This document is intended to cover all substantive edits that were made to the Chapters, Annexes or the Technical Summary of Working Group III's contribution to the IPCC Fifth Assessment Report from the Final Government Distribution on 17 December 2013. The changes listed have been introduced in order to clarify statements, correct mistakes, and/or ensure consistency across chapters and summaries. In addition, missing and/or incomplete references have been included or updated throughout the volume. However, the list might not be fully comprehensive and copy edits are generally not part of this list. This final version of the Substantive Edits List needs to be read alongside the final, published report available at www.mitigation2014.org.

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1 22 4 8 Text deleted ‘Present global greenhouse gas emissions...13% and 7% respectively (Figure 1.3a) as repetition.’ Error Correction
1 23 4 5 Text replaced to read ‘Inset shows trends in annual per capita mean (solid lines) and median (dotted lines) GHG emissions by region 1970–2010 in tonnes of CO2eq (t/cap/yr)...’ Consistency
1 23 4 6 Caption amended for consistency with TS to read ‘Inset shows trends in annual per capita mean (solid lines) and median (dotted lines) GHG emissions by region 1970–2010 in tonnes of CO2eq (t/cap/yr)...’ Consistency
1 24 2 6 Caption amended for consistency with TS to read “CO2 emissions from fossil fuel combustion for the four economic regions attributed on the basis of territory (solid line) and final consumption (dotted line) in gigatonnes of CO2 per year (Gt/yr). The shaded areas are the net CO2 trade balance (difference...between each of the four country groupings (see figure 1.1) and the rest of the world. Brown shading indicates that the region is a net importer of emissions, leading to consumption-based CO2 emission estimates...” Consistency
1 24 6 9 ‘production’ replaced by ‘territory’ (2 instances) Consistency
1 24 10 11 References amended. Sentence now reads ‘Figures based on Caldeira and Davis (2011) and Peters et al. (2012) but with data from Eora, a global multi-regional input-output model (Lenzen et al., 2012) and Lenzen et al., 2013)” Error Correction
1 25 2 4 Caption amended for consistency with TS to read “Greenhouse gas emissions measured in gigatonnes of CO2eq per year (Gt/yr) in 1970, 1990 and 2010 by five economic sectors (Energy supply, Transport, Buildings, Industry as well as Agriculture, Forestry and Other Land Use (AFOLU)), and four economic regions (see caption to figure 1.1). ‘Bunkers’ refers to emissions from international transportation...” Consistency
1 25 12 12 including’ replaced by ‘adjusting emissions statistics to assign’ Clarification
1 25 13 13 residential’ replaced by ‘buildings’ Error Correction
1 25 14 14 Percentages replaced to read ‘11% and 12% to reach levels of 31% (industry) and 19% (buildings) Error Correction
1 25 24 25 Sentence amended to read ‘...showing that the large group of countries other than the highly industrialized nations continue to grow despite the world economic crisis.’ Consistency
1 26 36 36 while economic growth rates have been much lower’ replaced by ‘in some countries’. Error Correction
1 27 1 1 Figure 1.7. Y-axis label changed to read ‘Change in Annual CO2 Emissions by Decade...’, and y-axis labels changed to begin in 1970, 1980, 1990 and 2000 respectively. Error Correction
1 27 2 2 Deleted text ‘The ‘Kaya identity’ components and their effect on total emissions levels.’ Consistency
1 27 2 5 Caption amended for consistency with TS to read “Decomposition of decadal absolute changes in global energy-related CO2 emissions by Kaya factors; population (blue), GDP per capita (red), energy intensity of GDP (green) and carbon intensity of energy (purple)...” Consistency
1 27 3 4 Text further amended to read “Decomposition of the change in total annual CO2 emissions from fossil fuel combustion by decade and four driving factors...” Consistency
1 27 6 6 ‘emission’ replaced with ‘emissions’ Consistency
1 27 6 7 Beginning of sentence reworded to read ‘The change in emissions over each decade is measured in gigatonnes of CO2 per year [GtCO2/yr]...’ Consistency
1 27 16 26 Text deleted as repetition ‘So far, while...barely changed from 1990 to 2010 (8% and 86% respectively) (IEA, 2012b).’ Error Correction
1 28 44 44 Text deleted ‘mainly’ Consistency
1 31 1 3 ‘Mean’ replaced by ‘median’ Consistency
1 31 2 2 Figure 1.8d. Y-axis label on both main figure changed to be: GHG Emission Error Correction
1 31 7 7 Add ‘change’ between ‘climate’ and ‘mitigation’ Consistency
1 31 9 9 ‘production’ replaced by ‘territory’ Consistency
1 31 18 18 solid lines showing the median and diamonds for the mean’ changed to ‘horizontal bars identify the median and diamonds the mean’ Clarification
