GHG emissions reductions.
Coverage	NAI	<p>Level 1: Implemented actions that impact emissions from key categories and/or relate to specific mitigation goals</p> <p>Level 2: Implemented, adopted and/or planned actions that would impact emissions from key categories and/or relate to specific mitigation goals</p> <p>Level 3: Implemented, adopted and/or planned actions that would impact emissions from all sectors²⁶</p>	Key categories should correspond to those identified in the GHG inventory section (either of the biennial report, or of the previous national communication). Specific mitigation goals could include those submitted under the Cancún Agreements.
Aggregation	NAI	<p>Level 1: Grouped actions</p> <p>Level 2: Individual actions</p>	The same table (A.28, page 51) could be used to report information on grouped actions and individual actions, although a clear distinction would need to be made between the two.

²⁵ Unlike other sections of this paper, the options listed here do not represent successive “levels” of reporting, but rather reflect the different types of mitigation goal that are being implemented.

²⁶ Biennial reports would not need to include information on all actions taken in all sectors at all levels of government, as not all may have significant impacts on emissions; further details could be provided in national communications.

6. Financial, technology and capacity building support

A sound policy response to climate change crucially depends on how much and what type of support is going to be made available to enhance efforts for a low-carbon future, and how these types of support correspond to the needs in countries, particularly developing countries. Adequate support is unlikely to be forthcoming in the absence of an accurate, comprehensive, transparent, efficient and reliable framework to measure, report and verify the efforts and needs of all countries. The current reporting framework for support established under the UNFCCC and its Kyoto Protocol provides a basis for such a framework. However, differences in the reporting requirements across issues and between developed and developing countries hamper the comprehensive collection of data on support related to financial flows, capacity building and technology transfer. Recent studies confirm that the existing MRV framework for climate finance lacks transparency, comparability and comprehensiveness (Buchner *et al.*, 2011; Ellis *et al.*, 2010a; 2010b; Corfee-Morlot *et al.*, 2009; Tirpak *et al.*, 2010; Fransen, 2009). Monitoring and reporting is patchy at present, particularly in terms of reporting by recipient country governments on support received and on private sector financial flows (which are estimated to be the largest segment of climate finance). Further, reporting of support provided by developed countries is not comparable, as there is no agreed definition of what constitutes “new and additional” support.

These difficulties can only be overcome if countries report in a routine, comprehensive and comparable manner according to common definitions and standards, so as to allow the collection of complete, reliable, and timely data (see Buchner *et al.*, 2011). The decision in COP 16 to enhance guidelines for national communications from developed countries by including “common reporting formats” and “methodologies for finance” will thus help to ensure that the information provided is complete, comparable, transparent and accurate. This paper assumes that common reporting formats developed for national communications could also be used for biennial reports, where appropriate.

Biennial reports can provide an essential element of internationally-reported information on climate support. However, there are many open questions for this section - explored below - regarding what should be included in countries’ biennial reports compared to other reports or information submitted to the UNFCCC.

6.1 Outline of issues and key questions

Text agreed at COP 16 (UNFCCC, 2011a) relevant to financial, technology and capacity building support includes:

- Developed countries “should” submit biennial reports on their progress in achieving emission reductions, including information on the provision of financial, technology and capacity building support to developing country Parties, and “shall” improve the reporting of information on the provision of financial, technology and capacity building support to developing country Parties. This wording indicates that reporting of support will be considerably enhanced in future, both in terms of content and frequency.
- Developing countries, “consistent with their capabilities and the level of support provided for reporting, should” submit biennial reports including information on “mitigation actions, needs and support received”. This wording allows for flexible reporting for developing countries, and also represents a significant increase in reporting frequency and content compared to current practice.

In addition to increasing the frequency of reporting, Parties also agreed in the Cancún Agreements to enhance the reporting guidelines for national communications and biennial reports through improved

reporting formats and methodologies and to address progress related to the provision of support through review processes (in the case of developed countries) and ICA (for developing countries). They also agreed that developed country Parties would submit information on the “fast-start finance” provided in 2011, 2012 and 2013. Finally, to facilitate matching of available funds with needs in developing countries, Parties agreed to establish a registry of nationally appropriate mitigation actions. Thus, information on financial support provided by developed countries will potentially be reported and/or recorded in four places: biennial reports, national communications, the registry of NAMAs, and information submitted on fast-start finance. This paper only considers the issue of reporting information on support in biennial reports.

Open questions related to reporting of financial, technology and capacity building support in biennial reports include:

- How much information should be included in biennial reports for developed and developing countries, compared to information reported via other reporting/recording mechanisms? (The Cancún Agreements do not explicitly clarify the degree of detail needed for information provided on financial, technology and capacity building support, so this section of biennial reports could range from a short summary to a long and detailed description.)
- Should any support-specific “common reporting formats” developed for national communications for developed countries also be used to report information in their biennial reports? Should the reporting formats in biennial reports from developing countries also be standardised to some extent, in order to facilitate comparison and matching? (At present, developed and developing countries have different reporting requirements.)
- Should reporting on support needs and support received focus on support needed for mitigation actions? Alternatively, should information on support needs/receipts also be provided on adaptation and/or cross-cutting needs such as institutional capacity building or enabling activities?
- What should be the minimum information that developing countries need to report in the biennial reports, and how can more detailed reporting (perhaps in other reporting/recording mechanisms) be encouraged over time?
- South-South climate-related support is already occurring and is expected to increase over time. Should this information be reported, and if so, where?
- In order to provide a comprehensive picture of climate finance, what else is needed to complement the UNFCCC reporting framework?²⁷

6.2 Suggested structure

The Cancún Agreements recognise the shortcomings of current reporting of climate support under the UNFCCC, strengthen the frequency and coverage of reporting, and ask for several improvements of reporting via national communications and other vehicles. Given that data related to finance needs, delivery and support changes frequently, biennial reports could play a critical role in providing this information.

²⁷ A comprehensive picture of climate finance may not be possible unless all sources are included, going beyond the current focus on public finance to cover also private sector finance and better capture the many details of bilateral contributions (for a more detailed discussion see Buchner *et al.*, 2011).

It would therefore be appropriate for reporting guidelines for biennial reports to encourage continued improvements compared to the current framework. For national communications from Annex II Parties²⁸, the existing reporting requirements for financial support provided include suggested reporting formats. However, the current guidelines lack clarity regarding what the numbers reported should refer to²⁹ and whether all are specific to climate change (e.g. contributions to multilateral organisations). In addition, developing countries are not required to consistently report on support needed or received, and the often considerable time lag between their national communications can make this information rapidly obsolete.

A possible structure for the climate support section of biennial reports is outlined in Table 10 below. In order to be user-friendly, biennial reports need to be of limited length. The suggested structure outlined here therefore assumes that the support section of a biennial report focuses on quantitative information, with more detailed descriptions of country priorities, key developments, institutions/institutional needs, and barriers included in national communications and/or the NAMA registry.

