



Background paper on information on trends in relation to the commitments under Article 3, paragraph 1, of the Kyoto Protocol found in reports of the in-depth reviews of the fifth national communications of Parties included in Annex I

Note by the secretariat

I. Introduction

A. Mandate

1. At its sixth meeting, the facilitative branch agreed to continue its discussions on how it can carry out its responsibility to provide advice and facilitation “with the aim of promoting compliance and providing for early warning of potential non-compliance” under section IV, paragraph 6 (a), of the procedures and mechanisms relating to compliance under the Kyoto Protocol¹ at its next meeting. The branch also decided to consider how it could make use of the wealth of information found in expert review team (ERT) reports that are forwarded to members and alternate members of the Compliance Committee pursuant to section VI, paragraph 3, of the procedures and mechanisms to the extent that the information is relevant to the mandate of the branch. To facilitate discussions on these matters, the branch requested the secretariat to prepare a background paper providing the branch with a compilation and assessment of information on trends in relation to the commitments under Article 3, paragraph 1, of the Kyoto Protocol found in reports of the in-depth reviews of national communications of Parties included in Annex I that have been submitted as of 1 January 2010.²
2. At its seventh meeting, the facilitative branch agreed to keep the matter on how it can carry out its responsibilities to provide advice and facilitation “with the aim of promoting compliance and providing for early warning of potential non-compliance” under section IV, paragraph 6 (a), of the procedures and mechanisms relating to compliance under the Kyoto Protocol on the agenda of its eighth meeting. In this regard, the branch also agreed to consider, at its eighth meeting, observations made by ERTs in the in-depth reviews (IDRs) of fourth national communications (NC5s) of Parties included in Annex I in relation to greenhouse gas emission projections until 2020.³
3. A document entitled “Observations made by expert review teams in the in-depth review of the fourth national communications of Parties included in Annex I in relation to greenhouse gas emission projections until 2010”⁴ was made available to the facilitative branch at its eighth meeting. At the same meeting, on the basis of information provided by the secretariat on the status of submission and review of NC5s from Parties included in Annex I, the chairperson noted that the IDRs of NC5s will not be completed until 2012.⁵

¹ Contained in the annex to decision 27/CMP.1; this and subsequent references to sections, as well as references to the procedures and mechanisms refer to the annex to decision 27/CMP.1.

² CC/FB/6/2008/2, Report on the sixth meeting of the facilitative branch, paragraphs 6–7.

³ CC/FB/7/2009/2, Report on the seventh meeting of the facilitative branch, paragraphs 7 and 9.

⁴ CC/FB/8/2010/2.

⁵ CC/FB/8/2010/4, Report on the eighth meeting of the facilitative branch, paragraph 6.



B. Scope and possible action by the facilitative branch

4. To fulfil the request made by the branch at its sixth meeting (see paragraph 1), the secretariat has prepared this paper, which compiles and assesses information on trends in relation to the commitments under Article 3, paragraph 1, of the Kyoto Protocol found in the IDRs of NC5s.

5. The branch may wish to consider the information presented in this paper when considering its role under section IV, paragraph 6 (a), taking into account that the information contained in this paper is intended to facilitate, rather than substitute, the consideration of information contained in the IDRs of NC5s, submitted to the branch under section VI, paragraph 3.⁶

II. National communications from Parties included in Annex I to the United Nations Framework Convention on Climate Change

A. Background

6. Article 4, paragraph 1, and Article 12 of the United Nations Framework Convention on Climate Change (the Convention) provide that Parties are required to communicate to the Conference of the Parties (COP) on the national inventory of anthropogenic emissions by sources and removals of all greenhouse gas emissions (GHG) emissions not controlled by the Montreal Protocol and the steps they are taking to implement the Convention. In accordance with decisions 11/CP.4, 4/CP.5 and 4/CP.8, Parties included in Annex I should follow the revised reporting guidelines for the preparation of national communications.⁷ In this regard, Parties included in Annex I should provide a projections section that gives an indication of future trends in GHG emissions and removals, given current national circumstances and implemented, adopted and planned policies and measures (PaMs), and an indication of the path of emissions and removals without such PaMs.⁸

7. These reporting requirements are supplemented by Article 7 of the Kyoto Protocol and related decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP). As provided by Article 7, each Party included in Annex I is to incorporate in its national communication submitted under Article 12 of the Convention the supplementary information necessary to demonstrate compliance with its commitments under the Protocol, as set out in the guidelines for the preparation of the information under Article 7 of the Kyoto Protocol.⁹ Article 7, paragraph 3, of the Kyoto Protocol provides that each Party included in Annex I shall submit the information required under Article 7, paragraph 2, as part of the first national communication due under the Convention after the Kyoto Protocol has entered into force for it and after adoption of guidelines for the preparation of information under Article 7.¹⁰ Therefore, the fourth national

⁶ In this regard the branch has reiterated that the branch's function of providing advice and facilitation under section IV, paragraph 6(a), could be triggered, in the absence of a question of implementation, only by the information contained in review reports made available to it pursuant to section VI, paragraph 3 (paragraph 3 of the indicative working arrangements, annex to CC/FB/11/2012/2).

⁷ FCCC/CP/1999/7: Guidelines for the preparation of National Communications by Parties included in Annex I to the Convention. Part II: UNFCCC Reporting Guidelines on National Communications.

⁸ Section IV of the UNFCCC Reporting Guidelines on National Communications as contained in document FCCC/CP/1999/7.

⁹ Decision 15/CMP.1, Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol, paragraph 28.

¹⁰ Decision 22/CMP.1, Guidelines for review under Article 8 of the Kyoto Protocol.



communication was the first national communication under the Kyoto Protocol for most Parties included in Annex I.

8. Each national communication of a Party included in Annex I is subject to an IDR that is conducted by an international team of experts (the ERTs) and that should provide a comprehensive, technical assessment of a Party's implementation of its commitments to reduce GHGs.¹¹

B. Fifth national communications

9. NC5s were due on 1 January 2010.¹² Sixteen Parties submitted their NC5s before the due date of submission in accordance with decision 10/CP.13 (Belarus, Belgium, Czech Republic, Denmark, European Union, Finland, France, Hungary, Japan, Netherlands, New Zealand, Portugal, Spain, Switzerland, Ukraine and United Kingdom of Great Britain and Northern Ireland).¹³ Ukraine provided its third and fourth NCs in conjunction with its NC5.

10. NC5s were submitted after that date by Australia, Austria, Bulgaria, Canada, Croatia, Estonia, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Norway, Poland, Romania, Russian Federation, Slovakia, Slovenia and Sweden. In this regard, Luxembourg submitted its second, third and fourth NCs in conjunction with the submission of its fifth NC. Fourteen Parties submitted revisions of their NC5s after the due date (Belgium, Bulgaria, Denmark, France, Germany, Iceland, Ireland, Lithuania, Norway, Poland, Portugal, Romania, Russian Federation and Ukraine). By 25 March 2011, the secretariat had received 40 NC5s.¹⁴

11. Some Parties informed the secretariat about their difficulties with the timeliness of their national communication submissions in accordance with paragraph 139 of decision 22/CMP.1 (Australia, Austria, Bulgaria, Canada, Croatia, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Russian Federation, Slovakia and Slovenia). The ERTs also noted with concern the delay in the submission of the NC5 for several Parties (Australia, Austria, Bulgaria, Canada, Croatia, Germany, Iceland, Italy, Latvia, Lithuania, Luxembourg, Monaco, Poland, Romania, Slovakia, Slovenia).¹⁵

12. As of 8 October 2012, the IDRs of NC5s of all Parties included in Annex I that have commitments under Article 3, paragraph 1, of the Kyoto Protocol have been completed and are available on the UNFCCC website.

¹¹ Reviews conducted in accordance with the following decisions: 2/CP.1, 9/CP.2, 6/CP.3 and 33/CP.7, 26/CMP.1 and 7/CP.11.

¹² Decision 10/CP.13, Compilation and synthesis of fourth national communications, paragraph 2.

¹³ Decision 9/CP.16, National communications from Parties included in Annex I to the Convention, paragraph 1.

¹⁴ The Compliance Committee was informed of the status of submission of the NC5s, the review dates and status of the preparation of the review reports at the ninth meeting of the plenary (CC/9/2011/3/Rev.1). An update of this information, in particular in relation to the publication of the IDRs, has been prepared for the eleventh meeting of the plenary (CC/11/2012/3).

¹⁵ For Liechtenstein and Sweden, the ERTs noted that the submissions were made within six weeks after the due date (before 15 February 2010) and therefore, do not note with concern any delay. No concern was raised also for Estonia, Greece, Norway and the Russian Federation whose submissions were made within six weeks after the due date. However, for these Parties, the ERTs recommend that the Parties submit their next national communications on time. Ireland's submission was made within six weeks after the due date. Although the ERT observed that Ireland submitted its NC5 after the deadline, it neither notes with concern the delay nor recommends that Ireland submits its next national submission on time.



III. GHG emission projections with respect to meeting commitments for reducing GHG emissions under the Kyoto Protocol

13. Table 1 provides an overview of information as contained in reports of the IDRs of NC5s with respect to the expected ability of Parties included in Annex I to meet their commitments for reducing GHG emissions under the Kyoto Protocol. If information on the use of flexible mechanisms was provided by a Party, the share between domestic action and use of the flexibility mechanisms is also indicated in Table 1.

14. Base year levels of total national emissions, which are the basis for quantified emission limitation or reduction commitments (percentage of base year or period level) were defined by Parties and reported in the initial reports submitted by 1 January 2007.¹⁶ The final values of the base year emissions for the purposes of establishing the assigned amount, as well as determining compliance at the end of the additional period for fulfilling commitments as set out in section XIII of annex to decision 27/CMP.1, were determined by the initial review. At the end of the additional period for fulfilling commitments, the determination of each Annex I Party's compliance with its quantified emission limitation or reduction commitment will be made by comparing its total Annex A emissions at the end of the commitment period to its available assigned amount.¹⁷ The source of base year data is included in the reports of the review of the initial reports (IRRs) for Annex I Parties included in Annex B to the Kyoto Protocol.¹⁸

15. According to Parties' projections and the observations made by ERTs in the IDRs of NC5s, 22 Parties are expected to meet their targets under the Kyoto Protocol by domestic actions alone (Australia, Bulgaria, Croatia (on basis of projections reported in the NC5),¹⁹ Czech Republic, Estonia, the European Union, Finland, France, Germany, Greece, Hungary, Iceland,²⁰ Latvia, Lithuania, Monaco, Poland, Romania, the Russian Federation, Slovakia, Sweden, Ukraine and United Kingdom); New Zealand is expected to meet its Kyoto Protocol target through domestic action and the use of credits from Article 3, paragraph 3, activities;²¹ and 14 Parties are expected to meet their targets under the Kyoto Protocol only by a combination of domestic measures and the use of Kyoto Protocol mechanisms (Austria, Belgium, Denmark, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Spain and Switzerland). With respect to

¹⁶ Decision 13/CMP.1, Modalities for the accounting of assigned amounts under Article 3, paragraph 4, of the Kyoto Protocol, paragraph 1.

¹⁷ Decision 13/CMP.1, paragraphs, 11, 12 and 14.

¹⁸ Kyoto Protocol base year data as contained on UNFCCC website http://unfccc.int/ghg_data/kp_data_unfccc/base_year_data/items/4354.php.

¹⁹ The projections reported in the NC5 indicate that Croatia is in a position to meet its Kyoto Protocol target using domestic policies and measures only, but only under the 'with additional measures' scenario. However, according to the estimates made by the ERT during the review using the figures provided in the IRR and the emission projections reported in the NC5, projected total GHG emissions in 2010 are above the Kyoto Protocol targets. See also footnote 2 of Table 1.

²⁰ In implementing its Kyoto Protocol target, Iceland availed itself of the provisions of decision 14/CP.7 on the impacts of single projects on emissions in the commitment. According to this decision, emissions from industrial process projects up to 1.6 Mt CO₂ eq annually that meet the criteria specified in this decision shall be reported separately and shall not be included in national totals under the condition that the emissions of a Party exceed its assigned amount.

²¹ New Zealand does not intend to use the flexible mechanisms of the Kyoto Protocol to reach its Kyoto Protocol emission reduction target in the first commitment period. However, the accounting of activities under Article 3, paragraph 3, of the Kyoto Protocol (which is heavily dependent on the deforestation rates in the country) is important for New Zealand to meet its KP target.



Canada, the ERT noted that the projections indicate that Canada cannot meet its KP target with current implemented domestic actions and that LULUCF activities under Article 3, paragraph 3, and those elected under Article 3, paragraph 4, as well as the use of the Kyoto mechanisms are not expected to contribute significantly to meeting the KP target and plans for further reductions were not reported.²²

16. The ERTs raised particular issues with regard to some Parties. In relation to Canada, the ERT noted with strong concern that on the basis of information provided in its NC5 and during the review, Canada could potentially become non-compliant with its commitments under Article 3, paragraph 1, of the Kyoto Protocol.²³ Regarding Croatia, according to the estimates made by the ERT during the review using the figures provided in the IRR and the emission projections reported in the NC5, projected total GHG emissions in 2010 are above the Kyoto Protocol targets. Thus, the ERT noted that, according to these estimates, Croatia may not be in a position to meet its KP target.²⁴ With respect to Austria, it was not clear to the ERT how Austria is going to meet its Kyoto Protocol target.²⁵ while with respect to Italy it remained unclear to the ERT how Italy will meet its Kyoto Protocol target.²⁶

17. In addition to the use of flexibility mechanisms, the accounting for activities under Article 3, paragraph 3, is important for the following 10 Parties (Austria, Denmark, Ireland, Japan, Netherlands, New Zealand, Norway, Slovenia, Spain and Switzerland).

18. According to the ERTs, the majority of Parties that intend to make use of Kyoto Protocol mechanisms provided explicit or implicit information on how their use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. Only Japan, Liechtenstein, Luxembourg and Slovenia did not provide this information.

19. The IDRs of NC5s also showed that some Parties included in Annex I have improved their projections, either in terms of completeness or with respect to the consideration of ‘with additional measures’ scenarios, as compared to their projections in NC4s. This might also reflect the situation that some of the policies and measures implemented in the lead-up to the submission of the NC4s required more time to be fully implemented and for their effect to become visible in the emission trends of Parties.

20. Looking towards future developments, it is expected that the sixth national communications (NC6s), which Parties included in Annex I are requested to submit to the secretariat by 1 January 2014,²⁷ may provide even more comprehensive and reliable data with respect to GHG emissions projections taking into account effects of the global economic downturn and recovery.²⁸

²² FCCC/IDR.5/CAN, paragraph 126. See also footnote 1 of Table 1.

²³ FCCC/IDR.5/CAN, paragraph 126. See also footnote 1 of Table 1.

²⁴ FCCC/IDR.5/HRV, paragraph 64. See footnote 2 to table 2.

²⁵ FCCC/IDR.5/AUT, paragraph 129.

²⁶ FCCC/IDR.5/ITA, paragraph 114.

²⁷ Decision 9/CP.16, National communications from Parties included in Annex I to the Convention.

²⁸ Some Parties presented updated GHG emission projections during the reviews of their NC5s (Canada, Denmark, Estonia, Finland, France, Greece, Iceland, Italy, Lithuania, Netherlands, New Zealand, Poland, Russian Federation, Slovakia, Slovenia, Spain and United Kingdom) and therefore were recommended to consider the updated projections in their NC6s. Given the significant impact of the financial and economic crisis on GHG emissions, ERTs have encouraged Parties to continue their consideration of economic sensitivities or to include the effect of the global financial and economic crisis in 2008–2009 in the scenario (see Table 3).



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Furthermore, it is expected that the NC6 will provide more comprehensive and reliable data on complementarity.²⁹

²⁹ In this regard, ERTs have encouraged some Parties to provide more explicit information on the complementarity regarding the use of the flexible mechanisms (see Table 3).

Table 1

Information on the fulfilment of the commitments to reduce GHGs, by domestic action or additional use of flexible mechanisms, as contained in reports of the in-depth review of the fifth national communications

Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
<p>Australia (FCCC/IDR.5/AUS)</p>	<ul style="list-style-type: none"> According to the results of the baseline scenario, Australia projects that it will meet its target for the first commitment period of the KP (an 8 per cent increase relative to the base year level) without the use of the mechanisms under the KP. According to the projections reported in the NC5, no considerable growth in emissions is expected for the remaining years of the first commitment period (paragraph 100). 	<ul style="list-style-type: none"> Taking into account the emissions and removals from LULUCF under the Kyoto Protocol accounting rules, the 2008–2012 average emissions level will reach in a 6 per cent increase relative to the base year compared to the Kyoto target of an 8 per cent increase (paragraph 100). The ERT noted that Australia is not planning to make use of the Kyoto Protocol mechanisms to meet its target under the first commitment period of the KP (paragraph 145). In its NC5, Australia provided implicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action, although it did not elaborate on supplementarity as such (paragraph 107). 	<ul style="list-style-type: none"> The ‘with measures’ projection indicates that Australia can meet its KP target (which allows for an 8 per cent increase in GHG emissions above the base year level) with domestic measures alone (paragraph 143).
<p>Austria (FCCC/IDR.5/AUT)</p>	<ul style="list-style-type: none"> Based on the projections in the NC5, Austria’s emissions are expected to be above its Kyoto Protocol target under both the ‘with measures’ and the ‘with additional measures’ scenarios (paragraph 83). 	<ul style="list-style-type: none"> To cover part of the gap to its Kyoto target, Austria expects to use both accounting for activities under Article 3, paragraph 3, of the Kyoto Protocol (estimated at 0.7 Mt CO₂ eq annually) and Kyoto mechanisms (12.1 Mt CO₂ eq annually: 3.1 Mt CO₂ eq from emissions trading and around 9 Mt CO₂ eq from project-based mechanisms) (paragraph 84). The NC5 provides implicit information on how Austria’s use of Kyoto Protocol mechanisms is supplemental to domestic action, but it does not elaborate on supplementarity as such (paragraph 93). 	<ul style="list-style-type: none"> The ERT noted that a gap to the target still remains even after taking into account the planned use of the Kyoto units and accounting for activities under Article 3, paragraph 3, and it is not clear how Austria is going to meet its Kyoto Protocol target (paragraph 129).
<p>Belgium (FCCC/IDR.5/BEL)</p>	<ul style="list-style-type: none"> Belgium’s average annual Kyoto target for the non-ETS sectors is 76.3 Tg. In the NC5 Belgium estimates the average non-ETS emission level in the Kyoto Period to be 79.9 Tg of CO₂ eq or 3.6 Tg above the annual target for these sectors (paragraph 69). 	<ul style="list-style-type: none"> Belgium is expected to fill this gap and meet its Kyoto Protocol target mainly through the use of flexibility mechanisms under the Kyoto Protocol. Specifically, the intended use of flexibility mechanisms at the government level is estimated to be around 4.4 Tg CO₂ eq annually (paragraph 69). Belgium, in its NC5, provided implicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. A definition of supplementarity was not explicitly provided in the NC5 (paragraph 75). 	<ul style="list-style-type: none"> The projections indicate that Belgium can meet its KP target (which is a 7.5 % reduction) with the use of flexibility mechanisms under the KP of around 4.4 Mt CO₂ eq annually on average in addition to domestic efforts (paragraph 101). The ERT expects that Belgium will meet its target under the KP (paragraph 176).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
Bulgaria (FCCC/IDR.5/ BGR)	<ul style="list-style-type: none"> Bulgaria will meet its KP target, which is to achieve an 8 per cent emission reduction below the 1988 level for the first commitment period (2008–2012), relatively easily by domestic efforts alone (paragraph 88). 	<ul style="list-style-type: none"> Bulgaria has reported that it does not plan to make use of the Kyoto Protocol mechanisms to meet its Kyoto Protocol target for the first commitment period and that it will meet by far its Kyoto Protocol target by domestic efforts only (paragraph 100). 	<ul style="list-style-type: none"> The updated projections for 2010 indicate that Bulgaria will meet its KP target under the ‘with measures’ and ‘with additional measures’ scenarios, as the emissions will drop by 45.1 per cent and 49.5 per cent below the base year level, respectively (paragraph 123).
Canada¹⁾ (FCCC/IDR.5/ CAN)	<ul style="list-style-type: none"> In the NC5, Canada did not report explicitly on its domestic and regional legislative arrangements and on its enforcement and administrative procedures established pursuant to the implementation of the Kyoto Protocol, in particular with regard to national strategies to meet its Kyoto Protocol target of –6 per cent compared with the base year level (paragraph 32). 	<ul style="list-style-type: none"> Canada, in its NC5, did not provide information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. In response to a question raised by the ERT during the review, Canada clarified that Canada is not currently contemplating significant use of the Kyoto mechanisms to meet its Kyoto Protocol target (paragraph 90). 	<ul style="list-style-type: none"> Thus, the projections indicate that Canada cannot meet its KP target with current implemented domestic actions. LULUCF activities under Article 3, paragraph 3, and those elected under Article 3, paragraph 4, as well as the use of the Kyoto mechanisms are not expected to contribute significantly to meeting the KP target and plans for further reductions were not reported. The ERT noted with strong concern that on the basis of information provided in its NC5 and during the review, Canada could potentially become non-compliant with its commitments under Article 3, paragraph 1, of the KP¹⁾ (paragraph 126).
Croatia (FCCC/IDR.5/ HRV) ²⁾	<ul style="list-style-type: none"> According to the report of the review of the initial report for Croatia (FCCC/IRR/2008/HRV), the recalculated emissions for the Kyoto Protocol base year are equal to 31.32 Tg CO₂ eq and the corresponding Kyoto Protocol target is equal to 29.76 Tg CO₂ eq/year on average during the period 2008–2012 (paragraph 59). Croatia, in its NC5, reported emissions for the Kyoto Protocol base year as 34.82 Tg CO₂ eq and the corresponding Kyoto Protocol target as 33.08 Tg CO₂ eq/year on average during the period 2008–2012 (paragraph 61). The projections reported in the NC5 indicate that Croatia is in a position to meet its KP target using domestic PaMs only, but only under the ‘with additional measures’ scenario (paragraph 63). According to the estimates made by the ERT during the review, using the figures provided in the report of the review of the initial report and the emission projections reported in the NC5, projected total GHG emissions in 2010 are above the base year 	<ul style="list-style-type: none"> The ERT noted that, in its NC5, Croatia has reported very limited information explaining the activities undertaken to bridge the possible gap to the Kyoto Protocol target (paragraph 65). In its NC5, Croatia has provided explicit information on how its use of the mechanisms under Articles 6, 12 and 17 of Kyoto Protocol is supplemental to domestic action. However, Croatia has reported that it does not plan to use the mechanisms to meet its Kyoto Protocol target for the first commitment period (2008–2012) (paragraph 71). 	<ul style="list-style-type: none"> Thus, according to these estimates, Croatia may not be in a position to meet its Kyoto Protocol target using domestic PaMs only, even under the ‘with additional measures’ scenario (paragraph 93). According to its NC5, Croatia does not plan to make use of the Kyoto Protocol mechanisms to meet its Kyoto Protocol target for the first commitment period (2008–2012) (paragraph 94).



Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	<p>level by 16.2 %, 8.8% and 5.4%, under the ‘without measures’, ‘with measures’ and ‘with additional measures’ scenarios, respectively (paragraph 64).</p> <ul style="list-style-type: none"> Thus, according to these estimates, Croatia may not be in a position to meet its Kyoto Protocol target, set in the report of the review of the initial report, using domestic PaMs only, even under the ‘with additional measures’ scenario. (paragraph 64). 		
<p>Czech Republic (FCCC/IDR.5/ CZE)</p>	<ul style="list-style-type: none"> According to the scenarios presented in the Czech Republic’s NC5s, the Czech Republic expects to meet its target under the Kyoto Protocol by domestic efforts. The Party’s projected level of emissions in 2010 of 149.9 Tg CO₂ eq is significantly below its Kyoto target of 178.8 Tg CO₂ eq, even under the ‘without measures’ scenario (paragraph 75). 	<ul style="list-style-type: none"> The Czech Republic, in its NC5, has provided sufficient information indicating that it is not using the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol to meet its Kyoto target for the first commitment period (paragraph 82). 	<ul style="list-style-type: none"> The projections indicate that the Czech Republic will meet its KP target (which is an 8 per cent reduction in emissions compared with the base year level during the first commitment period), even under the baseline scenario, and GHG emissions are not expected to exceed the KP target even by 2020 (paragraph 109).
<p>Denmark (FCCC/IDR.5/ DNK)</p>	<ul style="list-style-type: none"> The projections in the NC5 for the ‘with measures’ scenario show that Denmark’s total emissions without LULUCF are expected to amount to an average 66.9 Tg CO₂ eq annually for the period 2008–2010. This suggests that there will be a reduction deficit that will need to be made up for Denmark to be able to meet its KP target (paragraph 72). The projected gap between Denmark’s actual emission level and its target for the period 2008– 2012, according to the projections in the NC5, is an average 11.5 Tg CO₂ eq annually (paragraph 72). Denmark cannot meet its Kyoto Protocol target by domestic actions alone (paragraph 114). 	<ul style="list-style-type: none"> Denmark is expected to meet its target under the Kyoto Protocol by a combination of domestic efforts, use of flexibility mechanisms and use of accounting for activities under Article 3, paragraphs 3 and 4. If credits from activities under Article 3, paragraphs 3 and 4, and the planned use of Kyoto Protocol mechanisms (10.7 Tg CO₂ eq) are taken into account, then this gap is reduced to just 0.8 Tg CO₂ eq (paragraph 71). According to the updated ‘with measures’ projections provided during the review, the gap between Denmark’s actual level of emissions and its KP target is expected to be equal to 0.3 Tg CO₂ eq, which is much lower than that reported in the NC5 (paragraph 114). Denmark has provided sufficient information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action (paragraph 80). 	<ul style="list-style-type: none"> The remaining gap in relation to the target is expected to be covered by emission reductions in the non-ETS sector, using various instruments, and credits from the clean development mechanism (CDM), joint implementation (JI), and the accounting for LULUCF activities (paragraph 39).
<p>Estonia (FCCC/IDR.5/ EST)</p>	<ul style="list-style-type: none"> According to the scenarios reported in the NC5 and the updated projections, Estonia expects to meet by far its KP target by domestic efforts only (paragraph 71). In its NC5, Estonia has reported that in the case of stable economic development, the 	<ul style="list-style-type: none"> Estonia, in its NC5, did not provide explicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. Estonia has reported that it does not plan to make use of the KP mechanisms to meet its KP target (paragraph 79). 	<ul style="list-style-type: none"> The projections indicate that Estonia will meet its KP target (which is an 8 per cent emission reduction) by far, under the ‘with measures’ scenario, and total GHG emissions are not expected to exceed the Kyoto Protocol target even by 2020 (paragraph 97).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	<p>projected emission trend until 2020 will be below the KP target for the first commitment period and below the EU target for non-ETS sectors (11 per cent increase by 2020 above the 2005 level) under the ‘with measures’ and the ‘with additional measures’ scenarios (paragraph 75).</p>		
<p>European Union (FCCC/IDR.5/EU)</p>	<ul style="list-style-type: none"> Based on the updated projections that reflect the impact on emissions from the economic crisis after 2008, the EU-15 as a whole expects to meet its Kyoto Protocol target by domestic efforts alone; however, some member States will require the use of the Kyoto mechanisms to reach their individual targets (paragraph 91). 	<ul style="list-style-type: none"> As a share of the target of the EU-15 of an 8 per cent reduction from base year level of emissions, the planned use of the Kyoto mechanisms accounts for approximately 2.5 per cent of the EU-15 reduction commitment. On the same basis, activities under Article 3, paragraphs 3 and 4, are expected to contribute 0.9 per cent to the EU-15 reduction commitment (paragraph 92). The EU, in its NC5, provided sufficient information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol are supplemental to domestic action (paragraph 105). 	<ul style="list-style-type: none"> These projections show that the EU-15 as a group can meet its Kyoto Protocol target for the first commitment period (which is an 8 per cent reduction) through the implementation of current measures only (paragraph 151). While the EU-15 as a whole could meet its target with domestic action alone, some member States are planning to make use of the Kyoto Protocol flexibility mechanisms to meet their first commitment period Kyoto targets (paragraph 153).
<p>Finland (FCCC/IDR.5/FIN)</p>	<ul style="list-style-type: none"> According to the ‘with measures’ scenario, Finland is on track to achieve its Kyoto target of limiting its GHG emissions to its base year level (71 Mt CO₂ eq) during the first commitment period (paragraph 64). Preliminary data, along with the discussions held with the Finnish experts, suggest that the actual level of GHG emissions is expected to be substantially lower than projected in the NC5, accounting for the major economic slowdown that occurred in the period 2007–2008. This suggests that meeting its Kyoto target might be less challenging for Finland than estimated at the time of drafting the NC5 (paragraph 66). 	<ul style="list-style-type: none"> Finland plans to achieve its Kyoto target by means of efforts at the domestic and EU levels, supplemented by the use of the flexibility mechanisms under the KP, and removal units under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 64). The NC5 provides information on how Finland intends to use the mechanisms under Articles 6, 12 and 17 of the KP as a supplement to its domestic actions, in order to meet its Kyoto target. Kyoto units generated through these mechanisms are expected to account for 1.4 Mt CO₂ eq annually, whereas domestic actions, along with the country’s participation in the EU ETS, are expected to reduce GHG emissions by 8.8 Mt CO₂ eq/year in the first commitment period. The NC5 defines that Finland will use removal units equivalent to 0.6 Mt CO₂ eq, accounted for under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 106). 	<ul style="list-style-type: none"> The projections indicate that Finland will be able to meet its KP target (which is to keep its emissions at the 1990 level) under both the ‘with measures’ and ‘with additional measures’ scenarios, by means of domestic actions and the use of flexibility mechanisms and removal units under Article 3, paragraphs 3 and 4, of the KP (paragraph 105).
<p>France (FCCC/IDR.5/FRA)</p>	<ul style="list-style-type: none"> According to these projections, France is expected to meet the Kyoto Protocol target with existing domestic PaMs without making use of the flexible mechanisms under the Kyoto Protocol (paragraph 100). GHG emissions are not expected to exceed 	<ul style="list-style-type: none"> During the in-country review, France confirmed that it does not intend to use the flexible mechanisms (paragraph 109). In its NC5, France included information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic 	<ul style="list-style-type: none"> The NC5 indicates that France can meet its target in 2008–2012, even under the ‘with measures’ scenario (paragraph 139).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	the Kyoto Protocol target even by 2020 (paragraph 139).	action, although it did not elaborate on supplementarity as such (paragraph 140).	
Germany (FCCC/IDR.5/DEU)	<ul style="list-style-type: none"> Germany expects to meet its Kyoto Protocol target by domestic efforts with adopted and implemented PaMs (paragraph 75). 	<ul style="list-style-type: none"> Germany, in its NC5, provided explicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. Germany does not intend to make use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol (paragraph 86). According to German authorities, Germany does not expect that its accounting for activities under Article 3, paragraphs 3 and 4, of the KP will deliver removal units during the first commitment period of the Kyoto Protocol (paragraph 86). 	<ul style="list-style-type: none"> Thus, the projections indicate that Germany can meet its Kyoto Protocol target (which is a 21 per cent emission reduction compared with the base year level) under the ‘with measures’ scenario with domestic policies alone (paragraph 139).
Greece (FCCC/IDR.5/GRC)	<ul style="list-style-type: none"> In its NC5, Greece has reported that it expects to achieve its Kyoto Protocol target by its domestic efforts, which is supported by the information reported for both with measures and ‘with additional measures’ scenarios (paragraph 83). The ERT considers that the information reported by Greece in the NC5 is clear in that the domestic action is the main element of the effort made to meet its Kyoto Protocol target (paragraph 126). 	<ul style="list-style-type: none"> During the review, Greece informed the ERT that there are no plans to use the JI and CDM mechanisms to meet the Kyoto Protocol target. Therefore the ERT concluded that Greece’s use of mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol fulfils the condition of supplementarity as Greece is expecting to achieve its Kyoto Protocol target with domestic efforts only (paragraph 94). 	<ul style="list-style-type: none"> Thus, the projections indicate that Greece can meet its KP target (which is a limit of 25 per cent increase over the base year emissions), with domestic effort alone even under the ‘with measures’ scenario (paragraph 125). The ERT considers that the information reported by Greece in the NC5 is clear in that the domestic action is the main element of the effort made to meet its KP target (paragraph 126).
Hungary (FCCC/IDR.5/HUN)	<ul style="list-style-type: none"> Hungary expects to meet its Kyoto Protocol emission reduction target without any further measures (paragraph 31). Hungary is on track to overachieve this target by domestic efforts alone (paragraph 77). 	<ul style="list-style-type: none"> In its NC5, Hungary did not provide information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, or a definition of supplementarity. However, Hungary stated that it would reach the reduction targets by domestic action alone, and is therefore not planning to use the KP mechanisms to meet its targets (paragraph 88). 	<ul style="list-style-type: none"> Thus, the projections indicate that Hungary can meet its KP target (which is a 6 per cent reduction), even under the baseline scenario with the domestic policies currently in place. Moreover, GHG emissions are not expected to exceed the Kyoto Protocol target even by 2020 (paragraph 107).
Iceland (FCCC/IDR.5/ISL)	<ul style="list-style-type: none"> The projections provided in the NC5 for the two ‘with measures’ scenarios without the application of decision 14/CP.7 result in an estimated annual gap of 0.97 Tg CO₂ eq and 1.48 Tg CO₂ eq respectively, during 2008-2012 (paragraph 65 & 67). The average annual emissions from industrial processes from sources that meet the criteria set forth in decision 14/CP.7 amount to 1.25 Tg CO₂ eq and 1.53 Tg CO₂ eq respectively under the two scenarios, and thus Iceland is expected to 	<ul style="list-style-type: none"> Iceland, in its NC5, provided sufficient information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. It is expected that Iceland will meet its commitments under the KP for the first commitment period without making use of the KP mechanisms under Articles 6, 12 and 17, but by applying provisions of decision 14/CP.7 (paragraph 77). 	<ul style="list-style-type: none"> Iceland projects to meet its Kyoto Protocol target with the application of provisions of decision 14/CP.7 and a range of measures as described in the NC5 and the 2007 Climate Strategy (paragraph 107).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	meet its Kyoto Protocol target (paragraph 66 & 67).		
Ireland (FCCC/IDR.5/ IRL)	<ul style="list-style-type: none"> According to the projections presented in its NC5 and during the review, Ireland is expected to meet its Kyoto Protocol target by a combination of domestic efforts, use of Kyoto Protocol mechanisms and use of accounting for activities under Article 3, paragraph 3, under both the ‘with measures’ and ‘with additional measures’ scenarios (paragraph 70). The ERT noted that these latest emission projections led to a downward revision of the ‘gap’ to the Kyoto Protocol target, which is estimated as 2.96 Tg CO₂ eq under the ‘with measures’ scenario, and to an increase of the ‘gap’ to 2.16 Tg CO₂ eq under the ‘with additional measures’ scenario (paragraph 72). 	<ul style="list-style-type: none"> To reach the Kyoto Protocol target, Ireland intends to use Kyoto Protocol mechanisms for, on average, 1.7 Tg CO₂ eq per annum (this represents 23.5 per cent of the ‘gap’ in 2010), to take into account the total effect of implemented, adopted and planned PaMs of 4.91 Tg CO₂ eq (67.9 per cent of the ‘gap’) and to use the unused allowances in the new entrant set aside of the EU ETS (remaining 8.6 per cent of the ‘gap’) (paragraph 81). The inclusion of the carbon sinks in emissions accounting is critically important for Ireland, as the carbon sinks will continue to play an increasingly important role in the first commitment period and in the emission accounting thereafter (paragraph 77). In its NC5, Ireland has provided some information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action, although it has not elaborated on complementarity as such (paragraph 80). 	Projections indicate that Ireland is likely to meet its KP target of a 13 per cent increase relative to 1990 level, under both the ‘with measures’ and the ‘with additional measures’ scenarios, by domestic efforts, the use of mechanisms and the use of accounting under Article 3, paragraph 3, of the KP (paragraph 106).
Italy (FCCC/IDR.5/ ITA)	<ul style="list-style-type: none"> During the review, Italy reported that by taking into account the implications of the EU ETS, Italy’s projected national emissions total 514.0 Tg CO₂ eq in 2010. Hence the projected gap between Italy’s emissions level and its target for the period 2008-2012 is an average 30.7 Tg CO₂ eq annually (paragraph 75). During the review, Italy provided further information on its most recent projections. These latest projections reflect the recent economic recession and corresponding/ resulting decrease in GDP and energy consumption in 2009 and 2010. With the latest projections, the gap in relation to the KP target reduces to 25.7 Tg CO₂ eq (paragraph 77). 	<ul style="list-style-type: none"> According to the projections presented in the NC5, the contribution from LULUCF activities (10.2 Tg CO₂ eq), planned PaMs in the non-EU ETS sector (0.86 Tg CO₂ eq) and the acquisition of Kyoto units from project-based mechanisms (CERs and ERUs) (14.9 Tg CO₂ eq) are not sufficient to enable Italy to meet its Kyoto Protocol target. Italy expects to fill this gap by purchasing Kyoto units (AAUs) through international emissions trading. However, at the time of the review the planned PaMs and the further purchase of the Kyoto units have not been approved within Italy, and the contribution from LULUCF activities has an uncertain potential (paragraph 75). 	<ul style="list-style-type: none"> For Italy, the projections indicate that Italy cannot meet its KP target (which is a 6.5 per cent emissions reduction), even under the ‘updated 2009 with measures’ scenario. This implies that additional PaMs and the use of Kyoto Protocol flexibility mechanisms are essential for Italy to meet its Kyoto Protocol target (paragraph 113). It remains unclear to the ERT how Italy will achieve its Kyoto Protocol target (paragraph 114).
Japan (FCCC/IDR.5/ JPN)	<ul style="list-style-type: none"> The results suggest that Japan is expected to meet its target under the Kyoto Protocol by a combination of domestic efforts that have already been undertaken, the use of Kyoto Protocol units from related mechanisms and the use of units from 	<ul style="list-style-type: none"> Japan’s NC5 provided some very general information on its expected use of Kyoto units in meeting its Kyoto Protocol target for the first commitment period, but did not provide explicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to 	<ul style="list-style-type: none"> According to projection estimates, emissions in 2010 are expected to be between 1.8 and 0.7 per cent below base year levels, which includes the effect of strengthened domestic measures. Japan is therefore expected to use Kyoto units and units from activities under Article 3, paragraphs 3 and 4, of the KP, in