1 31 20 20 Text inserted ‘as well as (inset) for the four groupings of countries Shadings show the 10th to 90th percentile range (light) as well as the 25th to 75th percentile range (dark); horizontal bars identify the median and diamonds the mean. Country names are abbreviated using the three letter standardization maintained by the International Organization for Standardization (ISO, standard 3166)” Clarification
1 31 23 23 Reference inserted ‘Hohne et al, 2011’ Error Correction
1 31 24 25 Caption amended to read ‘...high and low plausible values for land use emissions are two different datasets provided in the MATCH analysis...’ Clarification
1 32 5 5 Sentence amended to read ‘A fifth perspective is the carbon efficiency of different economies.’ Clarification
1 32 12 12 Text inserted ‘This shift also often includes a change from higher carbon primary fuels to less carbon-intensive fuels.’ Clarification
1 33 24 25 Second half of sentence amended to read “the atmosphere by natural processes since those processes are not perfectly understood” Clarification
1 33 38 38 Text deleted ‘(right inset)’ Error Correction
1 33 38 38 Text inserted ‘Because it is practically difficult to orient policy around very long term goals,’ Error Correction
1 33 40 43 Text shifted to below following paragraph. Clarification
1 34 11 11 Copenhagen replaced by 'Cancun' Consistency
1 34 15 15 Text inserted: 'The middle inset in figure 1.9 shows those pledges and suggests that they may be consistent with some scenarios that stabilize concentrations at around 550 ppm CO2-eq but are inconsistent with the least cost scenarios that would stabilize concentrations at 450ppm CO2-eq.' Error Correction
1 34 16 16 Text inserted: 'That point is illustrated in the upper right inset which shows how assumptions about the timing of mitigation and the availability of technologies affects a subset of scenarios that stabilize concentrations between 450ppm CO2-eq and 550ppm CO2-eq. Least cost, optimal scenarios depart immediately from BAU trajectories. However, such goals can be reached even if there are delays in mitigation over the next two decades provided that new technologies become available that allow for extremely rapid reductions globally in the decades immediately after the delay.' Clarification
1 34 28 28 Text inserted: 'global' Clarification
1 34 32 32 Replace 'sequestration' by 'dioxide capture and storage' Consistency
1 34 48 48 Text inserted: 'Some models also allow for an 'overshoot' of peak concentrations, which makes it easier for the model to reach long-term stabilization but lowers the odds that stabilization will limit actual warming to a particular target.' Clarification
1 35 1 1 legend in right inset amended to switch 'with delays' and 'without delays' Error Correction
1 35 9 9 left inset changed to 'bottom left inset' Clarification
1 35 10 10 middle inset changed to 'top left inset' Clarification
1 35 11 20 Text amended to read: 'The bottom left inset shows recent historical emissions and is the same as figure 1.3c. The top left inset shows the same scenarios from the main figure, but with more detail over the next few decades, including the relationship between the Cancun pledges and the various stabilization scenarios. The top right panel looks instead at long-term patterns in emissions and explores the effects of delays to 2030. It focuses on a subset of the mitigation scenarios from the main panel that are consistent with limiting atmospheric concentrations of CO2 to about 450 ppm CO2eq to 550 ppm CO2eq—a goal broadly consistent with limiting warming to about 2 degrees above pre-industrial levels by 2100 and thus a topic that many models have examined in some detail. The dark green fans show model estimates for optimal least cost strategies for stabilization; light green fans show least cost mitigation with emissions that track baseline scenarios until 2030 and then make deep cuts with the assumption that new technologies come into place. Chart also shows in light black a subset of scenarios based on the premise that very large quantities of net negative emissions (about 40 GtCO2eq/yr by 2100) can be achieved and thus illustrate how assumptions of negative emissions technology may influence the expected time path of emissions.' Clarification
1 36 19 19 middle inset changed to 'top left inset' Clarification
1 36 20 20 Copenhagen changed to 'Cancun' Error Correction
1 36 22 22 Text inserted: 'These low G1 scenarios are shown, as well, in purple on figure 1.9—they lead, systematically, to emissions that are significantly lower than standard BAU scenarios.' Clarification
1 36 29 29 Data corrections in figure 1.10 in line with changes to figure 6.24 Error Correction
1 37 18 19 Text amended to read: "...over eight broad areas of development that span eradicating extreme poverty and hunger, reducing child mortality, combating HIV/AIDS, malaria and other diseases. Within those broad areas the MDGs include 18 specific targets." Clarification