Table 10: Suggested outline of the support section for developed countries

Sub-section	Content	Possible format of content
1. Introduction	Overview of recent funding trends, range of support provided (finance, technology, capacity building) and modalities (e.g. general budget support, individual projects/programmes). Outline of scope of information included in section (i.e. country definition of “new and additional”, whether private funding sources are included, and if so, which ones).	Text and Tables A.29 and A.30 (pages 52-53)
2. Financial support 2.1 Bilateral support 2.2 Multilateral support	Provision of financial support to developing countries: mitigation, adaptation, other. (Data to be reported for at least the last two years, in order to update the information presented in national communication submitted previously.)	Tables A.31 and A.32 (pages 54-55)
3. Other support 3.1 Technology 3.2 Capacity building	Provision of technology and capacity building support to developing countries (mitigation, adaptation, unspecified). Data to be reported for at least the last two years.	Table A.33 (page 56)

²⁸ Parties listed in Annex II of the UNFCCC are developed countries which are to provide financial, technology and capacity building support to developing countries.

²⁹ For example, further clarity could be provided on whether to report annual or multi-period figures, whether to report aggregate figures, or funding for specific categories/institutions.

There is a large variety of situations within the group of developing countries, with some countries (e.g. Republic of Korea) providing climate-related support. In order to generate a complete picture of climate support, it would be useful for this information to be reported to the UNFCCC. However, the wording of the Cancún Agreements does not request developing countries to include this information in their biennial reports, so it is not included in the proposed outline (Table 11).

Table 11: Suggested outline of the support section for developing countries

Sub-section	Content	Possible format of content
1. Introduction	Funding priorities and overview of recent support received. Modalities for processing/managing support (e.g. via a national climate fund). Outline of scope of information included in section (e.g. whether private funding sources are included, and if so, which ones). Overview of funding needs.	Text and Table A.34 (page 57)
2. Financial support 2.1 Bilateral support 2.2 Multilateral support	Financial support received: mitigation, adaptation, other.	Table A.35 (page 58)
3. Other support 3.1 Technology 3.2 Capacity building	Technology and capacity building support received (mitigation, adaptation, other).	Text (list) or Table A.36 (page 59)
4. Support needs	Description, list and/or table of support needs (specifying type of support, i.e. finance, technology, capacity building) and sector (e.g. agriculture) or cross-cutting area (e.g. emissions inventory).	Text or Tables A.34 (page 57), A.36 (page 59)

6.3 Opportunities to introduce flexibility

Improvements are needed in reporting of climate support, both from developed and developing countries. However, as much of the information may not currently be collected centrally (Buchner *et al.*, 2011), particularly by national governments (Ellis *et al.*, 2010a), improvements cannot happen immediately and will need to take place over time. It is therefore appropriate to provide for different possible reporting levels in any reporting guidelines (Table 12). The use of ‘proxies’ for some data, such as private finance flows, may also be appropriate (Buchner *et al.*, 2011). These different reporting levels would be both in terms of some aspects of developed country provision of support, as well as for developing country support received and needed. Since developed country governments have commitments in terms of public funding for climate support, the minimum to be reported should include new and additional public climate finance (ODA and other sources), building on existing information systems and on ongoing efforts to improve these. Longer-term commitments to 2020 (of jointly mobilising USD 100bn) include finance from a range of different sources. So developed countries as a whole can only demonstrate that they have met this commitment if, by 2020, reporting of climate-related support also includes information on private flows.

Table 12: Suggested reporting levels in the section on climate support - developed countries

Issue	Description of level
Detail	<p>Level 1: Total flows (bilateral, by country, and multilateral)</p> <p>Level 2: Level 1 + information on focus of support (mitigation/adaptation/general or unspecified) + information on leveraging ratios and – if available - finance flowing through carbon markets and other mechanisms (CDM, REDD+ and any new market mechanisms)</p> <p>Level 3: Level 2 + sector/action-specific detail</p>
Time period	<p>Level 1: Two years (e.g. 2010 and 2011)</p> <p>Level 2: Multi-year</p> <p>Level 3: Longer time series</p>

In terms of reporting levels for developing countries, this could focus on the level of detail provided. For example, some countries may have established a detailed analysis of potential NAMAs that include estimates of total costs, incremental costs, enabling activities, timeline for implementation, and expected emission reductions. Other countries may indicate priority areas for climate support and an aggregated estimate of total support needs (domestic and international) for such areas. Possible reporting levels are outlined in Table 13 below. Although figures on total or incremental investment costs are not required to be submitted to the UNFCCC as part of the CDM project approval process, host country governments could in theory request this information as part of the CDM project approval process. This information could then be aggregated and included in submissions to the UNFCCC.

Table 13: Suggested reporting levels in the support section for developing countries*

Issue	Description of reporting level
Detail – support needs	<p>Level 1: Total support needed (with some disaggregation, e.g. mitigation/adaptation)</p> <p>Level 2: Sector-specific information on total international support needs, type of support</p> <p>Level 3: Level 2 + expected impact (GHG or other terms) of support</p>
Detail – support received	<p>Level 1: Total public support received (bilateral and multilateral)</p> <p>Level 2: Level 1 + CDM investment (and any other market mechanism-related or other flows, such as REDD+)</p> <p>Level 3: Level 2 + FDI (if available) and other flows</p>

* Given the current lack of information on climate support in many countries, extra flexibility may need to be provided for this section – particularly for initial biennial reports.

Conclusions

COP 16 confirmed that the future UNFCCC reporting framework for both developed and developing countries is to be more comprehensive and result in more frequent reports. The decisions adopted (UNFCCC, 2011a) stipulate that all countries should submit biennial reports to the UNFCCC. This represents a considerable step up in reporting, particularly in terms of frequency of reports for developing countries; to date, no developing country has submitted information to the UNFCCC on a biennial basis, nor do developed countries report at this frequency on the majority of topics covered by national communications.

Further, Parties agreed that flexibility in terms of frequency and content of biennial reports from developing countries should be maintained, and that reporting should be consistent with their capabilities and the level of support provided. It is therefore possible that, for some developing countries, climate-relevant information will not be reported on a two-year cycle but on a less frequent basis.

The Cancún Agreements provide an outline of what is to be included in biennial reports. Reports from all Parties are to include information on:

- GHG emissions inventories (including a national inventory report for developing countries; developed countries are to continue submitting annual national inventory reports);
- information on progress in mitigation; and
- information on support provided (developed countries), received and/or needed (developing countries).

In addition, information on emissions projections will be included in reports from developed countries. This paper suggests that developing countries with national and/or sectoral GHG emissions goals also provide information on projections, in order to demonstrate their progress in implementing these goals.

The decisions adopted at COP 16 indicate that the content of reports will be enhanced in future. In particular, developing countries “should” report information on methods and assumptions used for GHG inventories, and information on mitigation actions, needs and support received. Developed countries “shall improve” their reporting of information on financial, technology and capacity building support provided. Information on many of these topics is currently reported in national communications, although gaps exist. COP 16 decisions also indicated that some topics that are included in national communications will not be included in biennial reports. These include information on climate vulnerability; adaptation actions; research and scientific observation; and national circumstances.