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	<p>activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 104).</p>	<p>domestic action and how its domestic action thus constitutes a significant element of the effort made to meet the target under the Kyoto Protocol. The NC5 did not outline Japan's understanding of "supplementarity" (paragraph 114).</p> <ul style="list-style-type: none"> Some limited information on the expected use of Kyoto units was provided, indicating Japan's intention to cover the gap between emission projections and the Kyoto target (a 6 per cent emissions reduction) by domestic measures (9.6 per cent), through the use of units under Article 3, paragraphs 3 and 4 (3.8 %), and through the use of KP mechanisms by the government (1.6 %) (paragraph 154). 	<p>addition to domestic efforts to reduce emissions, in order to meet its target under the KP (paragraph 153).</p> <ul style="list-style-type: none"> The majority of KP units (100 million) that are planned to be used for compliance have already been purchased by the government (paragraph 154).
<p>Latvia (FCCC/IDR.5/LVA)</p>	<ul style="list-style-type: none"> According to the projections presented in the NC5, Latvia is on track to overachieve this target by domestic efforts alone. GHG emissions under the 'with measures' scenario, which are projected to be 14.0 Tg CO₂ eq in 2010, will be around 41.2 per cent below the KP target (paragraph 63). 	<ul style="list-style-type: none"> Latvia, in its NC5, provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. In the NC5, Latvia stated that it would reach the emission reduction target by domestic action alone, and is therefore not planning to use the KP mechanisms to meet its targets (paragraph 70). 	<ul style="list-style-type: none"> Thus, the projections indicate that Latvia can meet its KP target (which is an 8 per cent reduction compared with the base year level) under the 'with measures' scenario with the domestic policies currently in place (paragraph 89).
<p>Liechtenstein (FCCC/IDR.5/LIE)</p>	<ul style="list-style-type: none"> Liechtenstein is on track to meet its Kyoto Protocol target of an 8 per cent emission reduction compared with the base year level by a combination of domestic efforts and the use of the Kyoto Protocol mechanisms (paragraph 53). According to the NC5, domestic action constitutes a significant element of the efforts made by Liechtenstein to meet its Kyoto Protocol target (paragraph 60). The projections indicate that Liechtenstein cannot meet its KP target by domestic action alone (paragraph 79). 	<ul style="list-style-type: none"> According to the NC5, Liechtenstein will make use of the KP mechanisms to fill the gap to its KP target, with its use of the KP mechanisms amounting to 46,000 t CO₂ eq per annum. No information on the use of credits generated from activities under Article 3, paragraph 3, of the KP is provided in the NC5 (paragraph 54). The 46,000 t CO₂ eq to be acquired per annum under the KP mechanisms far exceeds the gap to the KP target and no information is provided in the NC5 as to how much of the 46,000 t CO₂ eq will be used to fill the gap. There is insufficient information provided in the NC5 for the ERT to conclude whether the use of the KP mechanisms is supplemental to domestic action (paragraph 60). Hence, it remains unclear to the ERT whether the use of the KP mechanisms by Liechtenstein will meet the supplementarity criteria (paragraph 80). 	<ul style="list-style-type: none"> The projections indicate that Liechtenstein cannot meet its KP target (which is an 8 per cent emission reduction compared with the base year level) by domestic action alone. This implies that additional PaMs and the use of the Kyoto Protocol mechanisms are essential for Liechtenstein to meet its Kyoto Protocol target (paragraph 79).
<p>Lithuania (FCCC/IDR.5/LTU)</p>	<ul style="list-style-type: none"> According to the projections presented in the NC5, Lithuania is on track to overachieve this target by domestic efforts alone. The 'with measures' projections indicate that Lithuania's GHG emissions 	<ul style="list-style-type: none"> Lithuania, in its NC5, includes some information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. In the NC5, Lithuania 	<ul style="list-style-type: none"> The updated projections confirm the findings reported in the NC5 that Lithuania can meet its KP target (which is an 8 per cent reduction in emissions compared with the base year level) under the 'with measures' scenario with the domestic policies





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
	will be 28.1 per cent below its Kyoto Protocol target in 2010 (paragraph 56).	shows that it will reach its emission reduction targets by domestic action alone, and that it is therefore not planning to use the Kyoto Protocol mechanisms to meet its targets (paragraph 64).	currently in place (paragraph 85).
<p>Luxembourg (FCCC/IDR.5/ LUX)</p>	<ul style="list-style-type: none"> The updated projections state that the gap in relation to the Kyoto Protocol target is reduced to an average of 2.6 Tg CO₂ eq/year during the first commitment period (paragraph 66). 	<ul style="list-style-type: none"> According to the Party, the expected removals from activities under Article 3, paragraph 3, of the Kyoto Protocol are non-existent. Hence, Luxembourg anticipates that the gap will only be offset by the use of Kyoto Protocol mechanisms (paragraph 65). During the review, Luxembourg provided further information and clarifications on how its use of the Kyoto Protocol mechanisms in achieving its Kyoto Protocol target is supplemental to domestic action. Given the national circumstances of Luxembourg, the impact of single projects on total GHG emissions as well as the population growth and the export of road fuels represent a huge challenge for Luxembourg to meet its Kyoto Protocol target. Hence, the Party believes that it has already exhausted its domestic mitigation potential in reducing its GHG emissions (paragraph 73). The ERT noted that the intended use of the mechanisms could represent around 100 per cent of the mitigation efforts if this effort is estimated as the gap between the recent ‘with measures’ projections and the Kyoto Protocol target. However, if Luxembourg chooses the reference level approach to define supplementarity using the ‘without measures’ projections from the NC5, then the use of 2.6 Mt CO₂ eq/year from the flexibility mechanisms represents about 62 per cent⁹ of its mitigation efforts estimated as the gap between the ‘without measures’ projection from the NC5 and the Kyoto Protocol target (paragraph 74). 	<ul style="list-style-type: none"> The projections indicate that Luxembourg cannot meet its Kyoto Protocol target with domestic action alone. The Party will need to use the Kyoto Protocol mechanisms to achieve its Kyoto Protocol target (paragraph 105).
<p>Monaco (FCCC/IDR.5/ MCO)</p>	<ul style="list-style-type: none"> Monaco seems to be on track to meet its Kyoto Protocol target by domestic PaMs only. Nevertheless, the ERT noted that, in a very small State and economy such as Monaco, total GHG emissions could change dramatically from one year to the next, even though since 2000 emissions have showed a clear downward trend. The ERT encourages Monaco to produce the emission scenarios to track the achievement of the Kyoto Protocol target (paragraph 60). 	<ul style="list-style-type: none"> In its NC5, Monaco has provided some information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not report on the supplementarity as such. Monaco reported that the use of CERs would compensate for the potential excess of total GHG emissions over its Kyoto Protocol target up to a maximum of 5 per cent of its assigned amount. This amount corresponds to emissions to be offset by the CERs that are planned to be purchased by 2012. In case the current 	<ul style="list-style-type: none"> Monaco seems to be on track to meet its KP target (8 per cent emission reduction) for the first commitment period, as in 2009 total GHG emissions were 15.5 per cent below the base year level according to the 2011 annual submission (paragraph 90).



Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
		downward emission trend lasts until the end of the first commitment period (2008–2012), Monaco could overachieve its Kyoto Protocol target by using the CERs (paragraph 68).	
Netherlands (FCCC/IDR.5/ NLD)	<ul style="list-style-type: none"> The Netherlands' total GHG emissions are expected to be above its Kyoto Protocol target for the period 2008-2012 (annual average 200.3 Mt CO₂ eq) in both the 'with measures' and 'with additional measures' scenarios (paragraph 73). 	<ul style="list-style-type: none"> The Netherlands plans to meet its Kyoto Protocol target through a combination of domestic efforts (PaMs and accounting for activities under Article 3, paragraph 3, of the Kyoto Protocol) and use of Kyoto units (paragraph 73). The NC5 contains information on how the Netherlands' use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action, although it does not elaborate on supplementarity as such (paragraph 119). During the review, the Netherlands explained that the use of Kyoto units is considered supplemental to domestic action if the number of Kyoto units used is equal to or lower than the estimated effect of domestic actions (paragraph 86). 	<ul style="list-style-type: none"> The projections indicate that the Netherlands cannot meet its KP target for the first commitment period (a 6 per cent reduction in emissions compared with the base year level) with domestic efforts alone (paragraph 119).
New Zealand (FCCC/IDR.5/ NZL)	<ul style="list-style-type: none"> Based on current projections, New Zealand is expected to meet its Kyoto Protocol target for the first commitment period through domestic efforts and the use of credits from Article 3, paragraph 3, activities (paragraph 102). 	<ul style="list-style-type: none"> New Zealand does not intend to use the flexible mechanisms of the Kyoto Protocol to reach its Kyoto Protocol emission reduction targets in the first commitment period (paragraph 36). A key factor in New Zealand's ability to meet its KP target is the inclusion of credits from Article 3, paragraph 3, of the Kyoto Protocol, which is projected to offset emissions by 16.3 Mt CO₂ eq in 2010 (paragraph 102). New Zealand has provided implicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action, although it did not elaborate on supplementarity as such. New Zealand is not planning to make use of the KP mechanisms to meet its Kyoto target (paragraph 159). 	<ul style="list-style-type: none"> Accounting of activities under Article 3, paragraph 3, of the KP will help New Zealand to overachieve its target by 6.4 per cent for the first commitment period of the KP which is to stabilize emissions at the base year level) This highlights the importance of the use of accounting for Article 3, paragraph 3 activities (which is heavily dependent on the deforestation rates in the country) for New Zealand to meet its KP target (paragraph 156).
Norway (FCCC/IDR.5/ NOR)	<ul style="list-style-type: none"> The NC5 projections indicate that Norway does not expect to meet its Kyoto Protocol target (which is to limit the growth in its GHG emissions to 1 per cent in relation to the 1990 level during the Kyoto Protocol first commitment period from 2008 to 2012) through domestic action only (paragraph 69). 	<ul style="list-style-type: none"> According to the NC5, it will be necessary for the Party to realize another 7.2 Mt CO₂ eq annually through additional domestic PaMs and/or net acquisitions of KP units without the use of 1.5 Mt CO₂ eq of credits from LULUCF, as planned by Norway. The net acquisition of Kyoto Protocol units will also be crucial in achieving Norway's target of reducing emissions by 10 percentage points below its Kyoto commitment (to 45.1 Mt CO₂ eq) (paragraph 69). 	<ul style="list-style-type: none"> Thus, the projections indicate that Norway does not expect to meet its KP target (which is to limit the growth in its GHG emissions to 1 per cent in relation to the 1990 level during the Kyoto Protocol first commitment period from 2008 to 2012) through domestic action only (paragraph 120). Norway pointed to the fact that it plans to use approximately 7 million KP units annually to achieve its KP target (paragraph 121).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
		<ul style="list-style-type: none"> Norway, in its NC5, has provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action (paragraph 76). 	
<p>Poland (FCCC/IDR.5/ POL)</p>	<ul style="list-style-type: none"> During the review, Poland informed the ERT that it expects to achieve its Kyoto Protocol target during the first commitment period by domestic action alone (paragraph 97). 	<ul style="list-style-type: none"> Poland also noted that the Government does not plan to use emission reduction units (ERUs) from JI or certified emission reduction units from the clean development mechanism to meet this target. However, Poland reported that JI and emissions trading under Article 17 (through the GIS) will contribute to further emission reductions. The ERT therefore concludes that Poland's use of the mechanisms pursuant to Articles 6, 12 and 17 of the KP fulfils the condition of supplementarity (paragraph 97). 	<ul style="list-style-type: none"> The projections indicate that Poland can meet its KP target (which is a 6 per cent reduction in emissions below the base year level), and emissions are not expected to exceed the KP target even by 2020 (paragraph 121).
<p>Portugal (FCCC/IDR.5/ PRT)</p>	<ul style="list-style-type: none"> The projections indicate that Portugal does not expect to meet its Kyoto Protocol target (which is to limit the growth in its GHG emissions to 27 per cent in relation to the base year level during the first commitment period 2008-2012) through domestic action only (paragraph 118). 	<ul style="list-style-type: none"> Portugal, in its NC5, provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. In order to meet the emission limitation target defined in the context of the KP and the EU burden-sharing agreement, Portugal has focused on implementing PaMs domestically, making use of the KP market mechanisms in a supplementary way. The ERT noted that the envisaged purchase of KP units of 3.82 Mt CO₂ eq per year corresponds to the magnitude of aggregated total effect of adopted, planned and new PaMs (paragraph 91). 	<ul style="list-style-type: none"> The projections indicate that Portugal does not expect to meet its KP target (which is to limit the growth in its GHG emissions to 27 per cent in relation to the base year level during the first commitment period 2008.2012) through domestic action only. Host-country representatives expect the Portuguese Carbon Fund to cover most of the remaining gap of 3.11-3.82 Mt CO₂ eq per year (paragraph 118).
<p>Romania (FCCC/IDR.5/ ROU)</p>	<ul style="list-style-type: none"> Romania's total GHG emissions are estimated to be below its KP target for the period 2008–2012 in all scenarios, including the 'without measures' scenario (paragraph 71). According to the projections, Romania will meet its KP target by domestic efforts alone (PaMs and the use of accounting for activities under Article 3, paragraphs 3 and 4, of the KP), without the need to use KP mechanisms (paragraph 71). The ERT also noted that updated projections are not available. The ERT considers that updating the projections could indicate a larger overachievement of the KP target in all scenarios (paragraph 72). 	<ul style="list-style-type: none"> The NC5 reports that Romania will not need to use the mechanisms under Articles 6, 12 and 17 of the KP to meet its KP target. Romania explained that the Government does not plan to use KP units to meet this target, and that any JI projects implemented in the country and green investment schemes (GIS) financed from revenues from emissions trading under Article 17 will contribute to further emission reductions (paragraph 78). The NC5 reports that Romania will not need to use the mechanisms under Articles 6, 12 and 17 of the KP to meet its KP target for the first commitment period. Romania explained that the Government does not plan to use Kyoto Protocol units to meet this target, and that any JI projects implemented in the country and GIS financed from revenues from emissions trading under Article 17 will contribute to further emission reductions. The ERT therefore 	<ul style="list-style-type: none"> According to the projections, Romania can meet its KP target for the first commitment period (an 8 per cent emission reduction compared with the base year level) with domestic efforts alone in all scenarios (paragraph 104). According to the projections, Romania can meet its KP target for the first commitment period (an 8 per cent emission reduction compared with the base year level) with domestic efforts alone in all scenarios (paragraph 104).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
		concludes that Romania's use of the mechanisms pursuant to Articles 6, 12 and 17 of the KP fulfils the condition of supplementarity (paragraph 78).	
Russian Federation (FCCC/IDR.5/RUS)	<ul style="list-style-type: none"> Total GHG emissions excluding LULUCF are projected to be around 2,000 Tg CO₂ eq. in 2010 or 39.8 per cent below the base year level under all three scenarios, the 'moderate', 'innovation' and 'with additional measures'. This suggests that the Russian Federation is expected to exceed by far, by domestic efforts alone, its target under the Kyoto Protocol (paragraph 94). 	<ul style="list-style-type: none"> The Russian Federation has elected forest management under Article 3, paragraph 4, and, overall, activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol are expected to result in a net removal average of 280 Tg CO₂ eq annually, which could be issued as removal units and could further contribute to the overachievement of the Kyoto Protocol target (paragraph 95). Given that total GHG emissions of the Russian Federation are well below its target for the first commitment period of the Kyoto Protocol, the Russian Federation does not plan to use the units from the Kyoto Protocol mechanisms to meet this target (paragraph 105). 	<ul style="list-style-type: none"> The projected emissions in 2010, under all three reported scenarios, are 39.8 per cent below the base year. Thus, the projections indicate that the Russian Federation is in a position to meet by far its Kyoto Protocol target (paragraph 144).
Slovakia (FCCC/IDR.5/SVK)	<ul style="list-style-type: none"> According to the NC5, under all three reported scenarios Slovakia will meet its KP target for the first commitment period without using the Kyoto Protocol mechanisms and without using accounting for KP-LULUCF activities. This is the case even under the 'without measures' scenario (paragraph 65). 	<ul style="list-style-type: none"> In its NC5, Slovakia has indicated that it plans to achieve its Kyoto Protocol target by domestic measures only, and it does not plan to use the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol to reach its Kyoto Protocol target for the first commitment period. During the review, this view was reconfirmed based on the information contained in the biennial report (paragraph 74). 	<ul style="list-style-type: none"> Thus the projections indicate that Slovakia can meet its KP target (which is an 8 per cent emission reduction) by far, and total GHG emissions are not expected to exceed the KP target even by 2020, under the 'with measures' and 'with additional measures' scenarios (paragraph 96).
Slovenia (FCCC/IDR.5/SVN)	<ul style="list-style-type: none"> Slovenia is on track to overachieve its target under the KP by a combination of domestic efforts, the use of the KP mechanisms and the use of accounting for activities under Article 3, paragraphs 3 and 4, of the KP (paragraph 63). According to the projections presented in the NC5, under the 'with measures' scenario the Party's GHG emissions will amount to 21.06 Tg CO₂ eq in 2010 (as an average for the period 2008–2012), which means a gap to achieving its Kyoto target of 2.33 Tg CO₂ eq (paragraph 64). 	<ul style="list-style-type: none"> According to Slovenia, this gap will be closed through the implementation of additional measures (0.02 Tg CO₂ eq), the use of carbon credits from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (1.32 Tg CO₂ eq) and the purchase of Kyoto units. However, there is no explicit information in the NC5 on which Kyoto Protocol mechanisms will be used (paragraph 64). Slovenia, in its NC5, did not provide explicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. Slovenia reports that it may need to use the KP mechanisms to achieve its Kyoto target, but no further information is provided. However, the ERT noted that even if Slovenia plans to use the KP mechanisms to achieve its Kyoto target, it is likely that its domestic action will constitute a significant part of the effort made to meet its Kyoto target, as it will account for more than half of the overall effort (paragraph 72). 	<ul style="list-style-type: none"> Thus, the projections indicate that Slovenia cannot meet its Kyoto target, even with additional PaMs in place. Hence, the use of credits from activities under Article 3, paragraphs 3 and 4, of the KP as well as the purchase of Kyoto units are essential to help Slovenia to achieve its Kyoto target (paragraph 93).





Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
Spain (FCCC/IDR.5/ ESP)	<ul style="list-style-type: none"> Table 4 and figure 1 show that Spain's GHG emissions are expected to be higher than its Kyoto Protocol target in both the 'with measures' and the 'with additional measures' scenario (paragraph 78). The updated projections presented by Spain during the review indicate that the average annual emissions in the period 2008–2012 in the 'with measures' scenario are expected to be 34.4 per cent above the base year level, or 19.4 percentage points higher than the Kyoto Protocol target (paragraph 87). 	<ul style="list-style-type: none"> In its NC5, Spain has provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action, although it did not elaborate on supplementarity as such (paragraph 86). The updated projections presented by Spain during the review indicate that the average annual emissions in the period 2008–2012 in the 'with measures' scenario are expected to be 34.4 per cent above the base year level, or 19.4 percentage points higher than the KP target. In addition, if at least 2 percentage points from Article 3, paragraphs 3 and 4, activities can be used for compliance, then the need to use the Kyoto mechanisms would be reduced to 17.4 percentage points (paragraph 87). During the review Spain reaffirmed its commitment to comply with its KP target by using the Kyoto mechanisms as much as needed to fill in the gap taking into account Article 3, paragraphs 3 and 4, activities (paragraph 88). 	<ul style="list-style-type: none"> Taking into account the contribution of Article 3, paragraphs 3 and 4, activities (estimated to deliver a 2 percentage point reduction), the projections indicate that Spain can meet its KP target (which is a 15 per cent increase) only with the use of the Kyoto mechanisms (paragraph 118).
Sweden (FCCC/IDR.5/ SWE)	<ul style="list-style-type: none"> Sweden is on track to meeting and, possibly, overachieving this target through domestic actions alone, that is, without the use of the flexible mechanisms under the KP (paragraph 32). Sweden is expected to meet its target under the KP with a wide margin of 10 Mt CO₂ eq annually. This margin will become wider if credits from activities under Article 3, paragraphs 3 and 4, of the KP are taken into account (paragraph 79). 	<ul style="list-style-type: none"> In its NC5, Sweden has provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. Sweden has allocated SEK 1,200 million for the period up to 2011 and has launched 26 projects (24 CDM and two JI projects) in six countries. However, these projects are not necessarily required in order for Sweden to comply with its target under the KP for the period 2008–2012 given that, according to the projections, Sweden is expected to meet this target with domestic measures alone (paragraph 88). 	<ul style="list-style-type: none"> Sweden is on track to meet its commitments for the first commitment period of the KP with existing measures alone (paragraph 119).
Switzerland (FCCC/IDR.5/ CHE)	<ul style="list-style-type: none"> Switzerland projected that it will meet its Kyoto Protocol target (48.57 Mt CO₂ eq) under the 'with measures' scenario through a combination of domestic efforts, the use of flexible mechanisms and the use of credits for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 71). 	<ul style="list-style-type: none"> Planned use of flexible mechanisms and credits for activities under Article 3, paragraphs 3 and 4, of the KP is expected to fill in the remaining gap to the required 4.2 Mt CO₂ eq annual reduction (paragraph 71). In its NC5, Switzerland provided implicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action. The Party reported that its reduction commitment corresponds to a 4.2 Mt CO₂ eq reduction per year, of which 2.0 to 2.4 Mt CO₂ eq per year may be achieved by the use of Kyoto 	<ul style="list-style-type: none"> The projections indicate that Switzerland can meet its KP target (which is 8 per cent below the base year level) under the 'with measures' scenario only through a combination of domestic efforts, the use of flexible mechanisms and the accounting for activities under Article 3, paragraph 4 (paragraph 113).



Annex I Party	Domestic action	Indication in the IDR if Annex I Party is expected to meet its target under the KP	Indication in the IDR if Annex I Party is expected to meet its target under the KP
		mechanisms (paragraph 78).	
Ukraine (FCCC/IDR.5/ UKR)	<ul style="list-style-type: none"> Even according to the ‘without measures’ scenario, which incorporates significant growth in the use of coal, Ukraine expects to meet its Kyoto Protocol target (stabilization of emissions during 2008–2012 at the base year level) (paragraph 97). 	<ul style="list-style-type: none"> Ukraine’s GHG emissions are projected to be below its target under the Kyoto Protocol in 2008–2012; therefore, in its NC5 Ukraine implicitly stated that it will not use Kyoto Protocol mechanisms to comply with the target and did not elaborate on supplementarity as such (paragraph 102). 	<ul style="list-style-type: none"> Thus, the projections indicate that Ukraine expects to meet its KP target (which is GHG emissions stabilization at the base year levels) even under the ‘without measures’ scenario, and GHG emissions are not expected to exceed the country’s base year level even by 2020 (paragraph 130).
United Kingdom of Great Britain and Northern Ireland (FCCC/IDR.5/ GBR)	<ul style="list-style-type: none"> The United Kingdom plans to meet its Kyoto target to reduce GHG emissions to 12.5 per cent below base year level during 2008–2012, which the Party intends to achieve by domestic efforts. Moreover, the United Kingdom continues to revise and enhance domestic policies to curb its GHG emissions beyond its commitments under the Convention and the KP (paragraph 95). 	<ul style="list-style-type: none"> The NC5 contains implicit information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. The United Kingdom Government is not planning to make use of the Kyoto Protocol mechanisms to meet its first commitment period Kyoto target (paragraph 146). 	<ul style="list-style-type: none"> The ‘with measures’ scenario indicates a continuous decrease of emissions until 2050. In 2010, GHG emissions are projected to be 25.3 per cent below the Kyoto base year level, implying that the United Kingdom can meet its target under the Kyoto Protocol (which is a 12.5 per cent reduction) for the first commitment period using domestic measures only (paragraph 145).

Notes: NR: Not reported
PaM : Policies and Measures
GHG: Greenhouse gas
NC5: Fifth National Communication
KP: Kyoto Protocol

- ¹⁾ Canada has submitted to the Depositary a notification of withdrawal from the Kyoto Protocol, which will be effective as of 15 December 2012. While the consequences of withdrawal after 15 December 2012 would have to be assessed at a later stage, Canada, for the time being, remains a Party to the Protocol (FCCC/FB/11/2012/2, paragraph 14).
- ²⁾ The initial review report of Croatia contained two questions of implementation relating to Croatia’s assigned amount and its commitment period reserve, which triggered the compliance mechanism of the Protocol. The enforcement branch of the Compliance Committee found Croatia to be in non-compliance. Croatia submitted an appeal against the decision of the enforcement branch to the CMP, in accordance with section XI of the “Procedures and mechanisms relating to compliance under the Kyoto Protocol” contained in the annex to decision 27/CMP.1 (FCCC/KP/CMP/2010/2). Subsequently Croatia withdrew its appeal (FCCC/KP/CMP/2011/2) and accepted the values of the assigned amount and its commitment period reserve as calculated by the ERT in the initial review report (CC-2009-1-14/Croatia/EB, paragraph 6). In the IDR of the NC5, which was conducted before Croatia’s withdrawal of its appeal and acceptance of the values in the initial review report, the ERT compared the emission projections to the base year levels and the Kyoto Protocol targets for both sets of values, namely those reported in the NC5 and those resulting from the initial review (FCCC/IDR.5/HRV, paragraphs 92 and 93).





**IV. Additional information on GHG emission projections until 2020,
including description of projections**

21. Parties included in Annex I are requested to provide in the projections section of their national communications an indication of future trends in GHG emissions and removals, given current national circumstances and, implemented, adopted and planned PaMs, and to give an indication of the path of emissions and removals without such PaMs.³⁰ Thus, such Parties shall report ‘with measures’ projections at a minimum; they may also report ‘without measures’ and ‘with additional measures’³¹ projections.

22. Table 2 provides an overview of information on GHG emission projections until 2020 as contained in reports of IDRs, especially with respect to implemented and adopted PaMs (‘with measures’ projections).

23. A description of projections is included, which will enable a more comprehensive understanding of relevant observations made by ERTs in relation to GHG emission projections until 2020.

24. During the reviews of the NC5s, several Parties provided updated GHG emissions projections taking into account the effects of the global economic downturn, if not already factored in the NC5 projections (Bulgaria, Canada, Denmark, Estonia, European Union, Finland, France, Greece, Iceland, Lithuania, Luxembourg, Netherlands, New Zealand, Poland, Russian Federation, Slovakia, Slovenia, Spain and United Kingdom).

³⁰ FCCC/CP/1999/7, the UNFCCC Reporting Guidelines on National Communications, section VI, paragraph 27.

³¹ Part II: UNFCCC Reporting Guidelines on National Communications, section VI, paragraph 29. These Guidelines provide a definition of the different projections that Parties included in Annex I should provide: a ‘with measures’ projection shall encompass currently implemented and adopted policies and measures. 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.

Table 2

Information on GHG emission projections until 2020 as contained in reports of in-depth review of the fifth National Communications

Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
Australia (FCCC/IDR.5/AUS, table 4, figure 1)	547.70 Mt CO ₂ eq	591.52 Mt CO ₂ eq (8%)	656 Mt CO ₂ eq (20%)	816 Mt CO ₂ eq (49%)	582 Mt CO ₂ eq (6%)*	690 Mt CO ₂ eq (26%)*	NR	NR	<ul style="list-style-type: none"> The projections reported in the NC5 were elaborated in 2009. The new Carbon Pricing Mechanism did not exist when the projections reported in the NC5 were developed, nor when the projections update was published in 2011 (paragraph 91). The 'with measures' scenario reported by Australia reflects the mitigation effects from implemented PaMs in the various sectors of the economy (paragraph 93). For the stationary energy sector, which is by far the most important sector in terms of its share of emissions in total GHG emissions, the combined computable general equilibrium (CGE) bottom-up energy model takes into account the behaviour of certain individual operators in the market (forward-looking investment and plant closure decisions for electricity generation and major industries). A range of variables was included, such as commodity prices, domestic electricity demand (paragraph 95). In the 2010 projections, average annual GDP growth is assumed to be 3.0 % during 2010–2020. In comparison with other industrialized countries, Australia was not severely hit by the 2008–2009 global financial and economic crisis. Australia's population is expected to grow by 1.4 % annually from 2010 to 2020 in comparison with a 1.5 % annual growth during 1990–2010. The oil price (2009 USD/barrel) is expected to average USD 82 during the first commitment period of the KP and to reach USD 102 in 2020. Oil price assumptions have been increased considerably from the projections reported in the NC5, where prices of USD 75 (2010) and USD 57 (2020) were reported for the transport sector. Apart from oil prices, Australia's energy market is largely influenced by the development of world commodity prices for coal and liquefied petroleum gas (LPG), since these energy products are mainly produced for export (paragraph 98). Australia faces major challenges in reaching its long-term targets for 2020 and 2050. The key drivers of the emissions trends are GDP and population growth, which are expected





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									to remain relatively high compared to other industrialized countries (paragraph 103).
Austria (FCCC/IDR.5 /AUT, table 4, figure 1)	79.05 Mt CO ₂ eq	68.77 Mt CO ₂ eq (-13.0%)	NR	NR	93.87 Mt CO ₂ eq (18.7%)	98.11 Mt CO ₂ eq (24.1%)	92.87 Mt CO ₂ eq (17.5%)	89.61 Mt CO ₂ eq (13.4%)	<ul style="list-style-type: none"> Austria has defined the ‘with measures’ scenario as including the effect of all implemented and adopted climate change policies as at 8 August 2008. It includes the effect of the EU ETS, which is modelled using a carbon price (around EUR 20/t CO₂ eq), but does not include the levels of allocated emissions according to the national allocation plan. A higher carbon price in the EU ETS (EUR 40/t CO₂ eq) is assumed in the ‘with additional measures’ scenario that reflects a greater scale of climate mitigation effort in Europe (paragraph 71). The NC5 presents key assumptions for 2010, 2015 and 2020 covering projected GDP, population, stock of dwellings, and coal, oil and gas prices (paragraph 81). For projections in the energy sector, a new transport demand model that was used for the NC5 has led to higher projected emissions from the transport sector compared with those reported in the NC4 (paragraph 74).
Belgium (FCCC/IDR.5 /BEL, table 4, figure 1)	145.7 Mt CO ₂ eq	134.8 Mt CO ₂ eq (-7.5%)	NR	NR	136.9 Mt CO ₂ eq (-6%)	150.8 Mt CO ₂ eq (+3%)	136.7 Mt CO ₂ eq (-7%)	139.5 Mt CO ₂ eq (-4%)	<ul style="list-style-type: none"> The ‘with measures’ scenario reported in the NC5 includes all PaMs adopted at the end of 2008 and described in the National Climate Plan for the period 2009-2012, which integrates all PaMs of the federal and regional governments aimed at GHG emission reductions. The Party also reported the ‘with additional measures’ scenario which encompasses planned PaMs, mainly referring to those associated with the promotion of renewable energy and GHG emissions reduction in the non-EU ETS sectors (paragraph 64). Compared to the NC4, projections in the NC5 assumed a higher economic growth for the period 2011–2020, an increase in the population and in the number of households by 2020, a higher price for oil and natural gas as well as an increased CO₂ trade price that are almost double those contained in the NC4 assumptions (paragraph 66). However, projections show that by 2020, emissions may be further increased as a result of the dramatic change in Belgium’s energy mix due to the planned nuclear phase-out during the period 2014-2025 (paragraph 101).





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
Bulgaria (FCCC/IDR.5/BGR, table 4, figure 1)	124.5 Mt CO ₂ eq ²	114.6 Mt CO ₂ eq (-8%)	NR	NR	68.3 Mt CO ₂ eq (-45.1%)*	92.8 Mt CO ₂ eq (-25.5%)*	62.9 Mt CO ₂ eq (-49.5%)	83.4 Mt CO ₂ eq (-33%)*	<ul style="list-style-type: none"> • During the review, it was clarified that the ‘with measures’ scenario encompasses the PaMs implemented and adopted before 2007, but Bulgaria did not report any PaMs for the transport, agriculture and waste sectors in this scenario. The ‘with additional measures’ scenario comprises the PaMs planned after 2007 and encompasses the PaMs in the energy, transport, industrial, agriculture, residential/commercial and waste sectors (paragraph 82). • The methodology used in the NC5 is the same as the one used in all previous national communications of Bulgaria (paragraph 84). • The main differences between the projections reported in the NC5 and those reported in the NC4 are the use of the most recent macroeconomic data in various sectors, the reflection of the effects of the global economic crisis 2008–2009, and the effects of the implementation of EU legislation following Bulgaria’s accession to the EU in 2007 (paragraph 85). • The main assumptions used in the projections reported in the NC5 are based on the economic indicators and their impact on the energy sector, such as the restructuring of the economy and the increased market share of the private sector; increased access to regional energy markets; a decrease in heavy industry; reductions in energy intensity; an increase in energy prices; and the enhancement of energy efficiency of both energy supply and demand. Additional assumptions used for the preparation of the projections are related to GDP growth and population (paragraph 86).
Canada (FCCC/IDR.5/CAN, table 4, figure 1) ³⁾	594 Mt CO ₂ eq	558.4 Mt CO ₂ eq (-6%)	720 Mt CO ₂ eq (21.2%)*	850 Mt CO ₂ eq (43.1%)*	710 Mt CO ₂ eq (19.5%)*	785 Mt CO ₂ eq (32.2%)*	NR	NR	<ul style="list-style-type: none"> • Canada provided a ‘no government action’ scenario for updated projections, which would be a ‘without measures’ scenario and a ‘current action’ scenario, which would be a ‘with measures’ scenario (paragraph 77). • Key assumptions for the updated projections include an annual GDP growth of 2–3 % after the financial and economic crisis, an annual population growth of 1 %, an after the financial crisis steadily increasing crude oil price peaking at USD 96/bbl in 2020 and a stabilization of the gas price at the pre-crisis level until 2020. Other main assumptions include a shift in oil production from conventional to unconventional methods (oil sands), mainly to meet the growing demand in the US, and an



Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									increase of electricity production capacity by a third until 2020 (paragraph 79).
Croatia (FCCC/IDR.5 /HRV, table 4, figure 1) ⁴⁾	31.32 Mt CO ₂ eq	29.76 Mt CO ₂ eq (-5%)	36.39 Mt CO ₂ eq (16.2%)	50.49 Mt CO ₂ eq (61.2%)	34.09 Mt CO ₂ eq (8.8%)	41.22 Mt CO ₂ eq (31.6%)	33.02 Mt CO ₂ eq (5.4%)	40.77 Mt CO ₂ eq (30.2%)	<ul style="list-style-type: none"> The GHG emission projections are presented on a sectoral basis for most of the sectors, except for the LULUCF sector, there are presented using the same sectoral categories used in the PaMs section (paragraph 55). In its NC5, Croatia has reported that the ‘without measures’ scenario is a ‘business as usual’ scenario that is based on the assumption that energy consumption will continue growing following the current trend and that the effect of PaMs is not included; the ‘with measures’ scenario includes the effect of PaMs that are already being implemented and adopted; and the ‘with additional measures’ scenario includes the effect of planned PaMs (paragraph 57).
Czech Republic (FCCC/IDR.5 /CZE, table 4, figure 1)	194.3 Mt CO ₂ eq	178.7 Mt CO ₂ eq (-8%)	149.9 Mt CO ₂ eq (-22.8%)	146.2 Mt CO ₂ eq (-24.7%)	140.1 Mt CO ₂ eq (-27.9%)	124.2 Mt CO ₂ eq (-36%)	134.9 Mt CO ₂ eq (-30.5%)	116.2 Mt CO ₂ eq (-40.2%)	<ul style="list-style-type: none"> The main assumptions defined in the NC5 or provided during the review were in relation to the following key issues: future technological development, demographic trends, economic development, global prices of fuel and energy, energy consumption in some sectors, production of the main energy-intensive materials, numbers of animals and management of lands, expected growth in activity in the transport of passengers and goods, number and size of housing units, a CO₂ certificate price of EUR 20/t, the fact that the Temelin and Dukovany nuclear plants will continue normal operations until 2020 and no new nuclear power plant should be taken into account and the fact that the consumption of brown coal or lignite will be reduced (paragraph 71). The ERT noted that the assumptions used for the transport sector are overly optimistic, a finding that was confirmed by the Czech Republic during the review. Another assumption was made that biofuels will represent 14.8 per cent of the liquid fuel consumed for transport (petroleum and biofuels) in 2020, which is far above the EU target of 10 per cent. The ERT noted that there is no incentive for fuel providers in the Czech Republic to increase the share of biofuels beyond the set EU target (paragraph 72).
Denmark (FCCC/IDR.5 /DNK, table 4, figure 1)	70 Mt CO ₂ eq	55.4 Mt CO ₂ eq (-21%)	96.3 Mt CO ₂ eq (37.6%)	NR	60.5 Mt CO ₂ eq (-13.5%)*	56.2 Mt CO ₂ eq (-20.7%)	NR	NR	<ul style="list-style-type: none"> Among the most important assumptions used for the projections are the GDP growth rates predicted by the Ministry of Finance and used for the estimates of economic development, and the future energy prices forecast by IEA



Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<p>(paragraph 69).</p> <ul style="list-style-type: none"> Higher values for economic and population growth as well as higher energy prices (for oil, coal and natural gas) were used in the NC5 compared with those used in the NC4 (paragraph 69). Latest projections reflect the most recent economic and policy developments in Denmark (i.e. the reduction in GDP and total energy consumption in 2009 compared with in 2008, by 4.9 per cent and 5.0 per cent, respectively) and include updates of some key parameters (e.g. fuel prices) (paragraph 74). These updated 'with measures' projections show a reduction deficit of 4.4 Tg CO₂ eq, given that Denmark's GHG emissions from the non-ETS sector in 2020 are expected to amount to 34.2 Tg CO₂ eq (paragraph 75).
Estonia (FCCC/IDR.5/EST, table 4, figure 1)	42.6 Mt CO ₂ eq	39.2 Mt CO ₂ eq (-8%)	NR	NR	20.4 Mt CO ₂ eq (-52.1%)*	19.7 Mt CO ₂ eq (-53.8%)*	20.4 Mt CO ₂ eq (-52.3%)*	18.9 Mt CO ₂ eq (-55.6%)*	<ul style="list-style-type: none"> The GHG emission projections in the energy sector were modelled using an integrated MARKAL-EFOM system (TIMES) that is based on the energy supply development model NEEDS; for the industrial processes sector were based on the activity data submitted by six companies and on historical trends for one remaining company; for the waste sector were based on the National Waste Management Plan for 2008–2013 and on expert judgment; in the agriculture sector were based on the information collected through the project of the Ministry of Agriculture and also on expert judgment (paragraph 68). According to the NC5, the main assumptions used for the energy sector projections are fuel prices, population growth rates and annual GDP growth rates (paragraph 69).
European Union (FCCC/IDR.5/EU, table 4, figure 1)	4265.5 Mt CO ₂ eq	3924.3 Mt CO ₂ eq (-8%)	NR	NR	3773 Mt CO ₂ eq (-11.5%)* ₅₎	3873 Mt CO ₂ eq (-9.2%)*	3681.3 Mt CO ₂ eq (-13.7%)* ₅₎	NR	<ul style="list-style-type: none"> The 'with measures' scenario includes PaMs that were implemented or adopted at the time of the preparation of the NC5. The 'with additional measures' scenario includes the effect of planned PaMs assumed to be fully implemented. The 'without measures' scenario excludes the effects of PaMs from the year 2000 (paragraph 83). During the review, the EU provided a detailed overview of the aggregation methods, including the adjustment to ensure the completeness of the member States' projections by gap-filling missing projections with alternative data sets, an adjustment to align the starting year of member States' projections of the latest GHG inventory data and an adjustment to ensure consistency between sectoral and





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<p>total projections (paragraph 85).</p> <ul style="list-style-type: none"> The ERT noted that the EC also derives an additional, EU-wide set of projections using a top-down approach which serves as an alternative projection for member States where parts of their projections are missing (paragraph 86). It was noted that due to the different modelling approaches used by member States, assumptions are not always readily comparable. The NC5 reported on the assumptions made by member States on GDP growth, international oil price, heating degree days and change in energy demand per capita (2010–2020). This comparison showed that there can be significant differences in some key assumptions (paragraph 87).
Finland (FCCC/IDR.5 /FIN, table 4, figure 1)	71 Mt CO ₂ eq	71 Mt CO ₂ eq (0%)	NR	NR	68.4 Mt CO ₂ eq (-3.7%)*	88.6 Mt CO ₂ eq (24%)	68.4 Mt CO ₂ eq (-3.7%)*	68.5 Mt CO ₂ eq (-3.7)	<ul style="list-style-type: none"> The GHG emission projections presented in Finland's NC5 are based on its Long Term Climate and Energy Strategy. The key assumptions used with regard to economic activity, population growth, fuel prices and technological development are essentially the same as those described in the NC4. The key difference is related to the delayed completion of a fifth nuclear unit, which was assumed to begin operations in 2012 instead of in 2009–2010 and therefore expected to have little impact on reaching the Kyoto target in the first commitment period (paragraph 60). The projections set out in the 'with additional measures' scenario indicate a continuous decrease in emissions in the period until 2020. Measures are planned in this scenario to enable Finland to reach the EU goals for 2020 (paragraph 67).
France (FCCC/IDR.5 /FRA, table 4, figure 1)	563.9 Mt CO ₂ eq	563.9 Mt CO ₂ eq (0%)	667.4 Mt CO ₂ eq (18.3%)	716.1 Mt CO ₂ eq (27%)	544.6 Mt CO ₂ eq (-3.4%)	501.6 Mt CO ₂ eq (-11%)*	517 Mt CO ₂ eq (-8.3%)	434.6 Mt CO ₂ eq (-23%)*	<ul style="list-style-type: none"> The 'with additional measures' and the 'with measures' scenarios are based on an energy balance that was derived using a bottom-up energy demand model (Medpro) in combination with a global energy model (POLES) (paragraph 93). For the NC5, population growth rate is assumed to vary from 0.52 % per year to 0.55 % per year and the oil price is assumed to vary from USD 87 to USD 100 per barrel during 2006–2020. The assumptions used for the updated projections reflect the latest data available and thus provide a more accurate basis for the projections. GDP growth rate used reflects the impact of the global economic crisis, ranging from 0.7 to 2.2 over the period 2005–2020, and the





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									price of emissions allowances in the EU ETS is adjusted to EUR 25 per tonne for 2020 (paragraph 95).
Germany (FCCC/IDR.5 /DEU, table 4, figure 1)	1232 Mt CO ₂ eq	973.6 Mt CO ₂ eq (-21%)	NR	NR	944.7 Mt CO ₂ eq (-23.3%)	849.6 Mt CO ₂ eq (-31.1%)	NR	NR	<ul style="list-style-type: none"> The main assumptions include (real) GDP growth of 1.6 % annually, a slight decrease in the population, by 1 %, between 2005–2020, an oil price of USD 60/barrel in 2020, and a CO₂ price of EUR 20 per tonne in 2010 and EUR 30 per tonne in 2020 (paragraph 72). These assumptions were made before the financial and economic crisis and thus do not account for its effects, but such effects are considered in the more recently prepared energy scenario within the Energy Concept 2010 (paragraph 73).
Greece (FCCC/IDR.5 /GRC, table 4, figure 1)	106.9 Mt CO ₂ eq	133.7 Mt CO ₂ eq (25%)	NR	NR	123.9 Mt CO ₂ eq (15.8%)*	119.6 Mt CO ₂ eq (11.8%)*	123.1 Mt CO ₂ eq (15.1%)*	109.1 Mt CO ₂ eq (2%)*	<ul style="list-style-type: none"> The main assumptions used for the energy sector projections are fuel prices based on IEA estimates, population growth and development of household size based on the census data provided by the National Statistical Service of Greece as well as macroeconomic indicators derived from the model GEM-E3 (paragraph 78). During the review, Greece presented updated emission projections that took into consideration the updated macroeconomic data showing the decrease in the economic output in the years 2009 to 2010. Also, the projections took into account the following updated inputs, considerations and information: the most recent IEA fuel price forecasts; a 20 % share of RES in final energy consumption; a 40 % share of RES in power generation; and a reduced price for the EU ETS allowances of EUR 20/t CO₂ based on estimates from the European Commission (paragraph 80). The ERT notes that the updated emission projections are considerably lower than those presented in the NC5 (paragraph 85).
Hungary (FCCC/IDR.5 /HUN, table 4, figure 1)	115.4 Mt CO ₂ eq	108.5 Mt CO ₂ eq (-6%)	85.9 Mt CO ₂ eq (-25.6%)	100.8 Mt CO ₂ eq (-12.6%)	73.9 Mt CO ₂ eq (-35.9%)	73.3 Mt CO ₂ eq (-36.5%)	73.5 Mt CO ₂ eq (-36.5%)	66.6 Mt CO ₂ eq (-42.3%)	<ul style="list-style-type: none"> The NC5 presents key assumptions on GDP growth, fuel prices, power production, emission factors for electricity generation, population, waste disposal, number of kilometres travelled by passenger cars, and the thermal efficiency of fossil plants for the years 2010, 2015 and 2020 in tabular format. Assumptions on the carbon price up to the year 2020 are also given in the text. Assumed changes in the activity rate in preparing projections are given in an appendix to the NC5 as five-year averages (2005–2010, 2010– 2015, 2015–2020 and 2020–2025) for





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									the following subcategories: different power plants in power generation and heat production; different subsectors in industry; housing stock and appliances used in households; building stock and appliances used in the tertiary sector; and waste management. Assumptions on GDP and population are similar to those in the NC4. Assumptions and, accordingly, projections, do not take into account the recent economic crisis (paragraph 74).
Iceland (FCCC/IDR.5/ISL, table 4, figure 1)	3.37 Mt CO ₂ eq	3.71 Mt CO ₂ eq (10%)	NR	NR	scenario 1: 4.68 Mt CO ₂ eq (38.9%), scenario 2: 5.19 Mt CO ₂ eq (54%)	scenario 1: 4.65 Mt CO ₂ eq (38%), scenario 2: 5.99 Mt CO ₂ eq (77.7%)	NR	4.12 Mt CO ₂ eq (22.3%) ~ 5.32 Mt CO ₂ eq (57.9%)*	<ul style="list-style-type: none"> The two 'with measures' scenarios presented in the NC5 include PaMs that had been adopted before 2007. These two scenarios were developed based on different assumptions with regard to economic growth, population growth, and size of production of aluminium and ferrosilicon industries that have the largest impact on total national emissions in Iceland. Scenario 1 assumes no added capacity to the energy-intensive industries after 2008, whereas scenario 2 assumes that production volumes by 2015 will reach maximum levels allowed according to environmental permits already issued (paragraph 60). Key assumptions on important variables influencing future GHG emission trends for sectors with the highest share in Iceland's GHG emissions (industrial processes, transport, fisheries, LULUCF) as well as for the other sectors were provided in the NC5 and elaborated on during the review. Another assumption is that the penetration of new and alternative energy sources in the transport sector is expected to be predominantly market driven. As projections of fuel use following the recent economic development were prepared only in 2012, related GHG emission projections were not available during the review (paragraph 63).
Ireland (FCCC/IDR.5/IRL table 4, figure 1)	55.61 Mt CO ₂ eq	62.84 Mt CO ₂ eq (13%)	NR	NR	65.8 Mt CO ₂ eq (18.3%)*	65 Mt CO ₂ eq (16.9%)*	65.3 Mt CO ₂ eq (17.4%)*	60.1 Mt CO ₂ eq (8%)*	<ul style="list-style-type: none"> The emission projections are prepared by the Environmental Protection Agency (EPA) on an annual basis for all sectors of the economy, and the models are updated and calibrated based on the most recent available data (paragraph 65). Ireland uses a set of models to prepare its projections by sector and for national total emissions (paragraph 67). Information on assumptions was provided during the review. This included information on GDP, gross national product, oil, coal, gas and CO₂ prices, personal consumption and the number of households and persons





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									per household for 2010, 2015 and 2020 (paragraph 68).
Italy (FCCC/IDR.5 /ITA table 4, figure 1)	516.9 Mt CO ₂ eq	483.3 Mt CO ₂ eq (-6.5%)	NR	NR	509 Mt CO ₂ eq (1.5%)*	509 Mt CO ₂ eq (1.5%)*	538.2 Mt CO ₂ eq (4.1%)*	473.3 Mt CO ₂ eq (-8.4%)*	<ul style="list-style-type: none"> Information on key assumptions and parameters, including gross domestic product (GDP), population, international fuel prices and transport growth rate, is presented for 2010, 2015 and 2020 in the NC5. Assumptions were revised and updated following the recent global economic crisis (paragraph 73).
Japan (FCCC/IDR.5 /JPN table 4, figure 1)	1261.3 Mt CO ₂ eq	1185.7 Mt CO ₂ eq (-6%)	NR	NR	1273 to 1287 Mt CO ₂ eq (0.9 to 2%)	NR	1239 to 1252 Mt CO ₂ eq (-1.8 to -0.7%)	NR	<ul style="list-style-type: none"> Updated projection estimates (energy-related CO₂ emissions only) were prepared in the context of the mid-term and long-term targets and goals for GHG emission reductions announced by the Prime Minister of Japan and provided to the ERT during the in-country visit (paragraph 91). Many key assumptions used for projections are clearly described in the NC5. This includes the outlook for population and employment, economic growth, exchange rates and energy prices (oil, coal and natural gas). During the in-country visit, Japan explained that, due to the very short time horizon for projections (2010), no major changes in the fuel and technology mix were assumed compared to the NC4. Overall, changes in assumptions on oil prices and economic growth since the NC4 reflect the recent economic development and are internally consistent (paragraph 101).
Latvia (FCCC/IDR.5 /LVA table 4, figure 1)	25.9 Mt CO ₂ eq	23.8 Mt CO ₂ eq (-8%)	NR	NR	14 Mt CO ₂ eq (-46.1%)	17.7 Mt CO ₂ eq (-31.7%)	NR	NR	<ul style="list-style-type: none"> Latvia has clearly reported on the methodology used for calculating the projections of GHGs for each sector, except the LULUCF sector. Each sector uses a different methodology. Key input variables include economic growth, energy efficiency improvements, population and energy prices. Energy prices are based on the International Energy Agency (IEA) Global Economic Overview 2006 (paragraph 57).
Liechtenstein (FCCC/IDR.5 /LIE table 4, figure 1)	0.229 Mt CO ₂ eq	0.212 Mt CO ₂ eq (-8%)	NR	NR	0.232 Mt CO ₂ eq (1.1%)	0.207 Mt CO ₂ eq (-9.5%)	NR	NR	<ul style="list-style-type: none"> Liechtenstein does not have comprehensive emission projections at its disposal, owing to its small size and limited capacity to develop a modelling framework of its own. The projections presented for 2010, 2015 and 2020 rely on the latest emission and energy use data available for Liechtenstein and on projections calculated by the Bureau of Energy Consumption and Conservation of emission reductions derived from PaMs implemented in the country. In addition, comparisons and analogies with the projections and assumptions developed for Switzerland





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<p>are used by Liechtenstein in deriving its own emission projections (paragraph 49).</p> <ul style="list-style-type: none"> Compared with the very simple approach used to prepare the projections reported in the NC4, the methodology has been improved for the projections reported in the NC5. While the NC4 contained only projections for 2003 to 2010 linearly interpolated, the data used for the projections reported in the NC5 are much more sophisticated (paragraph 51).
<p>Lithuania (FCCC/IDR.5/LTU table 4, figure 1)</p>	49.4 Mt CO ₂ eq	45.5 Mt CO ₂ eq (-8%)	26 Mt CO ₂ eq (-47.4%)*	33.8 Mt CO ₂ eq (-31.6%)	23.9 Mt CO ₂ eq (-51.6%)*	26.4 Mt CO ₂ eq (-46.6%)*	32.7 Mt CO ₂ eq (-33.7%)	38.1 Mt CO ₂ eq (-23%)	<ul style="list-style-type: none"> The ‘with measures’ projections include measures under implementation or just approved and reported in the NC5 (paragraph 51). The ERT commends Lithuania for reporting projections for all sectors in the NC5 (paragraph 55). The ERT notes that the updated projections appear more robust than those reported in the NC5, especially for the waste management sector. The projected emissions from the waste sector in the NC5 appeared to be outliers when compared with the emission trends for this sector reported by other Parties included in Annex I to the Convention (Annex I Parties) (paragraph 60).
<p>Luxembourg (FCCC/IDR.5/LUX table 4, figure 1)</p>	13.17 Mt CO ₂ eq	9.48 Mt CO ₂ eq (-28%)	13.7 Mt CO ₂ eq (4%)	15.22 Mt CO ₂ eq (15.6%)	13.2 Mt CO ₂ eq (0.2%)	14.12 Mt CO ₂ eq (7.2%)*	13.19 Mt CO ₂ eq (0.2%)	13.37 Mt CO ₂ eq (1.6%)*	<ul style="list-style-type: none"> The ‘with measures’ scenario includes all PaMs adopted and implemented between the end of 2006 and the end of 2009, while the ‘with additional measures’ scenario includes the PaMs planned or adopted but not yet implemented by the end of 2009. The updated set of scenarios developed in 2011 includes a ‘with measures’ scenario that takes into account all of the PaMs adopted and implemented between the end of 2006 and the end of 2010 and a ‘with additional measures’ scenario that includes the PaMs planned but not yet implemented or adopted by the end of 2010 (paragraph 59). For the ‘with measures’ and ‘with additional measures’ scenarios, Luxembourg aggregated the individual impacts of significant PaMs on CO₂ emissions. These impacts were mainly derived by FiFo-Köln (the Institute for Public Economics, University of Cologne) from energy savings evaluated in the first NEEAP. In the NEEAP, mitigation potential calculations were generally made on the basis of price elasticity and technological progress (paragraph 61). The 2011 updated projections are based on the same model and approaches as those used in the projections provided in