1 37 39 39 Text inserted (see Section 3.6). Consistency
1 39 22 22 Add 'change' between 'climate' and 'mitigation' Consistency
1 40 30 30 at the global level replaced by 'with emissions' Clarification
1 40 31 31 In turn, that will require closer attention to 'replaced by' Achieving those changes will require closer attention to policies that affect... Clarification
1 40 33 33 Delete 'carbon' Consistency
1 40 36 36 Sentence amended to read 'Many studies have looked in detail at how this diversity of technology policy approaches might influence emissions and climate policy in the future.' Clarification
1 40 38 41 Paragraph amended to read: 'Thus policy options are particularly focused on how to create credible assurcures for investors who pay these capital costs. Policies that reduce demand for energy—notably those that mobilize investments in energy efficiency in both end use and supply—can play pivotal roles by limiting the total cost needed to transform energy supplies. The rate at which these changes in energy systems can occur is an important area of research. The high fixed cost of infrastructures also create 'lock-in' effects that help explain why it is difficult to change real world emission patterns quickly.' Clarification
1 41 11 11 Text inserted: 'behavioural changes that allowed for greater.' Clarification
1 41 26 26 Delete 'climate' Consistency
1 41 34 34 Text inserted: 'about' Error Correction
1 41 34 34 Text inserted: 'global' Clarification
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<tr>
<td>6.1</td>
<td>added</td>
<td>global with international</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6.2</td>
<td>added</td>
<td>number of Calvin sources</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6.3</td>
<td>replaced</td>
<td>'GHG' to 'atmospheric'</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6.4</td>
<td>added</td>
<td>“mitigation”</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6.5</td>
<td>deleted</td>
<td>“high confidence”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.6</td>
<td>added</td>
<td>“by themselves” before “to constrain”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.7</td>
<td>changed</td>
<td>mitigation to “in additional mitigation”</td>
<td>Clarification</td>
</tr>
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<td>6.8</td>
<td>replaced</td>
<td>CCS to storage</td>
<td>Consistency</td>
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<tr>
<td>6.9</td>
<td>replaced</td>
<td>“delaying additional mitigation” to “delaying mitigation”</td>
<td>Clarification</td>
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<td>6.10</td>
<td>added</td>
<td>In addition to mitigation</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.11</td>
<td>inserted</td>
<td>cross-references to each paragraph of the Executive Summary</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.12</td>
<td>inserted</td>
<td>sources of historic data from sources of scenario data</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.13</td>
<td>changed</td>
<td>provide for to “to lead to”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.14</td>
<td>deleted</td>
<td>the last two sentences of the section starting with “In addition, a number of”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.15</td>
<td>deleted</td>
<td>&quot;actions&quot; after “policy”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.16</td>
<td>inserted</td>
<td>scenario Database is not yet existing</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.17</td>
<td>replaced</td>
<td>&quot;goals such as those associated with meeting 450 ppm CO2-e goals&quot; with &quot;goals such as reaching 450 CO2eq by 2100&quot;</td>
<td>Clarification</td>
</tr>
<tr>
<td>6.18</td>
<td>deleted</td>
<td>with median emboldened; shading reflects interquartile range (darkest), 5th – 95th percentile range (lighter), and full extremes (lightest)</td>
<td>Consistency</td>
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<tr>
<td>6.19</td>
<td>sources of Figure 6.1: inserted &quot;Historic data: ... see Annex II.9&quot; and reordered sources of Figure 6.1 to separate sources of historic data from sources of scenario data.</td>
<td>Clarification</td>
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<tr>
<td>6.20</td>
<td>inserted</td>
<td>&quot;Historic data: ..., see Annex II.9&quot; and reordered sources of Figure 6.2 to separate sources of historic data from sources of scenario data.</td>
<td>Clarification</td>
</tr>
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<td>6.21</td>
<td>sources of Figure 6.3: inserted &quot;Historic data: ..., see Annex II.9&quot; and reordered sources of Figure 6.3 to separate sources of historic data from sources of scenario data.</td>
<td>Clarification</td>
<td></td>
</tr>
</tbody>
</table>
Fig. 6.4: In legend changed "Full Range" to "Max/Min".