The Cancún Agreements also indicate that reports from all countries will undergo some form of international assessment in future. For developing countries, ICA will be conducted of biennial reports. For developed countries, guidelines for review of national communications, including biennial reports, are to be revised and IAR of emissions and removals related to targets is to be established – for which biennial reports could potentially provide an input.

Despite the guidance provided by the COP 16 decisions, some ambiguities and open questions remain relating to, inter alia, the content of biennial reports, the relationship between biennial reports and other mechanisms to report or record climate-related information, and the incentives to encourage improvements in reporting over time. In particular, the level of detail required from biennial reports compared to other reporting formats under the UNFCCC (such as national communications) is unclear. For example, the decisions outline that “information on mitigation actions, needs and support” is to be included in biennial reports. However, there is no further guidance on whether the information should focus only on the

implementation, status and effects of mitigation actions, or also include other information such as policy priorities, policy frameworks, policy-making process, and lessons learned. In terms of reporting on “needs and support”, while it is clear that this reporting is going to be more complete and more regular in future, there is no indication as to whether this is to focus only on needs and support related to mitigation actions, or also cover other areas such as adaptation, research, and institutional support for reporting. In the GHG inventory information chapter, developing countries are to provide information on “associated methodologies and assumptions”; this could range from simply providing references to reproducing the relevant explanations and assumptions within the update report itself. If all topics included in biennial reports were reported to the same level of detail as they currently are in national communications, then biennial reports could be several hundred pages long.

Further decisions on the level of detail and scope of biennial reports are needed in the near future, as these are likely to have significant implications for:

- the transparency, comprehensiveness and user-friendliness of biennial reports;
- the resources needed nationally in order to report on a biennial basis; and
- the time and resources needed internationally for IAR/ICA/review of information contained in biennial reports.

This paper proposes a structure for biennial reports for both developed and developing countries under the UNFCCC, and outlines possible reporting formats by which countries could submit this information. It suggests that:

- **A similar structure is developed** for biennial reports from both developed and developing countries. This would ensure consistency of information presented within different countries’ reports, and would also facilitate ICA/IAR/review.
- **Three main sections are included** for biennial reports from all Parties: GHG inventory information; progress on mitigation and mitigation actions; and financial, technology and capacity building support. In addition, a section on emissions projections would be mandatory for developed countries and optional for developing countries.
- **Biennial reports focus on key information** where possible, with fuller descriptions and background information reported either in annexes (in the case of national inventory reports from developing countries) or less frequently via other reporting mechanisms under the UNFCCC (such as national communications).

This paper also proposes that flexibility be maintained in the reporting guidelines for biennial reports. This could be achieved through the use of “reporting levels” which reflect the different national circumstances and levels of reporting experience between Parties (particularly within the group of developing country Parties). Parties could choose the most appropriate level for each section of their report according to their goal type or reporting capacity, and “move up” levels as and when they can (as is currently the case for GHG inventory calculations). A limited number of levels are suggested for developed countries, as in many cases reporting to the highest level is already mandatory for these countries. For developing countries there could be greater flexibility and a higher number of reporting levels, reflecting the broad range of national circumstances and reporting capacities within this group. The introduction of reporting levels into guidelines would allow countries to provide information at a level that is consistent with their current capabilities, and to improve their reporting over time.

Reporting levels could be designed so that they reflect variations in country circumstances (including availability of resources and data, or type of mitigation pledge) and could be applied to:

- the **list of topics** that a country reports on (e.g. emission projections could be reported for those developing countries with a national or sectoral-level GHG goal);
- the **coverage** of a particular issue (e.g. how many gases a GHG inventory or projection includes, or what time period is covered);
- the **methods used** to calculate GHG inventories or emission projections (e.g. activity-level data or economy-wide modelling);
- the **indicators used** to measure progress in implementation of mitigation actions (e.g. input indicators such as MW installed, intermediate output indicators such as MWh generated, or output indicators such as tCO₂-eq saved).

In addition, this paper proposes that further flexibility is provided for initial biennial reports from developing countries, given that these reports represent a significant increase in reporting requirements. For example, the initial biennial report could contain less detailed information on support needs. At the same time, more information on mitigation actions may be needed in the initial biennial report in order to facilitate the 2013-2015 review. Such an approach could help facilitate the transition from the existing reporting framework to a new, more frequent and flexible reporting framework in future.

Glossary

AI	Developed countries listed in Annex I of the UNFCCC
AWG-LCA	Ad Hoc Working Group on Long-term Cooperative Action under the UNFCCC
BAU	Business As Usual
CCXG	OECD/IEA Climate Change Expert Group
CDM	Clean Development Mechanism
COP	Conference of the Parties to the UNFCCC
CRF	Common Reporting Format
DAC	Development Assistance Committee (of the OECD)
FTCB	Financial, Technology and Capacity Building
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
IA	International Assessment
IAR	International Assessment and Review
ICA	International Consultations and Analysis
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LDC	Least Developed Country
LEDS	Low-Emission Development Strategy
LULUCF	Land Use, Land Use Change and Forestry
MRV	Measurable, Reportable and Verifiable
MW	Mega-watt (1 MW = 10 ⁶ J s ⁻¹)
NAI	Developing countries that are not listed in Annex I of the UNFCCC
NAMA	Nationally Appropriate Mitigation Action
NC	National Communication
NIR	National Inventory Report
ODA	Official Development Assistance
PAMs	Policies and Measures
QA/QC	Quality Assurance/Quality Control
RD&D	Research, Development and Deployment
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SIDS	Small Island Developing States
TT	Technology Transfer
UNFCCC	United Nations Framework Convention on Climate Change

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7. Annex: Proposed reporting formats for biennial reports

7.1 Reporting format for executive summary of biennial reports

Table A.14: Executive summary – Summary table

Developed country Parties	Developing country Parties
Name of Party	Name of Party
Type of report (national communication or biennial report)	Type of report (national communication or biennial report)
Quantified economy-wide emission reduction target for 2020 (specifying base year) (Mt CO ₂ -eq)	Brief description of NAMA(s)
Description of long-term mitigation targets, if any	Description of long-term mitigation goals, if any
Implementation status of GHG emissions target	Implementation status of GHG emissions pledge
Sectors (or sub-sectors) covered by target	Sectors (or sub-sectors) covered by pledge
Latest estimate of gross domestic emissions excluding LULUCF in 20xx	Latest estimate of domestic GHG emissions excluding LULUCF (year)
Latest estimate of net domestic emissions including LULUCF in 20xx	Latest estimate of domestic GHG emissions including LULUCF, for countries where this is a key source (year)
Net accounted emissions in 20xx [taking into account transfers]	--
Projected national emissions excluding LULUCF in 2020 “with additional measures”	Projected national emissions excluding LULUCF in 2020 (if available)
Projected national emissions including LULUCF in 2020 “with additional measures”	Projected national emissions including LULUCF in 2020 (if available)
Top [m] key emission sources	Top [m] key emission sources (optional)
Top [n] mitigation priorities (sector/category) (optional)	Top [n] mitigation priorities (sector/category) (optional)
Financial support provided in [yyyy, as xx USD]	International support received in [yyyy, as xx USD] and identified international support needs to implement priorities identified above

7.2 Reporting formats for GHG inventory information section

The structure proposed in this paper for the inventory section of an update report (see section 3) includes three sets of reporting tables: total annual emissions; emission trends; and key category analysis. Suggestions for reporting formats to report these issues are outlined below, and are based on the CRF tables already agreed for AI inventory reporting – but updated to include categories and gases in the IPCC 2006 guidance.