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			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<p>the NC5. However, the underlying assumptions for the activity data and energy consumption in the updated projections take into account the effect of the global economic crisis (paragraph 62).</p> <ul style="list-style-type: none"> Assumptions were made with regard to demographic changes, transport growth, the expansion of housing and detailed activity data by sector. No assumptions were made on GDP growth or on specific carbon and energy prices (paragraph 63).
Monaco (FCCC/IDR.5/MCO, table 4, figure 1)	107.7 Mt CO ₂ eq	99 Mt CO ₂ eq (-8%)	NR	117.7 Mt CO ₂ eq (9.3%)*	NR	106.3 Mt CO ₂ eq (-1.2%)*	NR	86.2 Mt CO ₂ eq (-20%)*	<ul style="list-style-type: none"> In its NC5, Monaco has reported three scenarios of total GHG emissions, namely 'pessimistic', 'baseline' and 'optimistic' scenarios, but only for one year that is 2020. The reported scenarios are presented by sector, covering two reported sectors only (paragraph 56). The reported three scenarios ('pessimistic', 'baseline', 'optimistic') are built upon the assumptions relating to the use of light oil fuel for heating in residential buildings, waste incineration and road fuel sales; and the estimates of total GHG emissions (paragraph 58).
Netherlands (FCCC/IDR.5/NLD, table 4, figure 1)	213 Mt CO ₂ eq	200.3 Mt CO ₂ eq (-6%)	208.5 Mt CO ₂ eq (-2.1%)*	237.5 Mt CO ₂ eq (11.5%)*	204.2 Mt CO ₂ eq (-4.1%)*	218.8 Mt CO ₂ eq (2.7%)*	203.9 Mt CO ₂ eq (-4.3%)*	193 Mt CO ₂ eq (-9.4%)*	<ul style="list-style-type: none"> The NC5 provides an update of the 'global economy' scenario presented in the Party's NC4, characterized by relatively high economic growth (2.9 % annual GDP growth 2010- 2020) and material welfare. Population growth is also relatively high (0.6 % annually 2010-2020). The main changes include a higher CO₂ price under the EU ETS, new planned power plants, a strong increase in the demand for heat and power in the greenhouse horticulture subsector, new PaMs for renewable electricity, and the inclusion of new data regarding transport (paragraph 70). The projections assume that the Netherlands will become a net exporter of electricity from 2015 onwards, leading to a increase in the emissions from the energy sector in the 'with measures' scenario (paragraph 71).
New Zealand (FCCC/IDR.5/NZL, table 4, figure 1)	61.91 Mt CO ₂ eq	61.91 Mt CO ₂ eq (0%)	76.43 Mt CO ₂ eq (23.5%)*	85.12 Mt CO ₂ eq (37.5%)*	74.24 Mt CO ₂ eq (19.9%)*	76.51 Mt CO ₂ eq (23.6%)*	NR	NR	<ul style="list-style-type: none"> The NC5 presents key assumptions on projected GDP, population, exchange rates, carbon prices, energy prices and gas discoveries for the years 2010, 2015 and 2020. The assumptions were considered generally reliable and realistic, although the ERT noted that the assumed carbon price was considered to be constant until 2020 (paragraph 98). The approach and assumptions are consistent with those in





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
					credits from Art. 3.3: 57.94 Mt CO ₂ eq (-6.4%)*				<p>the NC4. The main difference relates to new assumptions, input parameters and policy impacts, such as the recent slowdown in economic growth, higher oil prices and updated information on harvesting and afforestation levels (paragraph 101).</p> <ul style="list-style-type: none"> The period between 2012 and 2020 holds considerable uncertainty for New Zealand's emission trends. Until now, the emissions have been significantly influenced by the forestry sector which is projected to turn from a net sink to a net source of emissions in 2016 (paragraph 103).
Norway (FCCC/IDR.5/NOR, table 4, figure 1)	50.1 Mt CO ₂ eq	50.6 Mt CO ₂ eq (1%)	NR	NR	57.3 Mt CO ₂ eq (14.3%)	56.5 Mt CO ₂ eq (12.8%)	NR	NR	<ul style="list-style-type: none"> For the 'with measures' scenario, the key assumptions included GDP (separately for off- and onshore economic sectors) growth of 2.2% in 2010 and of 2.1%/year up to 2020. The ERT noted that the effect of the global financial and economic crisis in 2008-2009 was not included in the scenario. Petroleum-related activities were expected to reach a peak in 2010 and production was expected to decline thereafter by 0%/year by 2020, while crude oil prices were expected to decline from NOK 617 in 2008 to an average of NOK 400 during 2010-2020 (paragraph 65).
Poland (FCCC/IDR.5/POL, table 4, figure 1)	563.44 Mt CO ₂ eq	529.64 Mt CO ₂ eq (-6%)	380.96 Mt CO ₂ eq (-32.4%)*	428.59 Mt CO ₂ eq (-24%)*	376.43 Mt CO ₂ eq (-33.2%)*	363.39 Mt CO ₂ eq (-35.5%)*	NR	NR	<ul style="list-style-type: none"> The 'with measures' scenario is referenced to 2007. It includes the effects of the full implementation of existing and adopted PaMs as well as the assumption that the targets for RES will be met according to the EU Climate and Energy Package. It takes into account the present global economic downturn (paragraph 80). In its NC5, Poland has reported information on the key assumptions used for the energy projections, such as growth of gross domestic product (which was updated to take into account the recent global economic developments), gross value added per sector of the economy and the national RES targets. During the review, additional key assumptions were presented, such as those on tax levels, international fuel prices, CO₂ prices for each phase of the EU ETS and electricity imports and exports (paragraph 82).
Portugal (FCCC/IDR.5/PRT, table 4, figure 1)	60.15 Mt CO ₂ eq	76.38 Mt CO ₂ eq (27%)	NR	NR	85.79 Mt CO ₂ eq (42.6%)	94.5 Mt CO ₂ eq (57.1%)	85.27 Mt CO ₂ eq (41.8%)	90.8 Mt CO ₂ eq (50.9%)	<ul style="list-style-type: none"> The projections for the energy sector were calculated using a technology-based integrated assessment model that covers economy, energy and the environment. Projections for the non-energy sectors included spreadsheet models for the industrial processes (fluorinated gases), agriculture, LULUCF and waste sectors (paragraph 72).



Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<ul style="list-style-type: none"> In the NC5, a number of sectoral assumptions for the projections were provided in the form of policy scenarios and information on certain input parameters, such as macroeconomic indicators, growth in demand for transport, sectoral activity and energy consumption. Forecasts of GDP growth rates for the period 2005 to 2020 were derived from Portugal's Stability and Growth Programme (2005-2009) (paragraph 73). The ERT noted that the impact of the global financial and economic crisis was not reflected in the projections in the NC5 and that emission levels during the first commitment period might therefore be lower than projected (paragraph 77). The ERT acknowledged that the level of emissions shows significant annual variations, which are related to the fluctuations in hydropower generation owing to variation in the level of precipitation. The ERT noted that, during the commitment period, hydrological conditions, hydropower availability and potential forest fires pose an unpredictable risk to meeting the projected emission levels (paragraph 79).
Romania (FCCC/IDR.5/ROU, table 4, figure 1)	278.2 Mt CO ₂ eq	256 Mt CO ₂ eq (-8%)	201.7 Mt CO ₂ eq (-27.5%)	264.5 Mt CO ₂ eq (-4.9%)	188.8 Mt CO ₂ eq (-32.1%)	240.8 Mt CO ₂ eq (-13.4%)	181.8 Mt CO ₂ eq (-34.7%)	226.5 Mt CO ₂ eq (-18.6%)	<ul style="list-style-type: none"> The ERT noted that the emission projections were concluded in 2008 and have not been updated since then. The ERT also noted that, as a result, the existing projections do not fully reflect the impact of the recent global economic crisis and structural changes in the economy of Romania on national GHG emissions and that, if updated, the emission projections could be much lower than the existing projections (paragraph 62). The methodology for preparing the emission projections reported in the NC5 is the same as the one used for preparing those in the NC4 (paragraph 66). The GHG emission projections for the energy sector consider energy demand by subsector (paragraph 67).
Russian Federation (FCCC/IDR.5/RUS, table 4, figure 1)	3232.42 Mt CO ₂ eq	3232.42 Mt CO ₂ eq (0%)	NR	NR	Moderate/Innovation 2000 Mt CO ₂ eq (-39.8%)	Moderate 2300 Mt CO ₂ eq (-30.8%) * Innovation 1900 Mt	2000 Mt CO ₂ eq (-39.8%)	2400 Mt CO ₂ eq (-27.8%)	<ul style="list-style-type: none"> In its NC5, the Russian Federation has provided information on its projections for all GHG emissions for three scenarios, namely the "moderate" and "innovation" scenarios, which belong to the group of the "with measures" scenarios as defined by the UNFCCC reporting guidelines, and the "with additional measures" scenario, which does not correspond strictly to the scenario definition by the UNFCCC reporting guidelines for the





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
						CO ₂ eq (-42.8%) *			<p>same scenario (paragraph 84).</p> <ul style="list-style-type: none"> On scenario definition, both the “moderate” and the “innovation” scenarios belong to the group of the “with measures” scenarios as defined by the UNFCCC reporting guidelines, but the “innovation” scenario assumes a higher rate of implementation of currently implemented policies to promote energy efficiency and innovation, by providing the necessary price incentives and further structural changes in economy, compared to the more conservative assumptions embedded in the “moderate” scenario. Both the “moderate” and the “innovation” scenarios included the effects of some of the implemented and adopted PaMs that were presented in the section of the NC5 on PaMs, but not all of them. The “with additional measures” scenario includes the effect of market and non-market policies, including policies that may attach price to carbon that could be implemented in the future. There were no such policies planned in the Russian Federation at the time of the preparation of projections and in this sense the “with additional measures” scenario does not correspond to the scenario definition by the UNFCCC reporting guidelines. (paragraph 88). The Russian Federation prepared the projections of the total emissions using the same energy sector growth rate to define projections of total emissions for the three scenarios (paragraph 92). The NC5 provides historical and projected levels of several energy indicators at the macroeconomic level, such as GDP, energy intensity, energy prices, and natural gas prices, such as the GDP growth of 6.4 per cent in 2011–2015 and 6.3 per cent in 2016–2020, and the natural gas prices growth of 356 per cent in 2011–2015 and 121 per cent in 2016–2020 (paragraph 93).
Slovakia (FCCC/IDR.5/SVK, table 4, figure 1)	72.05 Mt CO ₂ eq	66.29 Mt CO ₂ eq (-8%)	66.22 Mt CO ₂ eq (-8.1%)*	75.62 Mt CO ₂ eq (5%)*	45.57 Mt CO ₂ eq (-36.8%)*	47.32 Mt CO ₂ eq (-34.3%) *	45.41 Mt CO ₂ eq (-37%)*	45.24 Mt CO ₂ eq (-37.2%)*	<ul style="list-style-type: none"> The ‘with measures’ scenario includes the implemented and adopted PaMs after 31 December 2000 and before March 2011, and the ‘with additional measures’ scenario includes the same implemented and adopted PaMs after 31 December 2000 and the planned PaMs as of March 2011 (paragraph 59). The ERT noted that the updated emission projections under the ‘with measures’ and ‘with additional measures’ scenarios are considerably lower than those presented in



Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ [Mt CO ₂ eq (%)]	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									the NC5, mainly due to the effects of economic crisis (paragraph 66).
Slovenia (FCCC/IDR.5/SVN, table 4, figure 1)	20.35 Mt CO ₂ eq	18.73 Mt CO ₂ eq (-8%)	NR	NR	19.83 Mt CO ₂ eq (-2.6%)*	22.26 Mt CO ₂ eq (9.4%)*	19.68 Mt CO ₂ eq (-3.3%)*	18.75 Mt CO ₂ eq (-7.9%)*	<ul style="list-style-type: none"> In contrast to in the NC4, projections are provided in the NC5 for the LULUCF sector (paragraph 57). The methodology used for preparing the projections is well described in the NC5. Projections for the energy sector were developed using the same models as used for calculating the projections reported in the NC4. Two other models were used for making the projections for the transport sector. As for the NC4, emissions from the waste and agriculture sectors were projected using the same IPCC methodology as used to calculate emissions for the GHG inventory; for industrial processes, the emissions were calculated on the basis of projected activity data (paragraph 59). During the review, Slovenia provided the results of its most recent projections, prepared by MESP in February 2011 (paragraph 67).
Spain (FCCC/IDR.5/ESP, table 4, figure 1)	289.8 Mt CO ₂ eq	333.2 Mt CO ₂ eq (15%)	494.8 Mt CO ₂ eq (70.7%)*	628.2 Mt CO ₂ eq (116.8%)*	389.6 Mt CO ₂ eq (34.4%)*	410.4 Mt CO ₂ eq (41.6%)*	395.8 Mt CO ₂ eq (36.6%)	410.6 Mt CO ₂ eq (41.7%)	<ul style="list-style-type: none"> The methodology used for the projections included in the NC5 has not changed compared to the NC4. The methodology is broadly based on the ones developed by the European Environment Agency and the United States Environmental Protection Agency (paragraph 75). The NC5 includes quantitative information for 2010, 2015 and 2020 of key underlying assumptions and variables, including GDP, population, primary and final energy consumption, production figures of energy-intensive industries, such as cement, aluminium and steel, and livestock numbers of the main animal categories (paragraph 76).
Sweden (FCCC/IDR.5/SWE, table 4, figure 1)	72.2 Mt CO ₂ eq	75 Mt CO ₂ eq (4%)	up to 96 Mt CO ₂ eq (33%)	up to 98 Mt CO ₂ eq (38.5%)	65 Mt CO ₂ eq (-10%)	63.1 Mt CO ₂ eq (-12.6%)	64 Mt CO ₂ eq (-11.4%)	60.4 Mt CO ₂ eq (-16.3%)	<ul style="list-style-type: none"> The projections do not include the impact of the EU climate and energy package, the national policies and targets adopted in 2009, and the impact of the recent global economic crisis. These policies and issues will be taken into account in the most up-to-date projections that Sweden is preparing to be submitted to the EU by March 2011. These projections were presented and discussed during the review (paragraph 69). There is continuity in the use of models between the NC4 and the NC5. For transport projections, a new car choice model has been used for the NC5 (paragraph 73).





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
									<ul style="list-style-type: none"> Key assumptions are: GDP is assumed to increase by 2.6 per cent/year between 2005 and 2010 and 2.1 per cent/year between 2010 and 2020. The average price of crude oil is projected to be USD 90/barrel for the period 2010–2020. Nuclear power production is projected to increase slightly to 72.4 TWh/year in 2020 (paragraph 76).
Switzerland (FCCC/IDR.5/CHE, table 4, figure 1)	52.8 Mt CO ₂ eq	48.6 Mt CO ₂ eq (-8%)	55.2 Mt CO ₂ eq (4.5%)	55.4 Mt CO ₂ eq (4.9%)	50.7 Mt CO ₂ eq (-4%)	49.5 Mt CO ₂ eq (-6.2%)	NA	45.2 Mt CO ₂ eq (-14%)	<ul style="list-style-type: none"> The GHG emission projections have been updated since the NC4, using new and updated models and input parameters. A new short-term econometric model is used to develop emission projections for the first commitment period of the KP which captures short-term developments in terms of key socio-economic parameters such as GDP, population and energy prices (paragraph 65). The projections are based on the assumption that GDP will decrease by 2.7% in 2009 and by 0.4% in 2010, and increase thereafter. However, more recent data show that this overestimates the impact of the economic recession in Switzerland. Switzerland expressed its intention to incorporate the updated assumptions into forthcoming emission projections. (paragraph 70).
Ukraine (FCCC/IDR.5/UKR, table 4, figure 1)	920.8 Mt CO ₂ eq	920.8 Mt CO ₂ eq (0%)	408.5Mt CO ₂ eq (-55.6%)	755.2 Mt CO ₂ eq (-18%)	386.1 Mt CO ₂ eq (-58.1%)	638.1 Mt CO ₂ eq (-30.7%)	377 Mt CO ₂ eq (-59.1%)	590.9 Mt CO ₂ eq (-35.8%)	<ul style="list-style-type: none"> The methodology used by the Party for the preparation of the emission projections in the NC5 differs from that used for the preparation of the projections in its previous national communication (NC2), which does not allow for comparison of the results (paragraph 93). To project future GHG emissions from the energy, industrial processes, solvent and other product use, agriculture and waste sectors, Ukraine used a model based on the Microsoft Excel application and to project future emissions and removals from the LULUCF sector it used the EFISCEN model (paragraph 94). Assumptions provided in the NC5 for GDP, demographic trends, electricity consumption, energy-efficiency improvements, consumption of coal and a CO₂ certificate price appeared broadly plausible. For example, it is assumed that GDP will grow by 38 per cent by 2015 compared with 2007 and that energy consumption per GDP will decrease by 25.6 per cent by 2020 compared with 2007 (paragraph 95).





Annex I Party	Base year emissions [Mt CO ₂ eq (%)]	Kyoto target ¹⁾ Mt CO ₂ eq (-12.5%)	Without measures scenario		With measures scenario		With additional measures scenario		Description of projections
			Changes in relation to base year level [Mt CO ₂ eq (%)]						
			2010	2020	2010	2020	2010	2020	
United Kingdom of Great Britain and Northern Ireland (FCCC/IDR.5/GBR, table 4, figure 1)	779.9 Mt CO ₂ eq	682.4 Mt CO ₂ eq (-12.5%)	NR	NR	582.4 Mt CO ₂ eq (-25.3%)	488.5 Mt CO ₂ eq (-37.4%)	NR	NR	<ul style="list-style-type: none"> The methodology used to prepare projections, which is based on several models, is clearly presented in the NC5 (paragraph 87). The NC5 presents key assumptions on projected annual economic growth and projected international fuel prices for the years 2005, 2010, 2015 and 2020 and on population growth for the year 2031 (paragraph 90). Various projection scenarios are prepared using a range of fossil fuel prices, growth of GDP and level of policy delivery (paragraph 92). The approach, assumptions and institutional arrangements to prepare GHG emission projections are consistent with the approach taken in the NC3 and NC4. The main differences in 'with measures' projections between the NC4 and the NC5 relate to new assumptions on input parameters and policy impacts, such as higher fossil fuel price assumptions, lower economic growth and the inclusion additional policy announced in the Energy White Paper 2007. The projections in the NC5 also take into account improvements to inventory assessments, such as updates to the landfill CH₄ model and other improvements to methods, emission factors and activity data (paragraph 94).