Clarification

Added "Baseline projections for global land-related carbon emissions and sequestration are made by a smaller subset of models, and due to observational difficulties are subject to greater historical uncertainty than FF&I emissions (Pan et al., 2011; Houghton et al., 2012)." with "Baseline projections for global land-use related carbon emissions and sequestration (also referred to as net Agriculture, Forestry and Other Land Use (AFOLU) CO2 emissions) are made by a smaller subset of models. Net AFOLU CO2 emissions have greater historical uncertainty than FF&I emissions as discussed in Section 11.2 (Pan et al., 2011; Houghton et al., 2012)."

Clarification

Inserted footnote on GWPs clarifying standards used and referencing further resources on GWPs in report.

Clarification

Added "(based on Global Warming Potential (GWP) values for a 100-year time horizon, see Annex II.9.3)" after "emissions"; Changed "LUC" to "Net AFOLU" as only this slightly wider category fully reflects what is covered

Clarification

Added "The MAGICC model’s median estimates of forcing as a function of aerosol emissions (for scenarios that do not project emissions of these substances, emissions were prescribed from other sources; see Annex II.10)" after "based on".

Error Correction

Deleted "scenario emissions for those models that project emissions of these substances and median forcing estimates in the MAGICC model for those that do not (see Section 6.3.2)".

Error Correction

Replaced "with median assumptions" with "the median output from the MAGICC results".

Error Correction

Added "land-use related" before "albedo".

Clarification

Added "reported in the literature" after "scenarios".

Clarification

Added "median" before "concentration".

Clarification

Replaced "It was" with "MAGICC is".

Clarification

The CO2-e 38 concentration in 2010 is 400 ppm CO2-e based on the parameters used in this version of MAGICC. It is replaced with "The CO2 eq concentration in 2010 based on the parameters used in this version of the MAGICC model for those that do not (see Section 6.3.2)".

Clarification

Table 6.2: Footnote added for "Total" (2nd last column): "Number of scenarios in the respective category, which report at least total CO2 emissions to 2100. Numbers in parentheses denote all scenarios in the respective category, including those scenarios that report only CO2 emissions (and potentially other GHGs and other radiatively active substances) from fossil fuels and industry (but not land-use CO2)."

Clarification

Added a new footnote 4 in the category total in Table 6.2; 4 Number of scenarios in the respective category, which report at least total CO2 emissions to 2100. Numbers in parentheses denote scenarios that report only CO2 emissions from fossil fuels and industry (but not land-use change), and changed the Table accordingly.

Clarification

Replacing "This range is results from the band with" with "This variation in CO2 budget results from the range of".

Clarification

Added "of CO2 budgets" after "range".

Clarification

Added "for the period 2011-20100" after "estimates".

Clarification

Added "bound to upper".

Clarification

Table 6.3: Footnotes: In Footnote 1, "italized" was added at the beginning and "equivalent" was added between "maximum concentration". ** A new footnote was added to row 1 cell 1: "The CO2eq concentration includes the forcing of all GHGs including halogenated gases and tropospheric ozone, as well as aerosols and albedo change (calculated on the basis of the total forcing from a simple carbon cycle/ climate model MAGICC)." ** In footnote 2 the first "CO2" was replaced by "CO2 emissions estimates", the latter part of the sentence (starting with "emissions") was replaced with ", an amount of 515 [445 s 585] GtC (1880 [1630 to 2150] GtC(CO2), was already emitted by 2011 since 1870 [WGI Section 12.5]. Note that cumulative CO2 emissions are presented here for different periods of time (2011 – 2050 and 2011 – 2100) while cumulative CO2 emissions in WGI AR4 are presented as total compatible emissions for the RCPs (2012 – 2100) or for total compatible emissions for remaining below a given temperature target with a known likelihood. (WGI Table SPM.3, WGI SPM.E.8)" ** Another footnote was added to row 1, column 5: "The global 2010 emissions are 31 % above the 1990 emissions (consistent with the historic GHG emission estimates presented in this report). CO2eq emissions include the basket of Kyoto gases (CO2, CH4, N2O as well as F-gases)."
Table 6.3 continued: ** Footnote 3 (now no 5) was changed to “The assessment in WGIII AR5 involves a large number of scenarios published in the scientific literature and is thus not limited to the RCPs. To evaluate the CO2eq concentration and climate implications of these scenarios, the MAGICC model was used in a probabilistic mode (see Annex II). For a comparison between MAGICC model results and the outcomes of the models used in WGII AR5, see WGII Sections 12.4.1.2, 12.4.8 and Section 6.3.2.6 of this report. Reasons for differences with WGII AR5 SPM Table 2 include the difference in reference year (1986 – 2005 vs. 1850 – 1900 here), difference in reporting year (2081 – 2100 vs. 2100 here), set-up of simulation (CMIP5 concentration-driven versus MAGICC emission-driven here), and the wider set of scenarios (RCPs versus the full set of scenarios in the WGIII AR5 scenario database here).” ** In Footnote 4 (now 6) “change” was added after the first word, before “climate system” “carbon cycle” and was added. At the end the following was added: “The temperature data compared to the 1850 – 1900 reference year was calculated by taking all projected warming relative to 1886 – 2005, and adding 0.61 °C for 1886 – 2005 compared to 1850 – 1900, based on HadCRUT4, as also applied in WGI Table SPM.2.”