Table A.15 reflects the reporting levels suggested for reporting summary information on GHG inventories. This is adopted from Table “Summary 1.As1” in the current CRF for AI countries; it has been modified to take into account some of the changes suggested in the 2006 IPCC guidelines and subsequent discussions.³⁰

³⁰ Discussions as outlined in FCCC/SBSTA/2010/INF.10 have recommended that reporting of agriculture and forestry GHG emissions should be in separate categories for AI countries, as per the 1996 IPCC guidelines.

Level 3 reporting would therefore include all gases; Level 2 would include four to six gases, and Level 1 would include CO₂, CH₄ and N₂O emissions only.

Table A.15: GHG inventory - Summary report for national GHG inventories

Country: _____

Year: YYYY

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		Net CO ₂ emissions/removals	CH ₄	N ₂ O	HFCs [*]	PFCs [*]	SF ₆ [*]	Other fluorinated gases [*]	Total
		CO ₂ (Gg)	CO ₂ equivalent (Gg)						CO ₂ -eq (Gg)
Total National Emissions and Removals									
1. Energy									
A. Fuel Combustion		Reference Approach ⁽²⁾							
		Sectoral Approach ⁽²⁾							
1. Energy Industries									
2. Manufacturing Industries and Construction									
3. Transport									
4. Other Sectors									
5. Other									
B. Fugitive Emissions from Fuels									
1. Solid Fuels									
2. Oil and Natural Gas									
C. CO ₂ Transport and Storage**									
2. Industrial Processes and Product Use									
A. Mineral Industry									
B. Chemical Industry									
C. Metal Industry									
D. Non-energy Products from Fuels and Solvent Use									
E. Electronics Industry									
F. Product Use as Substitutes for Ozone Depleting Substances									
G. Other Product Manufacture and Use									
H. Other									
3. Agriculture, Forestry and other Land Use									
A. AFOLU - Agriculture									
1. Livestock									
a. Enteric Fermentation									
b. Manure Management									
2. Rice Cultivation									
3. Agricultural Soils									
4. Prescribed Burning of Savannas									
5. Field Burning of Agricultural Residues									
6. Other									
B. AFOLU - Land Use, Land-Use Change and Forestry									
1. Forest Land									
2. Cropland									
3. Grassland									
4. Wetlands									
5. Settlements									
6. Other Land									
C. Aggregate Sources and Non-CO₂ Emissions on Land									
5. Waste									
A. Solid Waste Disposal									
B. Biological Treatment of Solid Waste									
C. Incineration and Open Burning of Waste									
D. Wastewater Treatment and Discharge									
E. Other									
Memo items									
International bunkers									
Aviation									
Marine									
Multilateral Operations									
CO₂ Emissions from Biomass									
CO₂ Captured									
Long-term storage of CO₂ in waste disposal sites									

* Optional for Level 1 and Level 2 reporting.

** NB: The IPCC category "1C. CO₂ Transport and Storage" does not include emissions associated with capture and compression or from pipeline transport. These are included in categories 1A.cii and 1A.3e respectively.

Table A.16 outlines suggested reporting for GHG emission trends by gas and by sector. This is also adapted from the existing CRF for Annex I countries. Reporting levels for developing countries could include different numbers of years reported. For example, Level 1 reports could include information from 2000 (from the 2nd NC) and 2005, whereas Level 3 reporting could include a complete time series from 1990.

Table A.16: GHG inventory – Summary of trends in GHG emissions, by gas and by sector

GREENHOUSE GAS EMISSIONS	Y1	Y2	Y3	...
CO ₂ emissions including net CO ₂ from LULUCF				
CO ₂ emissions excluding net CO ₂ from LULUCF				
CH ₄ emissions including CH ₄ from LULUCF				
CH ₄ emissions excluding CH ₄ from LULUCF				
N ₂ O emissions including N ₂ O from LULUCF				
N ₂ O emissions excluding N ₂ O from LULUCF				
HFCs				
PFCs				
SF ₆				
Other F gases				
Total (including LULUCF)				
Total (excluding LULUCF)				

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Y1	Y2	Y3	...
1. Energy				
2. Industrial Processes and Product Use				
3. Agriculture				
4. Land Use, Land-Use Change and Forestry				
5. Waste				
Total (including LULUCF)				

A summary of GHG emission trends in key categories could be reported in the following format, Table A.17 below. Such a format could be encouraged for both developed and developing countries.

Table A. 17: GHG inventory - Summary of trends in GHG emissions, by key category³¹

Country: _____

Year: YYYY

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		1990 (or other base year)	1995	2000	2005	2010	...	YYYY	% change from base year
		CO ₂ -eq (Gg)							
Total National Emissions and Removals									
1. Energy									
A. Fuel Combustion		Reference Approach ⁽²⁾							
		Sectoral Approach ⁽²⁾							
1. Energy Industries									
<i>of which key category # (aggregation and category will change by country)</i>									
<i>of which key category ## (aggregation and category will change by country)</i>									
2. Manufacturing Industries and Construction									
<i>of which key category ### (aggregation and category will change by country)</i>									
3. Transport									
<i>of which key category* (aggregation and category will change by country)</i>									
4. Other Sectors									
5. Other									
B. Fugitive Emissions from Fuels									
1. Solid Fuels									
2. Oil and Natural Gas									
C. CO ₂ Transport and Storage									
2. Industrial Processes and Product Use									
A. Mineral Industry									
B. Chemical Industry									
C. Metal Industry									
D. Non-Energy Products from Fuels and Solvent Use									
E. Electronics Industry									
F. Product Use as Substitutes for Ozone Depleting Substances									
G. Other Product Manufacture and Use									
H. Other									
3. Agriculture, Forestry and other Land Use									
A. AFOLU - Agriculture									
1. Livestock									
a. Enteric Fermentation									
b. Manure Management									
2. Rice Cultivation									
3. Agricultural Soils									
4. Prescribed Burning of Savannas									
5. Field Burning of Agricultural Residues									
6. Other									
B. AFOLU - Land Use, Land-Use Change and Forestry									
1. Forest Land									
2. Cropland									
3. Grassland									
4. Wetlands									
5. Settlements									
6. Other Land									
C. Aggregate Sources and Non-CO₂ Emissions on Land									
4. Waste									
A. Solid Waste Disposal									
B. Biological Treatment of Solid Waste									
C. Incineration and Open Burning of Waste									
D. Wastewater Treatment and Discharge									
E. Other									
Memo items									
International bunkers									
Aviation									
Marine									
Multilateral Operations									
CO₂ Emissions from Biomass									
CO₂ Captured									
Long-term storage of CO₂ in waste disposal sites									

³¹ Key categories as identified to be added as appropriate.