Notes:

- NR: Not reported
- NA: Not available
- NC5: Fifth National Communication
- NC4: Fourth National Communication
- NC3: Third National Communication

¹⁾ Kyoto target in relation to base year level, as indicated by Party.
²⁾ With respect to base year data for Bulgaria, table 4 in document FCCC/IDR.5/BGR refers the initial review report of Bulgaria (FCCC/IRR/2007/BGR). However, base year data in both documents differ and table 4 does not represent the base year data as contained in FCCC/IRR/2007/BGR (132.62 Mt CO₂eq). Table 1 provides data as contained in document FCCC/IDR.5/BGR.
³⁾ See footnote 1 of Table 1.
⁴⁾ Base year emissions and Kyoto target based on the report of the review of the initial report contained in document FCCC/IRR/2008/HRV, whereas in its NC5, Croatia has reported emissions for the Kyoto Protocol base year as 34.82 Tg CO₂ eq and the corresponding Kyoto Protocol target as 33.08 Tg CO₂ eq/year on average during the period 2008–2012. See also footnote 2 of Table 1.
⁵⁾ Updated projections are for GHG emissions without LULUCF for the year 2012 and not 2010.
^{*} Updated projections provided by the Party during the in-country review.





V. Recommendation and findings made by the ERT in relation to GHG emission projections

25. Table 3 provides an overview about the most relevant findings and recommendations made by ERT's in relation to GHG emission projections.

26. The ERTs encouraged several Parties included in Annex I to provide a 'with additional measures' scenario with their next national communications (Australia, Denmark, Germany, Italy, Norway, Poland, Switzerland and United Kingdom).

27. With respect to completeness, the ERTs recommended some Parties to provide missing components of the reporting elements required by the UNFCCC reporting guidelines or consider previously missing estimates for calculating new projections. For example, emission projections related to fuel sold to ships and aircraft engaged in international transport should be provided by Austria, Canada, Czech Republic, Finland, France, Iceland, Ireland, Italy, Lithuania, Luxembourg, Poland, Portugal, Romania, Russian Federation, Slovenia, Spain, Ukraine and United Kingdom.

28. A lack of projections for the LULUCF sector and/or information on accounting for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol has been identified for Croatia, Estonia, Japan, Luxembourg, Netherlands, Poland and Portugal. However, updated emission projections for the LULUCF sector are especially crucial for those Parties that elected Article 3, paragraphs 3 and 4, LULUCF activities and that intended to use removal units for achieving their Kyoto target. Among the Parties mentioned above Croatia elected forest management, Japan elected forest management and revegetation, Poland elected forest management and Portugal elected forest management, cropland management and grazing land management as activities under Article 3, paragraph 4, of the Kyoto Protocol.³²

29. The ERTs noted possible consistency issues, for example consistency between categories used in the projections section and in the section on PaMs should be ensured by Belgium, Bulgaria, Canada, Denmark, Estonia, France, Poland and Slovakia. This applies particularly for those Parties, where an inconsistency in the NC5 between the projections chapter and the PaMs chapter indicated an incomplete consideration of measures and thus a possible change in the Parties' projections.³³

30. Furthermore, the consideration of drivers, on which Parties should report, might change Parties' projections in the future, e.g. the update of projections for F-gases taking into account the recent trends in these emissions in Finland. As Latvia's projections were prepared in 2007 and did not include the effects of the recent global financial crisis and higher oil prices, the ERT noted that the projections would have been outdated by the global financial crisis and changes in energy price expectations around 2009. Therefore, the ERT encouraged Latvia to use the most recent information available at the time projections are submitted. Scenarios were found to not fully reflect recent

³² Election of and accounting period for Article 3, paragraphs 3 and 4, activities as contained in reports of the review of the initial reports that are published on UNFCCC website.
http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/items/3765.php.

³³ For Canada for example, the ERT noted an inconsistency in the NC5 between the projections chapter, where the regulatory regime for major industrial emission sources was still included as major reduction measure, and the PaMs chapter, where this PaM was not mentioned as it eventually never entered into force. (FCCC/IDR.5/CAN, paragraph 85). For Estonia, the ERT noted that in the NC5 there are inconsistencies in the reporting of emission projections for the energy sector and there is a lack of clarity as to whether the transport emissions are included in the energy sector. (FCCC/IDR.5/EST, paragraph 66).



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economic and structural changes also for Romania. The ERT noted the urgent need to update the projections in Romania.

Table 3

Recommendation and findings made by the ERT in relation to GHG emission projections until 2020

Annex I Party	Recommendations and findings by the ERT
<p>Australia (FCCC/IDR.5/AUS)</p>	<ul style="list-style-type: none"> • The ERT recommends that Australia provide an estimate of the total effect of implemented PaMs for historic years in accordance with the UNFCCC reporting guidelines in its next national communication (paragraph 90). • The ERT also encourages Australia to report a ‘with additional measures’ scenario related to more ambitious unconditional targets, where appropriate (paragraph 91). • The ERT encourages Australia to enhance the transparency of its reporting by including, in its next national communication, an additional summary diagram of the projections that excludes emissions and removals from the LULUCF sector (paragraph 93). • The NC5 does not clearly explain which key assumptions are valid across all sectors. This mainly refers to GDP and population growth as well as to international energy prices. The ERT encourages Australia to enhance the transparency of its reporting by clearly identifying the key assumptions used in its projections and by providing more detailed and comprehensive information on the key assumptions used, both for the variables used in the economy-wide model and for those used in the sector-specific models in the next NC (paragraph 97). • The ERT noted that Australia did not provide the following reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – an estimate of the total effect of its PaMs, in accordance with the definitions cited above, subdivided by gas (on a CO₂ eq basis) for 1995 and 2000. The ERT recommends that Australia present, in its next national communication, the total estimated effect of its PaMs on a gas-by-gas basis (paragraph 105). • The ERT recommends that the Party provide more explicit information on complementarity in its next national communication, taking also into account the fact that Australia might not be able to meet an ambitious 2020 target within the framework of a comprehensive future international agreement without the use of the Kyoto Protocol mechanisms (paragraph 107).
<p>Austria (FCCC/IDR.5/AUT)</p>	<ul style="list-style-type: none"> • The ERT noted that Austria has not provided emission projections related to fuel sold to ships and aircraft engaged in international transport, as required by the UNFCCC reporting guidelines. The NC5 provides emission projections by gas for each sector, but does not provide aggregation of these projections by gas at the national level (paragraph 69). • The ERT noted that, in the NC5, the projections of emissions and removals from the LULUCF sector are not always transparent and are not presented relative to historical data (paragraph 70). • The ERT recommends that Austria clearly quantify in its next national communication how it intends to meet its Kyoto Protocol target and show how the use of the Kyoto mechanisms is supplemental to domestic action (paragraph 96).
<p>Belgium (FCCC/IDR.5/BEL)</p>	<ul style="list-style-type: none"> • The ERT noted that the sector categories used in the projections section of the Party’s NC5 are not fully consistent with those used in the section on PaMs as required by the UNFCCC reporting guidelines (paragraph 63). • The ERT encourages Belgium to prepare and report a ‘without measures’ scenario in its next national communication (paragraph 64).
<p>Bulgaria (FCCC/IDR.5/BGR)</p>	<ul style="list-style-type: none"> • The emission projections related to fuel sold to ships and aircraft engaged in international transport are not included in the totals and were not reported separately (paragraph 78). • The ERT noted that Bulgaria did not provide the following reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – projections presented on a gas-by gas basis for PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case); – projections for the LULUCF and the solvent and other product use sectors; – projections presented together with actual data for the base year (1988) in accordance with Article 4, paragraph 6, of the Convention (paragraph 79). • The Party has not provided projections of non-methane volatile organic compounds (NMVOCs) and sulphur dioxide (SO₂) (paragraph 80). • The ERT recommends that Bulgaria report, in its next NC, the emission projections using, to the



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	<p>extent possible, the same sectoral categories as those used in the section on PaMs (paragraph 83).</p> <ul style="list-style-type: none"> • The ERT encourages Bulgaria to use the same data for the GDP growth and other variables for all projection scenarios (paragraph 87). • The ERT encourages Bulgaria to reconsider the assumptions that underpin the rates of GHG emission growth used for the projections (paragraph 95).
<p>Canada (FCCC/IDR.5/CAN)</p>	<ul style="list-style-type: none"> • Canada did not provide the following reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – emission projections presented relative to actual inventory data for the preceding years; – projections presented on a sectoral basis (to the greatest extent possible, using the same sectoral categories used in the PaMs section); – projections presented on a gas-by-gas basis for the following GHGs: CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case); – emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 75). • The updated projections provided during the review included all mandatory elements, but did not include projections for LULUCF (paragraph 76). • In its NC5, Canada did not provide the relevant information on the factors and activities for each sector for the years 1990 to 2020 (paragraph 79). • The ERT noted that, in its NC5, Canada did not present its projections relative to its target for the first commitment period of the Kyoto Protocol (2008–2012). Also, despite the request by the ERT, Canada did not present a comprehensive plan to close the gap to its KP target (paragraph 83). • To increase transparency, the ERT encourages Canada to report its projections and the total effects of its policies and measures in the format requested by the UNFCCC reporting guidelines (paragraph 89).
<p>Croatia (FCCC/IDR.5/HRV)</p>	<ul style="list-style-type: none"> • Croatia did not provide the reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – projections for the LULUCF sector; – projections presented on a gas-by-gas basis for each sector for the following GHGs: CO₂, CH₄ (for all sectors, except for the agriculture sector), N₂O (for all sectors, except for the agriculture sector), PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case); – emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 56). • The ERT noted that information on accounting for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol has not been reported in the NC5 either (paragraph 65). • The ERT further encourages Croatia to enhance the transparency of its reporting on projections by providing information on factors and PaMs affecting emission trends during the period 1990–2009 and how these factors affect the projections until 2020 (paragraph 65).
<p>Czech Republic (FCCC/IDR.5/CZE)</p>	<ul style="list-style-type: none"> • The Czech Republic did not provide four reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – projections presented on a sectoral basis, using the same sectoral categories used in the PaMs section; – projections presented on a gas-by-gas basis for HFCs, PFCs and SF₆; – projections in an aggregated format for each sector, using global warming potential values; – and emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 69). • The ERT reiterates the recommendation made in the previous review report that projected emissions from international bunkers should be reported separately (paragraph 69). • As controlling emission levels in this sector might be key to reaching the domestic 2020 emission target, the ERT encourages the Czech Republic to study the impact of planned and potential additional PaMs in the transport sector (paragraph 78). • The ERT encourages the Czech Republic to put more emphasis on the projections for the non-ETS sector, since the ETS sector is expected to fulfil its requirements, as installations covered by the EU ETS face severe consequences in the case of noncompliance (paragraph 76).
<p>Denmark (FCCC/IDR.5/DNK)</p>	<ul style="list-style-type: none"> • The ERT noted that the sector categories used in the projections section of the Party's NC5 are not fully consistent with those used in the PaMs section (paragraph 65). • However, a 'with additional measures' scenario is not provided. The ERT therefore encourages Denmark to provide such an additional scenario in its next national communication (paragraph 66).



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	<ul style="list-style-type: none"> The ERT encourages Denmark, in its next national communication, to elaborate on the major changes in assumptions and results between subsequent national communications (paragraph 69).
Estonia (FCCC/IDR.5/EST)	<ul style="list-style-type: none"> The ERT noted that in its NC5, Estonia did not fully follow the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – the projections presented on a sectoral basis did not fully correspond to the sectoral categories used in the section on PaMs; – the emission projections related to fuel sold to ships and aircraft engaged in international transport were not reported separately; – and the projections for the LULUCF sector were not reported (paragraph 64); – the total effect of PaMs presented by GHG (paragraph 76). The ERT also noted that Estonia did not report in the NC5 on its accounting for the activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol (paragraph 73).
European Union (FCCC/IDR.5/EU)	<ul style="list-style-type: none"> The ERT noted that additional information on the gap-filling method used was available in the updated projections report and the accompanying technical paper, which describe in detail the aggregation methodology. The ERT noted this additional information and encourages the EU to improve the transparency of the next national communication by including in it these elements (paragraph 85). The NC5 presented limited information on assumptions used in the projections and did not include a discussion on how the key assumptions have changed since the NC4. The ERT encourages the EU to provide this information in the next national communication (paragraph 87). The ERT considers that a sensitivity analysis of key assumptions is an important aspect of transparency of the projection and encourages the EU to include this analysis in its next national communication (paragraph 89). The ERT noted the limited discussion of sectoral projections presented in the NC5 and encourages the EU to provide this information in its next national communication (paragraph 98). The ERT noted that the EU did not provide the estimated total effect of implemented and adopted PaMs for the years 1995, 2000 and 2005. Acknowledging that time is needed to design and implement a robust monitoring system of the effects of PaMs, the ERT recommends that the EU report the total effect of PaMs for the years 1995, 2000 and 2005 in its next NC (paragraph 100).
Finland (FCCC/IDR.5/FIN)	<ul style="list-style-type: none"> Although it was recommended in the previous IDR report, Finland has not included projections of emissions from fuel used in international transport in the projections chapter of its NC5 (paragraph 59). The ERT encourages Finland to update its projections for F-gases taking into account the recent trends in these emissions, and to review its projections for N₂O emissions in its next NC (paragraph 68).
France (FCCC/IDR.5/FRA)	<ul style="list-style-type: none"> However, the ERT noted that France did not provide emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 91). The presentation of sectoral emissions in the projection section of the NC5 does not fully correspond to the sectoral disaggregation of PaMs in the PaMs section (paragraph 92). The ERT noted that the estimate of the total effect of PaMs based on the comparison of the ‘without measures’ and ‘with measures’ scenarios bears considerable uncertainty, as the two scenarios are derived from different models and are based on different macroeconomic assumptions. The ERT encourages France to either provide a consistent set of ‘without measures’ and ‘with measures’ scenarios or to use a different approach to estimate the total effect of PaMs in order to improve the estimate of the total effect of measures. Also, the ERT encourages France to provide a discussion of the effects of PaMs by sector in its next national communication (paragraph 104).
Germany (FCCC/IDR.5/DEU)	<ul style="list-style-type: none"> The ERT noted that ‘without measures’ scenarios were prepared at the sectoral level, but not for the national total (paragraph 69). The ERT noted that a ‘with additional measures’ scenario was prepared but not reported in the NC5. The ERT appreciates the elaborate and comprehensive efforts made by the Party and encourages Germany to consider the inclusion of a ‘with additional measures’ scenario, if applicable, in its next national communication (paragraph 70). Given the significant impact of the financial and economic crisis on GHG emissions, the ERT encourages Germany to continue its consideration of economic sensitivities (paragraph 74). The ERT noted that the effects of the Party’s PaMs are quantified for the energy sector only, and that the total effect does not include the effects of successfully implemented PaMs in other sectors (e.g. in the waste sector). As a result, the reported total effect of the Party’s PaMs might



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	have been underestimated (paragraph 82).
Greece (FCCC/IDR.5/GRC)	<ul style="list-style-type: none"> • A ‘without measures’ scenario has not been reported (paragraph 71). • While an outline of the targets for RES use has been provided, the ERT found that the NC5 has not provided sufficiently clear information on the energy efficiency objectives to be achieved by 2020 and how these objectives were reflected in projections (paragraph 79). • The ERT noted that the projections reported in the NC5 do not take fully into account the effect from the EU ETS, as they include the projected emissions from the EU ETS sectors instead of the allocated allowances according to the second NAP. However, the updated projections provided to the ERT during the review had taken this effect into account (paragraph 86).
Hungary (FCCC/IDR.5/HUN)	<ul style="list-style-type: none"> • The ERT noted that the latest projections had not been updated to take into account the effects of the recent global recession. However, the short term impact was considered by setting activity rate changes between 2005 and 2010 to a very low level (stagnation) (paragraph 80). • The ERT noted that Hungary did not provide the following reporting elements required by the UNFCCC reporting guidelines: the estimated and expected total effect of implemented and adopted PaMs in accordance with the ‘with measures’ definition, compared with a situation without such PaMs, presented in terms of GHG emissions avoided or sequestered in 1995 and 2000 (paragraph 83).
Iceland (FCCC/IDR.5/ ISL)	<ul style="list-style-type: none"> • The ERT noted that in the NC5 Iceland did not provide the following reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – projections presented on a gas by gas basis for the following GHGs: CO₂, CH₄, N₂O, PFCs, hydrofluorocarbons (HFCs) and sulphur hexafluoride; – aggregated projections for the energy and LULUCF sector as well as for a national total, using global warming potential values; – emission projections related to fuel sold to ships and aircrafts engaged in international transport (paragraph 59). • In addition, projections in numerical format were not provided in the NC5 (paragraph 59). • In the NC5, Iceland did not provide the following reporting elements required by the UNFCCC reporting guidelines: an estimate of the total effect of its PaMs, in accordance with the ‘with measures’ definition, compared with a situation without such PaMs, presented in terms of GHG emissions avoided or sequestered, by gas (on a CO₂ eq basis) in 1995 and 2000, and relevant information on factors and activities for each sector for the years 1990 to 2020. Significant improvement has been made in the quantitative analysis of measures during the preparation of the 2010 Action Plan (paragraph 74). • The ERT encourages the Party to follow the UNFCCC reporting guidelines more closely in the submission of its next national communication, particularly in reporting on methodology and the sensitivity of projections to changes in external parameters and implementation issues (paragraph 76).
Ireland (FCCC/IDR.5/ IRL)	<ul style="list-style-type: none"> • The ERT noted that in its NC5 Ireland did not provide the following elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – projections presented on a gas-by-gas basis for CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case); – emission projections related to fuel sold to ships and aircraft engaged in international transport. However, during the review Ireland provided detailed information on these reporting elements (paragraph 66). • The ERT recommends that Ireland present information on the use of Kyoto Protocol mechanisms that is supplemental to domestic action in a more transparent way in its next national communication (paragraph 80).
Italy (FCCC/IDR.5/ ITA)	<ul style="list-style-type: none"> • The ERT noted that, in its NC5, Italy did not provide the following reporting elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – emission projections related to fuel sold to ships and aircraft engaged in international transport; – total effect of implemented and adopted PaMs. However, during the review, Italy provided detailed and updated information on the missing reporting elements (paragraph 70). • During the review, Italy provided the ‘with existing measures’ and ‘with additional measures’ scenarios with recent data updated up to 2010. The ERT encourages Italy to include the ‘with additional measures’ scenario in its next national communication (paragraph 71). • Some of the key assumptions were not provided by Italy in its NC5, including: the industrial value added at subsectors; the number of households; the expected evolution of energy demand; and the increase in the use of a number of appliances. The ERT encourages Italy to include this