Table 6.3 continued: ** Another footnote was added to row 1 (top), last column: “Temperature change is reported for the year 2100, which is not directly comparable to the equilibrium warming reported in WGIII AR4 (see Table 3.5; see also Section 6.3.2). For the 2100 temperature estimates, the transient climate response (TCR) is the most relevant system property. The assumed 90% range of the TCR for MAGICC is 1.2 – 2.6 °C (median 1.8 °C). This compares to the 90% range of TCR between 1.2 – 2.4 °C for CMIP5 (WGI Section 9.7) and an assessed likely range of 1 – 2.5 °C from multiple lines of evidence reported in the WGI AR5 (Box 12.2 in Section 12.5).” ** A further footnote was added to row 5 and row 7 column 5: “The high estimate is influenced by multiple scenarios from the same model in this category with very large net negative CO2eq emissions of about 40 GtCO2 eq/y in the long term. The higher bound CO2eq emissions estimate, excluding extreme net negative emissions scenarios and thus comparable to the estimates from the other rows in the table, is about 81 % in 2050 relative to 2010.”

Table 6.3: In column “CO2-e emissions in 2050 relative to 2010 (%)” the numbers are now relative changes, i.e. no changes is ‘0%’. Numbers in the column were updated accordingly.

Table 6.3: Inserted column “CO2-e emissions in 2100 relative to 2010 (%).”

Table 6.3: Numbers changes due to recomputation and corrections in binning.

Replaced ‘likelihood statements’ with ‘probabilities’

Figure 6.7: Clarified that negative emissions are ”net negative”, also clarified this in the figure.

Fig.6.7: In the upper right-hand panel changed the baseline bar to show the 10–90th percentile range (as in the left-hand panel). Previously the bar was showing the full range. Now: 49.97 - 105.83 GtCO2; slight correction to RCP pathways throughout the figure; added “net” to “negative emissions” in lower panels.

Figure 6.8: In figure and caption clarified that negative emissions are “net negative”

Added ‘implementation’ before ‘scenarios’ (twice)

Deleted “the implications for”

Moved ‘as are the absolute emissions reductions’ behind the cross-reference to the figure.

Added from ‘2010’ before ‘to 2100′ and deleted ‘large’

Replaced references to ‘ Bauer et al.; Böhringer et al., 2012, p. 29; Blanford et al., 2014; Kriegler et al., 2014a’ with “Arroyo-Curras et al., 2014; Babiker, 2005; Bauer et al., 2014; Blanford et al., 2014; Böhringer et al., 2012; Bosetti and De Cian, 2013; Kriegler et al., 2014b.”

Table 6.4: Correction of peak year data.

Replaced “Net CO2 emissions from land-use change (LUC)” with “Net AFOLU CO2 emissions (see Figure 6.5)”

Inserted “avoided deforestation” after “bioenergy”

Replaced “different greenhouse forcers” by “them”.

Changed “this results ultimately in” to “this ultimately leads to”

Replaced ‘stringent mitigation’ with ‘the lower concentration’

Added ‘such as Global Warming Potentials (GWP)’ behind ‘metrics’

Added ‘over time’ behind ‘optimization’

Replaced ‘categories’ with ‘classes of approaches’

Added “in addition, the WGI estimate is derived based on only a single scenario for non-CO2 substances (RCP2.6) whereas the database assessed here considers a much wider range of non-CO2 emissions” after “time period”.

Fig.6.12: range of boxplot was corrected in legend (not the data) from 17/83 to 16/84.
6 44 28.Inserted additional sentences: “These consumption losses correspond to an annual average reduction of consumption growth by 0.06 to 0.20 percentage points from 2010 to 2030 (median of 0.09), 0.06 to 0.17 percentage points through 2050 (median of 0.09), and 0.04 to 0.14 percentage points over the century (median of 0.06). To put these losses in context, studies assume annual average consumption growth rates without mitigation between 1.9 % and 3.8 % per year until 2050 and between 1.6 % and 3.0 % per year over the century. These growth rates correspond to increases in total consumption by roughly a factor of 2 to 4.5 by 2050, and from roughly four-fold to over ten-fold over the century (values are based on global projections in market exchange rates).”

Clarification

6 44 29.Fig.6.21: The y-axis labels in Panel d did not align with the y-axis scale (indicated by the horizontal lines). The zero was wrong sitting at the bottom, n now corrected to the first horizontal line. The bold horizontal lines were moved up to zero, and the y-labels adjusted accordingly; in panels a/l/e/o the set size given for 2030 was also meant for 2020 and 2050, these numbers were now explicitly added to avoid any misunderstanding

Error Correction

6 45 5.7.Deleted the abbreviations “CL”, “UL” and “AC”.