A suggested format for reporting key categories is outlined in Table A.18. This is also adapted from a table in the current CRF tables. Reporting level 1 of key categories could simply highlight selected categories (e.g. 5 or 10 of the source categories as defined in the IPCC guidelines) that contribute a significant proportion of a country's GHG emissions. Level 2 reporting could indicate the trends in emissions from these sources, to as high a level of disaggregation as possible, and highlight categories that contribute to X% of a country's emissions. Level 3 reporting could provide highly disaggregated trend information and highlight all categories that contribute to 95% of a country's emissions.

Table A. 18: GHG inventory - Summary of key source categories

Source category <i>(to as high a level of disaggregation as possible)</i>	Gas	Inventory sector	Emission level YYYY (e.g. 2000)	Emission level XXXX (e.g. 2005)	% change from YYYY*	Cumulative emissions*
<i>IA1ai – energy industries: electricity generation</i>	<i>CO₂</i>	<i>Energy</i>		<i>50</i>		<i>50</i>
<i>IA3bi – road transport (cars) or IA3b (road transport)</i>	<i>CO₂</i>	<i>Energy</i>		<i>15</i>		<i>65</i>
<i>IA2a – iron and steel production</i>	<i>CO₂</i>	<i>Energy</i>		<i>12</i>		<i>77</i>

Hypothetical examples are provided in italic font

* This refers to the cumulative percentage of a country's emissions covered by the key categories.

7.3 Reporting formats for emissions projections section

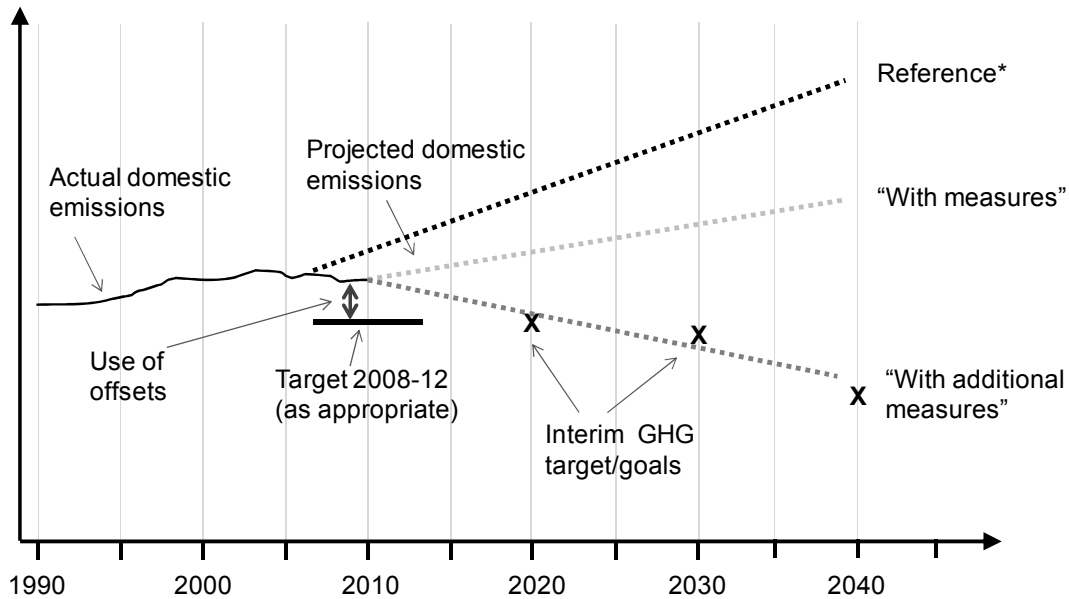
Table A.19 is a summary table that could be put at the front of the projections section.

Table A.19: Projections – Summary table

Issue	Content	Comment
<i>Timeline covered</i>	<i>2020, 2025, 2030, 2050</i>	<i>Level 3</i>
<i>Gases</i>	<i>CO₂, CH₄, N₂O, PFCs, HFCs, SF₆</i>	
<i>Sectors</i>	<i>Energy, industry, agriculture, LULUCF, waste</i>	
<i>Scenario(s)</i>	<i>With measures (as implemented in XXXX), with additional measures</i>	
<i>Models/methods used</i>		

Hypothetical examples in italics

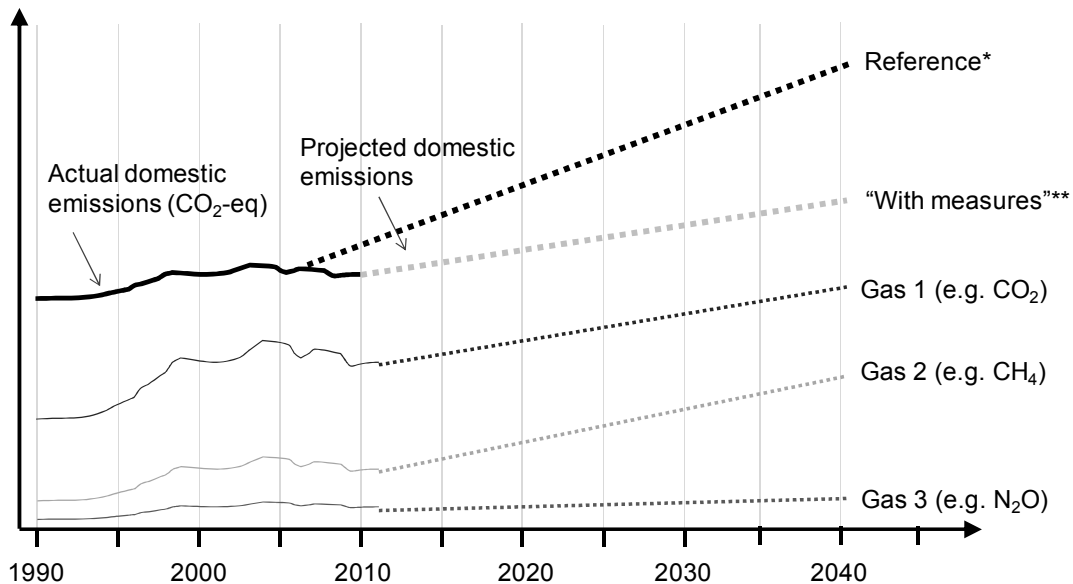
Figure A.4: Hypothetical Party's projections of total GHG emissions



* The start date of the reference scenario (which could potentially be a “without measures” scenario) could vary by Party, according to their national circumstances – such as the date of establishing a national emissions target or goal.

In order to highlight sectoral emission projections, the following figure could be included in biennial reports for each sector (subdivided by gas).

Figure A.5: Reporting sectoral GHG emission projections (subdivided by gas)



* The start date of the reference scenario (“without measures”) could vary by Party, according to their national circumstances.