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	<p>information in its next national communication and to provide further information on key assumptions (paragraph 73).</p> <ul style="list-style-type: none"> The ERT encourages Italy to present the detailed information on the use of Kyoto Protocol mechanisms, including the amount of investment for each fund and the number of projects, in its next national communication (paragraph 85).
<p>Japan (FCCC/IDR.5/JPN)</p>	<ul style="list-style-type: none"> No projections were provided for 2015 and 2020, although the reporting guidelines refer to such years for the reporting on projections (paragraph 92). Projections of emissions and removals from the LULUCF sector are not reported. The ERT recommends that Japan report projections on emissions and removals from the LULUCF sector in its next national communication (paragraph 94). Projections for emissions from bunker fuels are reported for aviation bunker fuels and not included in the national totals, following the requirements of the reporting guidelines (paragraph 95). The ERT noted that the WAM scenario does not strictly follow the definition in the UNFCCC reporting guidelines, which includes planned measures in addition to the implemented and adopted measures (paragraph 97). The ERT recommends that Japan provide information on how its use of Kyoto mechanisms is supplemental to domestic action in its next national communication (paragraph 114).
<p>Latvia (FCCC/IDR.5/LVA)</p>	<ul style="list-style-type: none"> The ERT noted that Latvia did not provide the following reporting elements: <ul style="list-style-type: none"> – emission projections presented relative to actual inventory data for the preceding years; – projections presented on a gas-by-gas basis for PFCs; – emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 54); – an estimate of the total effect of its PaMs, in accordance with the ‘with measures’ definition, compared with a situation without such PaMs (paragraph 66). ERT strongly reiterates the recommendation made in the previous review report that projected emissions from international bunkers should be reported separately and not included in the national totals (paragraph 55). The ERT encourages Latvia to elaborate the methodology used to project emissions and removals from LULUCF in the next NC to at least the level of detail as reported in the NC4 (paragraph 60). The projections were prepared in 2007 and do not include the effects of the recent global financial crisis and higher oil prices. However, the ERT noted that the projections would have been outdated by the global financial crisis and changes in energy price expectations around 2009. The ERT therefore encourages Latvia to use the most recent information available at the time projections are submitted (paragraph 61). In summary, the ERT strongly recommends that Latvia provide an estimate of the total effect of PaMs in its next NC, and encourages Latvia to present information relative to the most recent inventory data (paragraph 69).
<p>Liechtenstein (FCCC/IDR.5/LIE)</p>	<ul style="list-style-type: none"> The ERT noted that Liechtenstein did not provide the following reporting elements required by the UNFCCC reporting guidelines (paragraph 33): <ul style="list-style-type: none"> – the estimated and expected total effect of implemented and adopted PaMs for sectors other than energy; – an estimate of the total effect of its PaMs, in accordance with the ‘with measures’ definition, compared with a situation without such PaMs, presented in terms of GHG emissions avoided or sequestered, by gas (on a CO₂ eq basis) in 1995 and 2000; – and relevant information on factors and activities for each sector for 1990- 2020 (paragraph 57). The ERT recommends that Liechtenstein improve the completeness of its reporting by providing all reporting elements required by the UNFCCC reporting guidelines in its next national communication (paragraph 57). The ERT therefore recommends that Liechtenstein provide more explicit information on supplementarity relating to the KP mechanisms in its next NC (paragraph 60).
<p>Lithuania (FCCC/IDR.5/LTU)</p>	<ul style="list-style-type: none"> Lithuania did not provide the following reporting elements required by the UNFCCC reporting guidelines: emission projections presented relative to actual inventory data for the preceding years and emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 50). There is no information provided to explain the basic nature of the modelling, such as the basic characteristics of the models used for the non-energy sectors, the original purpose of the model, the key assumptions and drivers of the emission projections, and the relationship between energy



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	<p>prices and fuel switching (paragraph 52).</p> <ul style="list-style-type: none"> The ERT notes that Lithuania has not reported the assumptions used for variables such as GDP, population, oil prices and other energy prices, energy efficiency improvements and exchange rates (paragraph 53).
<p>Luxembourg (FCCC/IDR.5/LUX)</p>	<ul style="list-style-type: none"> The ERT noted that the Party did not provide emission projections related to the fuel sold to ships and aircraft engaged in international transport in the NC5. The ERT also noted that the projections for the LULUCF sector were not reported in the NC5, but were provided during the review. The ERT recommends that Luxembourg report projections for the LULUCF sector in its next NC (paragraph 58). Luxembourg did not provide information on the assumptions used for each individual PaM when preparing the projections for the ‘with measures’ and ‘with additional measures’ scenarios, where the effects of the PaMs were aggregated. The ERT encourages Luxembourg to improve the reporting on the assumptions used for the projections in its next NC (paragraph 63). The ERT strongly encourages Luxembourg to develop a more elaborated sensitivity analysis for the projections in order to provide a better understanding of the impacts of uncertainty on the outcome of its climate policies (paragraph 64). The ERT noted that Luxembourg did not provide information on the GHG emissions avoided or sequestered by gas (on a CO₂ eq basis). The ERT recommends that Luxembourg present this information in its next NC. The Party did not present estimates of the total effect of PaMs in 1995, 2000 and 2005. The ERT recommends that Luxembourg provide these estimates in the next NC in the light of a modified ‘without measures’ approach (paragraph 70). In its NC5, Luxembourg did not provide sufficient information on how its use of the mechanisms under Articles 6, 12 and 17 of the KP is supplemental to domestic action (paragraph 72). The ERT recommends that Luxembourg complete its consideration of how its use of the flexibility mechanisms is supplemental to domestic action and how its domestic action constitutes a significant element of its efforts to meet its Kyoto Protocol target, and that the Party clearly document its decision and report thereon in its next national communication (para. 74).
<p>Monaco (FCCC/IDR.5/MCO)</p>	<ul style="list-style-type: none"> The ERT noted that Monaco has reported the projections not in full accordance with the UNFCCC reporting guidelines, as it has not reported the ‘without measures’ projection (paragraph 57). Moreover, the ERT noted that the emissions reported in the tables on scenarios in the NC5 for 2007 do not match the emissions reported in the 2011 annual submission (paragraph 60). The ERT acknowledges the difficulty of reporting emission projections for a very small country, which comprises an urban area. However, the ERT recommends that Monaco report the emission projections for the period up to 2020 in line with the UNFCCC reporting guidelines and use the latest GHG inventory data as a reference (paragraph 61). The ERT recommends to report the total effect of the PaMs implemented and adopted, in accordance with the ‘with measures’ scenario, compared with a situation without (paragraph 67).
<p>Netherlands (FCCC/IDR.5/NLD)</p>	<ul style="list-style-type: none"> The ERT noted that the NC5 does not present the projections for non-CO₂ GHG emissions or the sectoral projections relative to historical data. The ERT recommends that the Netherlands include complete projections for the LULUCF sector in its next NC (paragraph 68). The ERT recommends that the Netherlands provide, in its next NC, further information on how its use of the KP mechanisms is supplemental to domestic action (paragraph 86).
<p>New Zealand (FCCC/IDR.5/NZL)</p>	<ul style="list-style-type: none"> However, the ERT noted that while NC5 provided information on key assumptions, key assumptions and drivers for each sector (for the updated projections) were not provided. The ERT therefore recommends that New Zealand include this information in its next NC (paragraph 88). Although the NC5 states that the effects of the ETS are included in the projections for the energy, agriculture and forestry sectors, the ERT noted that, in fact, the direct effect of the ETS in the agriculture sector was not modelled. The ERT encourages New Zealand to improve the transparency of its reporting of the models used for the projections and to describe the ‘with measures’ scenario as including the quantifiable effects of the ETS (paragraph 90). The ERT noted further inconsistencies: the NC5 states that the ‘with measures’ projection scenario includes the effect of nitrification inhibitors in the agriculture sector, whereas the ERT noted that nitrification inhibitors, at differing levels of application, are in fact included in both the ‘with measures’ and the ‘without measures’ scenarios (paragraph 91). While the NC5 presents the key economy-wide assumptions used across all sectors, the ERT noted that it did not present sector-specific information on factors, activities and assumptions that would provide an understanding of emission trends for each sector. Given the importance of the



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	<p>agriculture and forestry sectors to New Zealand's emissions profile, the specific sectoral assumptions are critical to the overall emissions story for New Zealand. The ERT recommends that New Zealand provide sector-specific information on key assumptions and drivers in its next national communication (paragraph 99).</p> <ul style="list-style-type: none"> The ERT noted that New Zealand did not provide an estimate of the total effect of PaMs in 2010 as required by the UNFCCC reporting guidelines (paragraph 106).
<p>Norway (FCCC/IDR.5/NOR)</p>	<ul style="list-style-type: none"> The ERT noted that the effect of the global financial and economic crisis in 2008-2009 was not included in the scenario (paragraph 65). The ERT encourages Norway to include in its next national communication a 'without measures' scenario and, if relevant, a 'with additional measures' scenario (paragraph 70). The ERT noted that, according to the description of the policymaking process in the NC5, cost-effectiveness is a crucial principle in Norway's overall climate policy. Therefore, the ERT encourages the Party to increase its capacity to analyse the cost and mitigation effects of different PaMs, as cost-effectiveness is expected to become an even more important factor in the period after 2011 (paragraph 73). The ERT recommends that Norway provide, in its next NC, the estimated and expected total effect of the complete set of its implemented and adopted domestic PaMs (paragraph 74).
<p>Poland (FCCC/IDR.5/POL)</p>	<ul style="list-style-type: none"> The ERT notes that Poland did not include 'without measures' or 'with additional measures' scenarios (paragraph 77). The ERT notes that, in its NC5, Poland did not provide the following reporting elements: <ul style="list-style-type: none"> emission projections for the LULUCF sector; emission projections related to fuel sold to ships and aircraft engaged in international transport (which should be reported separately and not included in the totals); The sectors used in the section on projections do not fully correspond to the sectors used in the section on PaMs (paragraph 78). The ERT reiterates a recommendation of the previous review report that Poland establish a clear link between the PaMs and their quantified effects, on the one hand, and the total effect of PaMs as reflected in the projection scenarios, on the other hand. The ERT also encourages Poland to develop a 'with additional measures' scenario in order to include the effect of planned PaMs and to report on such a scenario in its next national communication (paragraph 80). The ERT notes that: the projections for the industrial processes sector are based on limited activity data;; the projected increasing emission trend until 2020 in the waste sector is not in line with the observed decreasing emission trend for the period 2000–2009 (paragraph 91).
<p>Portugal (FCCC/IDR.5/PRT)</p>	<ul style="list-style-type: none"> The ERT noted that emission projections related to fuel sold to ships and aircraft engaged in international transport were not reported (paragraph 70). Portugal did not provide an estimate of the total effect of implemented and adopted PaMs, in accordance with the 'with measures' scenario, compared with a situation without such PaMs (paragraph 75). The ERT noted that projections of emissions and removals for the LULUCF sector were not presented for 2015 and 2020, and recommends that Portugal present such projections in its next national communication, in line with the UNFCCC reporting guidelines (paragraph 88). The ERT recommends that Portugal provide, in its next national communication, an estimate of the total effect of its adopted and implemented PaMs by gas and by sector for the years 2005, 2010, 2015 and 2020 in tabular format, as required by the UNFCCC reporting guidelines (paragraph 90).
<p>Romania (FCCC/IDR.5/ROU)</p>	<ul style="list-style-type: none"> The NC5 does not report emission projections related to the fuel sold to ships and aircraft engaged in international transport (paragraph 64). The ERT noted the urgent need to update the projections (paragraph 75). The ERT noted that the scenarios do not fully reflect recent economic and structural changes and that, as a result, the reported total effect of implemented and adopted PaMs is based on a hypothetical situation (paragraph 76). The ERT noted that the assumptions relating to energy consumption and industrial production levels have not been updated and so do not include the effects of the recent global financial and economic crisis. The ERT noted that the fuel prices considered for 2010, 2015 and 2020 are relatively low (paragraph 70). The ERT noted that the historical data used for the projections of F-gases have been considerably revised in the Party's 2011 annual submission, and that, as a result, the projections for F-gases should also be revised (paragraph 74).



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Russian Federation (FCCC/IDR.5/RUS)	<ul style="list-style-type: none"> The ERT encourages the Russian Federation to follow, in its next NC, a consistent structure in relation to the sector categories used in both the PaMs and the projections section (paragraph 87). The ERT further noted that the Russian Federation did not report in the NC5 the following elements required by the UNFCCC reporting guidelines: <ul style="list-style-type: none"> – emission projections related to fuel sold to ships and aircraft engaged in international transport reported separately from the national totals. The ERT reiterates the recommendation made in the previous review report that the Russian Federation exclude the emission projections related to fuel sold to ships and aircraft engaged in international transport from the totals, and report, to the extent possible, separate projections of emissions related to fuel sold to ships and aircraft engaged in international transport in its next national communication (paragraph 88). The ERT recommends that the Russian Federation report at least the ‘with measures’ projection, encompassing currently implemented and adopted PaMs in its next NC (paragraph 89). The ERT noted that the information on the methodology used for projections reported in the NC5 was limited to the LULUCF sector only. No discussion was provided on the differences with the NC4 as required by the UNFCCC reporting guidelines. The relevant information on factors and activities for each sector for the years 1990 to 2020 was also not presented. The ERT encourages the Russian Federation to report, in its next NC, the main differences in the methodology used for projections reported in the current and earlier NCs (paragraph 90). The NC5 contains information on the assumptions used for projections, such as GDP and population growth, tax levels and international fuel prices although to a limited extent and it does not contain information on the sensitivity analysis of projections to key assumptions since such analysis was not conducted. The ERT encourages the Russian Federation to improve in its next NC the transparency of its reporting on projections by including more detailed information on the models used, on key assumptions and parameter values (paragraph 93). The ERT noted that the Russian Federation did not provide an estimate of the total effect of PaMs in accordance with the “with measures” scenario definition, compared with a situation without such PaMs, presented in terms of GHG emissions avoided or sequestered, by gas, for 2010, 2015 and 2020. The ERT, therefore, strongly recommends that the Russian Federation provide complete information on the estimates of the total effect of PaMs in its next NC (paragraph 102).
Slovakia (FCCC/IDR.5/SVK)	<ul style="list-style-type: none"> The ERT noted that in the NC5 in most of the sectors, except for agriculture and industrial processes, the sectoral categories used in the section on projections are not fully consistent with those used in the section on PaMs, which it not in line with the UNFCCC reporting guidelines. Moreover, the projections of carbon removals in LULUCF are not consistently reported in the ‘without measures’ and ‘with measures’ scenarios (paragraph 57). The ERT noted that Slovakia has not reported on the assumptions related to the prices and costs used in the models and projections. To the extent that these variables play a role in the projection calculations, the ERT encourages Slovakia, in its next NC, to report and provide an analysis of the impact of price and cost assumptions (paragraph 62). The ERT noted that the NC5 does not present sector-specific information on factors and PaMs affecting emission trends and projections during the period 1990–2020 (paragraph 70).
Slovenia (FCCC/IDR.5/SVN)	<ul style="list-style-type: none"> Emission projections related to fuel sold to ships and aircraft engaged in international transport were not reported in the NC5 (paragraph 56). The ERT noted that Slovenia did not provide the following reporting elements required by the UNFCCC reporting guidelines: the estimated and expected total effect of implemented and adopted PaMs, in accordance with the ‘with measures’ definition, compared with a situation without such PaMs and relevant information on factors and activities for each sector for the period 1990 to 2020 (paragraph 69).
Spain (FCCC/IDR.5/ESP)	<ul style="list-style-type: none"> The ERT noted that emission projections related to fuel combustion from ships and aircraft engaged in international transport, were not reported by Spain (paragraph 72). A methodological change in the calculation of emissions was included as an ‘additional’ measure in the agriculture sector, which is not consistent with the scenario definition in the UNFCCC reporting guidelines (paragraph 74). The ERT noted that the ‘without measures’ scenario does not reflect economic and structural changes since 2000. As a result the reported total effect might have been overestimated (paragraph 83).
Sweden (FCCC/IDR.5/SWE)	<ul style="list-style-type: none"> The ERT recommends that Sweden provide disaggregated projections for the F-gases (paragraph 70). The ERT noted that Sweden has reported almost all mandatory information on emission



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	<p>projections required by the UNFCCC reporting guidelines, but information on some key underlying assumptions and factors was not provided, including industrial output and numbers of households.</p> <ul style="list-style-type: none"> The ERT encourages Sweden to report this information in future national communications (paragraph 71).
<p>Switzerland (FCCC/IDR.5/CHE)</p>	<ul style="list-style-type: none"> The ERT encourages Switzerland to provide a complete ‘with additional measures’ scenario disaggregated by sector for 2010, 2015 and 2020 (paragraph 67). The ERT noted that Switzerland did not provide relevant information on the factors and activities influencing emissions from the transport sector that are projected to stabilize 2015-2030 (paragraph 75).
<p>Ukraine (FCCC/IDR.5/UKR)</p>	<ul style="list-style-type: none"> The ERT noted that Ukraine did not provide the following reporting elements required by the UNFCCC reporting guidelines: the total effect of implemented and adopted PaMs and emission projections related to fuel sold to ships and aircraft engaged in international transport (paragraph 89). The ERT noted that the definitions of the three emission scenarios provided in the NC5 do not fully comply with the definitions set out in the UNFCCC reporting guidelines (paragraph 90). The ERT noted that, owing to complexity and the large number of assumptions and variables used, the updating of the Excel application based model (especially for the energy sector) may be complicated, and it encourages Ukraine to develop a sustainable projection model that enables an update of the projections in a systematic way (paragraph 94). The ERT noted that Ukraine did not provide a sensitivity analysis of the projections and encourages the Party to analyse the sensitivity of the projections to the main variables, such as GDP, and a share of coal in total primary energy supply (paragraph 96).
<p>United Kingdom of Great Britain and Northern Ireland (FCCC/IDR.5/GBR)</p>	<ul style="list-style-type: none"> The ERT noted that the sectoral categories used in the projections section are not fully consistent with those used in the PaMs chapter and that no explanation of the correspondence between the sectoral categories used and the CRF categories was provided (paragraph 83). The ERT noted that in most cases, total emission projections include the net effects of emissions and removals from activities under Article 3, paragraphs 3 and 4 of the Kyoto Protocol, which is not always transparent (paragraph 84). The ERT noted that the NC5 does not present any emission projections related to fuel sold to ships and aircraft engaged in international transport, and recommends that the United Kingdom report such emission projections separately, and not included in the totals, in its next national communication (paragraph 85). The ERT recommends that the United Kingdom clarify the status of the PaMs included in its emission scenarios, and ensure that the definitions used are compatible with those provided in the UNFCCC reporting guidelines (“implemented”, “adopted” and “planned” PaMs). It encourages the United Kingdom to provide ‘with additional measures’ and ‘without measures’ projection scenarios in its next national communication (paragraph 86). The ERT notes the high level of uncertainty associated with expected emission reductions in the agriculture and the waste sectors and encourages the United Kingdom to further define the policies and measures which will be implemented to achieve expected emission savings by 2020 (paragraph 93).