Consistency

6 45 9.10.Deleted the sentence starting with “Box plots show”

Consistency

6 45 10.10.Replaced “Sample size” with “The number of scenarios included in the boxplots”

Consistency

6 45 12.12.Changed “9%” to “9.5%”

Error Correction

6 46 7.9.Added “CO2eq” after “530-650 ppm”

Clarification

6 46 8.9.Deleted “CL”, “UL” and “AC”.

Consistency

6 46 16.16.Replaced ‘climate categories’ with ‘CO2eq concentration ranges’

Consistency

6 47 1.1.Fig.6.23: FF&I has been crossed out. The figure shows total CO2 emissions relative to baseline.

Error Correction

6 47 3.3.Deleted “reduction from fossil fuel combustion and industry” after emissions

Consistency

6 47 4.4.Changed “2010” to “2011”

Error Correction

6 47 20.20.Added “in the EMF27 study (Kriegler et al. 2014)” after “models”.

Clarification


Clarification

6 48 2.4.Changed the first sentence of the caption to “Relative increase of net present value mitigation costs (period 2015-2100, 5% discount rate) from technology portfolio variations compared to a scenario with default technology availability”.

Consistency

6 48 3.4.Added concentration labels in caption harmonized with figure legend

Consistency

6 48 4.4.Deleted the next four sentences

Consistency

6 48 10.10.Changed “x-axis” into “horizontal axis”

Consistency

6 48 11.11.Added “leading to energy demand reductions of 20-30% by 2050 and 35-45% by 2100 relative to the default baseline” after “improvements”

Clarification

6 48 16.16.Spelled out the category names

Clarification


Consistency

6 48 16.16.Deleted “limited technology future with”

Consistency

6 48 18.18.Added a sentence “Only those scenarios from the EMF27 study are included that reached the 430-480° and 530°-580 ppm CO2eq target ranges or were close to it (“... up to 490 ppm for the lower target, and above 515 ppm for the higher target) at the end of the caption.”

Clarification

6 49 16.16.added “global” after “limiting”

Clarification

6 49 21.21.added “global” after “near-term”.

Clarification

6 50 2.2.added in caption: “Not all model simulations of delayed additional mitigation until 2030 could reach the lower concentration goal of 430-530 ppm CO2eq (for 2030 emissions above 55 GtCO2eq, 29 of 48 attempted simulations could reach the goal; for 2030 emissions below 55 GtCO2eq, 34 of 51 attempted simulations could reach the goal).”

Clarification

6 50 6.6.Replaced “belonging to” with “reaching concentration goals of”.

Clarification

6 50 7.7.Added “CO2” after “ppm”

Clarification

6 50 7.7.Deleted “scenarios” and added “respectively”.

Clarification

6 50 10.11.Changed “participation” to “mitigation”.

Consistency

6 50 23.23.Added reference Kriegler et al., 2014b

Clarification

6 50 27.27.Corrected references from “(Babiker, 2005; Böhringer et al., 2012, p. 29; Bosetti and De Cian, 2013, Arroyo-Curras, T. et al., 2014)” to “(Arroyo-Curras et al., 2014; Babiker, 2005; Bauer et al., 2014; Blanford et al., 2014; Böhringer et al., 2012; Bosetti and De Cian, 2013; Kriegler et al., 2014b)”

Error Correction

6 51 7.7.added reference to “Clarke et al. 2009” after “EMF 22 scenarios”.

Clarification

6 51 11.11.added “for those models that could produce these scenarios” after “double”.

Clarification

6 51 29..Figure 6.26: Region label “OECD” was not correctly describing countries aggregated in that category and was replaced by “Annex I without Russia”

Error Correction

6 52 38.38.Deleted “in addition” before “climate policies”

Error Correction

6 53 5.5.Changed “This literature” to “Studies”.

Clarification

6 53 36.36.added “relative” before “aggregate costs”

Clarification

6 53 37.37.added “, or relative to, “before baseline conditions”

Clarification

6 53 40.40.added “relative” after “in these”

Clarification


Error Correction

6 53 41.41.Replaced “BAU” with “emissions in a baseline, or no-policy, scenario”

Consistency

6 54 1.1.replaced “relative to” by “measured as a percentage changed from”

Clarification

6 55 12.12.added a “*” at ECN and deleted a “*” at PIK and PINNL so it reads: “... ECN*, PIK, PINNL, NIES*,...”