***The start date of the “with measures” scenario could vary by Party (and could be updated for subsequent reports).

The projections section of an update report could also usefully include the following table, which gives more detail on projected emissions from fuel combustion (which form the majority of emissions for most developed countries). The sub-categories shown reflect the categories in the IPCC inventory guidelines. While Table A.20 is designed for developed countries, developing countries with sectoral or national pledges are also encouraged to report projections.

Table A.20: Projections - Actual and projected emissions and removals by sector

	Base Year	2000	2005	2010	YYYY	2015	2020	2025	...	% change base year – YYYY	2015	2020	2025	...
	Historical data (MtCO ₂ -eq)					Projections (Scenario 1) (MtCO ₂ -eq)					(Scenario 2, if applicable)			
1. Energy														
1A. Fuel Combustion														
1A1 Energy industries														
1A2 Manufacturing industries and construction														
1A3 Transport														
1A4 Other sectors														
1A5 Other														
1B. Fugitive emissions from fuels														
1C. CO ₂ transport and storage														
2. Industrial processes and product use														
3. Agriculture														
4. Land-use, land-use change and forestry														
5. Waste														
Total including LULUCF														
Total excluding LULUCF														
International bunkers														

Information on the projection of individual gases can be reported using Table A.21 below. Projections could be given for, e.g. the years (N+10), (N+20), (N+30).

Table A.21: Projections – Projections by sector and by gas

	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Other
Energy							
Industrial processes and product use							
Agriculture							
LULUCF							
Waste							
Total including LULUCF							
Total excluding LULUCF							

It would also be useful if biennial reports indicated the reason behind any differences between current and previous projections. These could be outlined in Table A.22 below (and explored in further detail in the body of the update report).

Table A.22: Projections - Differences in projections since [Nth] national communication

Sector	Emissions (Gg CO ₂ -eq)			
	Nth national communication	Current update report	Difference (Mt CO ₂ -eq)	Difference (%)
Energy				
Industrial processes and product use				
Agriculture				
LULUCF				
Waste				
Total including LULUCF				
Total excluding LULUCF				

Table A.23 could be used to clarify the relationship between the sector definitions used in the information on mitigation actions, emissions projections and GHG inventory sections.

Table A.23: Projections - Sector mapping*
For all developed countries

Sector	GHG inventory	Information on mitigation actions	Emissions projections
Energy	<i>Includes emissions from energy-from-waste facilities</i>	<i>Policies related to energy-from-waste facilities are reported in the “waste” section.</i>	<i>Includes emissions from energy-from-waste facilities</i>
Transport			
Industry			
Agriculture			
Forestry			
Waste			

A hypothetical example is provided in italics.

* If this mapping has not changed since the equivalent description in a country's previous national communication/biennial report, the biennial report could merely provide a reference to this information.

To provide a summary of a Party's total expected domestic emissions over a given period, the following figure could be included. Emissions targets (including those under the Kyoto Protocol) could also be indicated, as shown.

7.4 Reporting formats for the information on mitigation actions section

Table A.24 provides a summary of post-2012 emissions reduction targets for developed countries and goals for developing countries (for developing countries with economy-wide and/or sectoral goals). Table A.24 could be used to highlight any updates or changes to targets/goals since the last national communication or biennial report, if necessary.

Table A.24: Mitigation actions - Summary of emissions reduction targets/goals
For developed countries and developing countries with economy-wide/sectoral emissions goals

Target/goal (including timescale, base year and conditions attached, if applicable)	Sectors included (e.g. LULUCF)	Gases included	Information on use of GHG units (if applicable)	Implementation status
<i>To reduce economy-wide emissions by 25% by 2020 from 1990 levels</i>	<i>All sectors including LULUCF</i>	<i>CO₂, CH₄, N₂O, HFCs, PFCs, SF₆</i>	<i>Max. 5% points will come from offsets</i>	<i>Legislation passed</i>
<i>To reduce emissions by 26% relative to BAU levels by 2020 unilaterally, or 41% with international support</i>	<i>All sectors except agriculture</i>	<i>CO₂, CH₄, N₂O</i>	<i>None</i>	<i>Government policy, legislation pending</i>
<i>To reduce CO₂ emissions per unit GDP by 40% by 2020 from 2005 levels</i>	<i>Energy sector only</i>	<i>CO₂ only</i>	<i>None</i>	<i>Voluntary domestic action</i>

Hypothetical examples are provided in italics

Tables A.25-A.27 provide a year-by-year summary of progress towards emissions reduction targets/goals, including information on historic emissions and GHG units (if applicable). Note that when emissions reduction targets/goals are set using a base year and a target year, it can be difficult to assess progress for years in-between because many different emissions pathways are possible.

Table A.25: Mitigation actions - Progress made towards absolute emissions reduction targets/emissions goals

For developed countries, and developing countries with absolute economy-wide/sectoral emissions goals

Indicator	Base year (B)	(B+1)	(B+2)	(B+3)	...	(N-4)	TTTT ³²
A. National/sectoral emissions ³³ (MtCO ₂ -eq)	100	99	98	97		92	80
B. Net holdings of GHG units ³⁴ (if applicable)	0	1	2	3		2	5
C. % change from base year, accounting for transfers of GHG units (if applicable)	0%	2%	4%	6%		10%	25%

Table A.26: Mitigation actions - Progress made towards emissions goals relative to BAU

For developing countries with economy-wide/sectoral emissions goals relative to BAU

Indicator	Base year (B)	(B+1)	(B+2)	(B+3)	...	(N-4) ¹	TTTT
A. National/sectoral emissions (MtCO ₂ -eq)	100	101	102	103		110	126
B. BAU emissions baseline (MtCO ₂ -eq)	100	102	104	106		120	140
C. Percentage change from BAU level	0%	1.0%	1.9%	2.8%		8.3%	10%

Table A.27: Mitigation actions - Progress made towards emissions intensity goals

For developing countries with economy-wide/sectoral emissions intensity goals

Indicator	Base year (B)	(B+1)	(B+2)	(B+3)	...	(N-4) ¹	TTTT
A. National/sectoral emissions (MtCO ₂ -eq)	100	101	102	103		110	
B. GDP (billion USD, PPP)	100	104	108	112		150	
C. Emissions intensity (kg CO ₂ -eq per USD)	1	0.97	0.94	0.92		0.73	
D. Percentage reduction in emissions intensity from base year	0%	3%	6%	8%		27%	

³² TTTT = Year for which there is an emissions target or goal.³³ For national emissions, Parties should specify clearly whether emissions from LULUCF are included or excluded.³⁴ GHG units could include Kyoto Protocol units for Parties with KP commitments. A positive net holding represents a net acquisition of GHG units.

COM/ENV/EPOC/IEA/SLT(2011)2

A summary table such as Table A.28 below could be used by developed and developing countries to report information on individual or grouped mitigation actions. Additional flexibility could be provided for developing countries in terms of which indicators are used to report progress in implementation of actions (e.g. input indicators, intermediate output indicators or estimates of mitigation impact). Actions reported could include those relating to education, training, public awareness, and RD&D activities (the mitigation impact of these actions may be listed as “n/a”, as is current practice).

Table A.28: Mitigation actions - Summary of mitigation actions
For developed and developing countries (with flexibility for developing countries)

Name of mitigation action ³⁵	Objective and/or activity affected	Start year	End year	GHG and key category affected	Type of instrument ³⁶	Status ³⁷	Implementing entity or entities	Source of finance ³⁸	Progress in implementation (Progress indicators: Level 1, 2 or 3) ³⁹				
									Start year (S)	(S+1) ⁴⁰	...	(N-4) ⁴¹	TTTT
<i>Light Bulb Initiative</i>	<i>The objective is to reduce residential energy demand through the replacement of conventional light bulbs with low-energy light bulbs. The scheme aims to replace 1 million conventional light bulbs with low-energy light bulbs between 2010-2015.</i>	<i>2010</i>	<i>2015</i>	<i>CO₂ emissions from residential electricity use</i>	<i>Economic</i>	<i>Implemented</i>	<i>Ministry of Energy</i>	<i>Unilateral action</i>	<i>50,000 light bulbs</i>	<i>100,000 light bulbs</i>	<i>...</i>	<i>800, 000 light bulbs</i>	<i>1 million light bulbs</i>

³⁵ Parties could use an asterisk (*) to indicate that an action is included in the “with measures” projection (if applicable).

³⁶ To the extent possible, the following descriptive terms could be used: *economic, fiscal, voluntary agreement, regulatory, information, education, research, other*.

³⁷ To the extent possible, the following descriptive terms could be used: *implemented, adopted, planned*.

³⁸ Sources of finance could include the CDM or other market mechanisms.

³⁹ Additional flexibility could be provided for developing countries as follows: Level 1: input indicators (e.g. number of light bulbs); Level 2: intermediate output indicators (e.g. MWh electricity saved); or Level 3: estimation of mitigation impact (e.g. tCO₂-eq). Level 3 reporting would be mandatory for developed country actions that are quantified.

⁴⁰ Longer intervals could be used by developing countries, e.g. (S+2), (S+4), etc.

⁴¹ Or latest year for which data is available (N = reporting year).

7.5 Reporting formats for the financial, technology and capacity building support section

Table A.29 would provide a quick summary of total climate-specific⁴² finance/support flows, by type.

Table A. 29: FTCB - Finance/support trend table (finance/support provided or received)

Flow	Year 1: N-4		Year 2: N-3		Year 3: N-2	
	Total USD	National currency	Total USD	National currency	Total USD	National currency
Public flows – bilateral	<i>117,750</i>	<i>300,000</i>	<i>120,000</i>	<i>310,500</i>	<i>130,000</i>	<i>335,250</i>
Public flows – multilateral	<i>250,000</i>		<i>220,000</i>			
Private flows – bilateral (if available) ⁴³	<i>300,000 (CDM)</i>	<i>--</i>	<i>350,000</i>	<i>--</i>	<i>NA</i>	
Total	<i>667,750</i>	<i>NA</i>	<i>690,000</i>	<i>NA</i>		
Technology transfer*	<i>Yes (efficient lighting systems)</i>					
Capacity building**	<i>Yes (capacity building workshop on market mechanisms)</i>					
Private finance – leverage ratio						

Hypothetical examples in italics

* = Countries to report qualitatively

** = Countries to report qualitatively

⁴² In this context, “climate-specific” is used to mean support that is directed towards mitigation and/or adaptation actions (either as a principal or significant objective).

⁴³ Information on further flows would be useful in the future and could be based on improved information systems. A clear methodology of how to calculate a leverage ratio and a streamlined methodology for tracking CDM investments, as well as flows related to REDD+ and any new market mechanisms, would need to be developed and agreed.

Table A.30: FTCB - Aggregate picture of climate-specific financial flows to finance climate action (annual, disbursed)

For Annex II and other donor parties

Party: _____

Year: YYYY

Exchange rate USD/national currency: _____

Financial flows/ support	Recipient ⁴⁴	Amount (Total USD)	Amount (Total natl. Currency)	Principal focus of funding (USD)			ODA flows (USD) ⁴⁵		Non-ODA public flows (USD)		Private flows (USD)/leverage ratio ⁴⁶			Specific purpose of funding ⁴⁷
				Mitigation-specific	Adaptation-specific	Unspecified (general or combined)	Bilateral	Multilateral	Bilateral	Multilateral	Leverage ratio	CDM, (if available) REDD+, etc.	FDI	
1														
2														

⁴⁴ Country, region or international entity.

⁴⁵ These figures (ODA and non-ODA public flows) are mandatory – they should be reported in a comparable manner.

⁴⁶ Information on further flows would be useful in the future and could be based on improved information systems. A clear methodology of how to calculate a leverage ratio and a streamlined methodology for tracking CDM investments, as well as flows related to REDD+ and any new market mechanisms, would need to be developed and agreed.

⁴⁷ As per Convention obligations; for example: technology acquisition/development; development of indigenous capacity for x; preparation of NAPA/NC; y number of hectares preserved (if project or programme for example). If the supported activity has not been completed (even if funding disbursed), these would be expected outcomes. Also, if outcome isn't clear it could indicate the **priority** of the climate aid, according to a list of priorities provided in the guidelines. If aggregated (rather than project-specific) flows are presented, information on the specific purpose could be provided in a separate sheet.

Table A.31: FTCB - Bilateral, climate-specific financial flows to finance climate action (annual)

For Annex II and other donor Parties

Year for which climate support is reported: YYYY

Exchange rate USD/national currency: _____

Financial flows/support	Recipient ⁴⁸	Amount (Total USD)	Amount (total natnl. Currency)	Principal focus of funding			Public flows ⁴⁹		Private flows (USD/ leverage ratio) ⁵⁰			Specific purpose of funding ⁵¹
				Mitigation-specific	Adaptation-specific	Unspecified (general or combined)	ODA	Non-ODA	Leverage ratio	CDM, (if available) REDD+ etc	FDI (if available)	
1												
2												

⁴⁸ Country or region or international entity

⁴⁹ These figures are mandatory – they should be reported in a comparable manner.

⁵⁰ Information on further flows would be useful in the future and could be based on improved information systems. A clear methodology of how to calculate a leverage ratio and a streamlined methodology for tracking CDM investments, as well as flows related to REDD+ and any new market mechanisms, would need to be developed and agreed.

⁵¹ As per Convention obligations; for example: technology acquisition/development; development of indigenous capacity for x; preparation of NAPA/NC; y number of hectares preserved (if project or programme for example). If the supported activity has not been completed (even if funding disbursed), these would be expected outcomes. Also, if outcome is not clear it could indicate the priority of the climate aid, according to a list of priorities provided in the guidelines. If aggregated (rather than project-specific) flows are presented, information on the specific purpose could be provided in a separate sheet.