Error Correction
6 55 13 added at end of last note "Some of these model studies are more extensively described in a particular model study (Kober et al., 2013)." Clarification
6 56 14 "stabilization scenarios" with "concentration levels" Clarification
6 57 2 7 Deleted 'for various concentration ranges', added 'for different 2100 CO2eq concentration ranges' after 'emissions', and replaced 'categories' with 'ranges'. Consistency
6 58 32 32 Deleted "a bit" Clarification
6 59 2 4 rephrased the sentence to "There are several studies that diverge from the bulk" Clarification
6 59 10 added at end of paragraph: "The deployment of fossil fuels is generally higher in scenarios with CCS. The availability of CCS would thus reduce the adverse effect of mitigation on the value of fossil fuel assets."
Consistency
6 60 23 23 Added "mitigation begins immediately" after "in which": Clarification
6 60 24 24 replaced "forcing" with "concentration" Consistency
6 60 25 25 Changed the end of the sentence to "below the range of global GHG emissions implied by the Cancun Pledges (see Section 13.13.1.3 for more details), as in Rogelj et al."
Consistency
6 60 27 27 replaced "Cancun range" with "possible range of the Cancun Agreements" Error Correction
6 60 32 32 Deleted "by the end of the century". Clarification
6 60 41 41 replaced "long-term forcing" by "end-of-century concentration" Clarification
6 60 48 48 replaced "long term forcing by "end-of-century concentration" Clarification
6 61 16 16 replaced "goals" by "concentration levels" Consistency
6 61 24 24 replaced "forcing" by "concentration" Consistency
6 61 42 42 Changed "Cancun range in 2020" to "global GHG emission reductions through 2020 implied by the Cancun Pledges (see Section 13.13.1.3)" Clarification
6 61 42 42 replaced "range" with "goals" Clarification
6 62 2 2 Figure 6.31: In legend added "probability" after "exceedence" Clarification
6 62 3 3 Replaced "Scenarios With Climate forcing in the range of " by "scenarios reaching". Clarification
6 62 3 16 added in caption explanation to transparent rectangle used in figure: "For these below-50% scenarios the interquartile range is shown by a black rectangular frame.
" Clarification
6 62 5 5 Added "based on MAGICC results" after "probability". Clarification
6 62 8 8 added 'in climate mitigation behind 'participation' Clarification
6 62 9 9 replaced "Cancun range" by "range of global GHG emissions in 2020 implied by the Cancun Pledges". Consistency
6 63 3 3 Figure 6.32: Clarified that negative emissions are "net negative" in legend Clarification
6 64 16 16 In caption added clarification: "Extreme scenarios with very high net negative emissions (>20 GtCO2/yr) in 2100 are reported separately as diamonds." Clarification
6 64 9 9 Added "The range of global GHG emissions in 2020 implied by the Cancun Pledges is based on an analysis of alternative interpretations of national pledges (see Section 13.13.1.3 for details)." after "green". Consistency
6 63 11 12 Replaced "Annual rates of historical emissions change (sustained over a period of 20 years) are shown in grey," with "Annual rates of historical emissions change between 1900-2010 (sustained over a period of 20 years) and average annual emissions change between 2000-2010 are shown in grey." Clarification
6 65 1 1 replaced 'transformation' with "baseline and mitigation" Clarification
6 66 30 30 Replaced "models for the integrated model climate" by "models for the integrated climate" Error Correction
6 66 16 16 Added cross-reference to Table 6.6. Clarification
6 66 26 26 Removed "- hence including those stimulating progress for "dirty" technology -" Clarification
6 66 28 28 replaced "clean energy" with "low-carbon" Consistency
6 68 36 36 Deleted "side-effects resulting from". Consistency
6 69 8 8 Changed 'demand side' to 'energy end-use' Consistency
6 69 16 16 Deleted ', and increasing quality of life (such as thermal comfort and improved working conditions)." Error Correction
6 69 37 37 Changed Rogelj et al., 2013b to 2013c. Error Correction
6 70 1 1 Performed a couple of changes to the table content to be consistent with sector chapters. Consistency
6 70 1 1 Table 6.7: Column 4: Changed unit to /[%/yr]; in cell Transport/Environmental added '?' before "Ecosystem [...]"; Transport, 1st column changed "journey reduction and avoidance" to "journey distance reduction and avoidance"; in cell Industry/Material efficiency of goods, recycling/Economic changed "waste recycling" to "in waste recycling market"; in Industry, 1st column added "Technology" before "energy efficiency". Clarification
6 70 1 1 Add to footnote of column 2/3 "deployment" at the end: "Data for 2010 is historic data from IEA (2012c, 2012d)." Clarification