Table A.32: FTCB – Multilateral financial flows to support climate actions (annual)
For Annex II and other donor Parties

Year for which climate support is reported: YYYY

Exchange rate USD/national currency: _____

Financial flows/ support	Recipient ⁵²	Amount (Total USD)	Amount (total natnl. Currency)	Principal focus of funding (if possible)			Public finance flows ⁵³ (in USD where available)		Private flows (USD)/leverage ratio ⁵⁴	Specific purpose of funding ⁵⁵
				Mitigation-specific	Adaptation-specific	Unspecified (general or combined)	ODA	Non - ODA		
<i>1 Finance</i>	<i>WB (Least developed country fund)</i>	<i>250,000</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>Y</i>	<i>250,000</i>	<i>--</i>	<i>--</i>	<i>Household energy efficiency</i>
<i>2 Finance</i>	<i>Adaptation Fund</i>	<i>117,000</i>	<i>--</i>	<i>--</i>	<i>Y</i>	<i>--</i>	<i>117,000</i>	<i>--</i>	<i>--</i>	<i>Adaptation actions in the agricultural sector</i>
<i>3. CB</i>	<i>Training courses on CDM (with partners X and Y)</i>	<i>n/a</i>	<i>n/a</i>	<i>Y</i>	<i>--</i>	<i>--</i>	<i>n/a</i>	<i>--</i>	<i>--</i>	<i>Capacity building of government staff</i>

Hypothetical examples in italics

⁵² Multilateral institution or programme, such as the GEF, MDBs,...

⁵³ These figures are mandatory – they should be reported in a comparable manner.

⁵⁴ Information on further flows would be useful in the future and could be based on improved information systems. A clear methodology of how to calculate a leverage ratio and a streamlined methodology for tracking CDM investments, as well as flows related to REDD+ and any new market mechanisms, would need to be developed and agreed.

⁵⁵ As per Convention obligations; for example: technology acquisition/development; development of indigenous capacity for x; preparation of NAPA/NC; y number of hectares preserved (if project or programme for example). If the supported activity has not been completed (even if funding disbursed), these would be expected outcomes. Also, if outcome is not clear it could indicate the priority of the climate aid, according to a list of priorities provided in the guidelines. If aggregated (rather than project-specific) flows are presented, information on the specific purpose could be provided in a separate sheet.

Table A.33: FTCB – Non-monetised capacity building and technology support provided*

Mandatory for developed countries, optional for developing countries

Type of support	Activity	Country/region	Timeframe	Focus (mitigation, adaptation, unspecified)
<i>Capacity building</i>	<i>Institutional support to the Abomey Calavi University</i>	<i>Benin</i>	<i>Ongoing (since 2008)</i>	<i>Unspecified</i>
<i>Capacity building</i>	<i>Education programmes concerning management of natural resources, water management and land degradation and forest management</i>	<i>Morocco, DRC</i>	<i>Ongoing (since 2006)</i>	<i>Adaptation</i>
<i>Technology</i>	<i>Study with Pakistan on assessing barriers to low-carbon technologies</i>	<i>India</i>	<i>2010</i>	<i>Mitigation</i>

Hypothetical examples in italics

* Monetised support for technology and capacity building is already reported in tables on financial support.

Table A.34: FTCB – Summary of support needs and requested

For developing country Parties

Year: YYYY

Sector and Activity	Reference to row(s) in policies and measures table (if applicable)	Amount needed ⁵⁶ (Total USD)	Amount needed (total national currency)	Outcome ⁵⁸ / priority	Specific type of support requested (examples; this could vary according to the activity)			Funding amount broken down by preferred type ⁵⁷ (in USD where available) (or in percentage where not detailed) (examples)				
					Cash/general budget support	Technology	Training	Loan	Grant	In-kind	Private	Carbon market
1												
2												

⁵⁶ This is the total amount, which may be broken down in the table according to the level of detail the reporting country is able to provide. This amount includes monetary equivalents of support needed in the form of training, specific equipment or materials, and information.

⁵⁷ This can be filled in on a voluntary basis. If both, amount funded through each can be specified

⁵⁸ As per Convention obligations; for example: technology acquisition/development; development of indigenous capacity for x; preparation of NAPA/NC; y number of hectares preserved (if project or programme for example). Also, if outcome is not clear it could indicate the priority target(s) of the support received, according to a list of priorities provided in the guidelines. If aggregated (rather than project-specific) flows are presented, information on the specific purpose could be provided in a separate sheet.

Table A.35: FTCB – Financial flows/support received (annual, actually received)

For developing countries

Party: _____

Year: YYYY

Financial flows/ support	Donor ⁵⁹	Amount (Total USD)	Amount (total national currency)	Principal focus of funding			Public finance flows ⁶⁰ (in USD where available)		Channel ⁶¹ (in USD)		Private flows (USD)/leverage ratio ⁶²	Specific purpose of funding ⁶³	Outcome (where available) ⁶⁴
				Mitigation-specific	Adaptation-specific	Unspecified (general or combined)	ODA	Non-ODA	Bilateral	Multi-lateral			
<i>1 Finance (low-interest loan)</i>	<i>Japan (government)</i>	<i>\$2m</i>		<i>\$1m</i>	<i>\$1m</i>	<i>--</i>	<i>\$1.5m</i>	<i>\$0.5m</i>	<i>Y</i>	<i>N</i>	<i>--</i>	<i>See NAMAs outlined in table X, Y</i>	
<i>2</i>													

*Hypothetical examples are included in italics*⁵⁹ Country, region or international entity.⁶⁰ These figures are mandatory – they should be reported in a comparable manner.⁶¹ This can be filled in on a voluntary basis. If both, amount funded through each can be specified⁶² Information on further flows would be useful in the future and could be based on improved information systems. A clear methodology of how to calculate a leverage ratio and a streamlined methodology for tracking CDM investments, as well as flows related to REDD+ and any new market mechanisms, would need to be developed and agreed.⁶³ As per Convention obligations; for example: technology acquisition/development; development of indigenous capacity for x; preparation of NAPA/NC; y number of hectares preserved (if project or programme for example). If the supported activity has not been completed (even if funding disbursed), these would be expected outcomes. Also, if outcome is not clear it could indicate a the priority of the climate aid, according to a list of priorities provided in the guidelines.⁶⁴ Quantitative information where possible, preferably in terms of GHG (if available).

Table A.36: FTCB – Non-monetised capacity building and technology support received/needed*

For developing countries

Type of support	Activity	Focus (mitigation, adaptation, unspecified)	Timeframe	Donor
<i>Support received</i>				
<i>Capacity building</i>	<i>Provision of resources and advice to help develop the necessary legislation to allow independent power producers to feed into the electricity grid</i>	<i>Mitigation (renewable electricity)</i>	<i>2006-08</i>	<i>XX</i>
<i>Capacity building</i>				
<i>Technology</i>				
<i>Support needed</i>				
<i>Technology</i>	<i>Solar energy applications (heating, cooling, electricity generation, water desalination, etc.)</i>	<i>Mitigation</i>	<i>tbd</i>	<i>n/a</i>
<i>Capacity building</i>	<i>Developing country-specific emission factors</i>	<i>Mitigation</i>	<i>tbd</i>	<i>n/a</i>

Hypothetical examples in italics

* Monetised support for technology and capacity building is already reported in tables on financial support.