6 71 3 3 Table 6.7: Row 3, column 4: Inserted 'physical' between 'increase' and 'activity' Clarification
6 71 1 1 Table 6.7: Row 1, column 4: Changed 'Noise' to 'Health impact via reduced noise'. Clarification
6 72 4 4 Table 6.7: row 4, column 4: Delete entry "Local conflicts (reduced inequity in consumption) [1/1]". Error Correction
6 72 4 4 Table 6.7: row 4, column 4: replace "New diverse lifestyle concept" with "Wellbeing via diverse lifestyle choices" Clarification
6 73 18 18 Changed 'preservation' to 'conservation' for consistency with underlying source and other chapters.
Consistency
6 73 40 Changed "particular" to "particulate".
Error Correction
6 74 1 2 Currency units updated from USD2005 to USD2010: 55-420 The original West et al. paper reported all values in USD2005.
Consistency
6 74 5 5 Changed 'warming' to 'forcing'.
Error Correction
6 74 25 25 Replaced "reference case" with "baseline".
Consistency
6 74 28 28 Replaced "reference case" with "baseline scenario".
Consistency
6 74 30 30 Replaced "reference case" with "baseline scenario".
Consistency
6 74 79 79 Added a reference because there are two Rafaj et al. (2012).
Error Correction
6 75 13 13 Replaced "reference case" with "baseline scenario".
Consistency
6 75 23 25 replace second part of sentence after "Luff" reference with "indeed most of the modelling literature indicates that climate mitigation would decrease oil export revenues of oil exporters (IEA, 2009; Haurie and Vielle, 2010; Bauer et al., 2013, 2014; Tavoni et al., 2013; McCollum et al., 2013). However, three recent studies argue that if the cost of alternatives to conventional oil is high enough, conventional oil exporters could benefit from climate policies, particularly in the near term (Persson et al. 2007; Johansson et al. 2009; Nemet and Brandt, 2012). Although there is broad agreement in the literature about the overall negative effect on oil export revenues, the distribution of this effect will differ between exporters of conventional vs unconventional oil exporters."
Clarification
6 76 38 38 Changed 'preservation' to 'conservation' for consistency with underlying source and other chapters.
Consistency
6 77 6 6 Replaced "reference case" with "baseline scenario".
Consistency
6 78 11 12 Changed "IPCC AR5 database" to "WGIll AR5 Scenario Database (Annex II 10)".
Error Correction
6 79 27 27 Replaced 'societal priorities' with 'policy objectives'.
Consistency
6 79 35 35 Replaced 'priorities' with 'objectives'.
Consistency
6 80 1 1 Replaced "transformation" with "mitigation".
Consistency
6 80 8 8 Changed "through" to "6.4 through".
Error Correction
6 80 34 34 Corrected "A.1.4.5" to "A.1.5.5".
Error Correction
6 80 42 42 cross-reference to Chapter 12 deleted.
Consistency
6 80 45 47 Replaced "An important question is how closely the results from integrated modelling studies are consistent with sectorally-focused literature or how they complement each other." with "Important questions are how consistent the results from integrated modelling studies are with sectorally-focused literature and how they complement each other."
Consistency
6 81 15 Fig.6.34: changed „Historic Data 2010“ to „Actual 2010 Level“; in right panel changed „CO2 Energy Supply“ to „CO2 Energy Supply excl. Electricity and Heat Generation“.
Clarification
6 81 16 In caption added: „In the left panel electricity sector emissions are shown („Electricity“) in addition to energy supply sector emissions which they are part of, to illustrate their large role on the energy supply side.“
Clarification
6 82 1 6.35: Added individual data points to right panel as in SPM/T5
Clarification
6 82 2 3 Changed "430-530 ppm CO2-e scenarios" to "mitigation scenarios reaching 430-530 ppm CO2-eq in 2100".
Clarification
6 82 10 Changed caption to "Direct emissions by sector normalized to 2010 levels (light blue dashed line) of CO2 and non-CO2 GHGs across sectors in mitigation scenarios reaching that reach around 450 (430 530 -480) ppm CO2e concentrations in 2100 with default technology assumptions (using CCS (left panel) and without using CCS (right panel). Note that values below the dashed black zero line indicate negative sectoral emissions. The thick red lines correspond to the median, the coloured boxes to the interquartile range (25th to 75th percentile) and the whiskers to the total range across scenarios. Gray dots refer to emissions of individual models to give a sense of the spread within the ranges shown. The numbers at the bottom of the graphs refer to the number of scenarios included in the rangelines that differ differ across sectors and time due to different sectoral resolution and time horizon of models. White dots in the right panel refer to emissions of individual scenarios to give a sense of the spread within the ranges shown due to the small number of scenarios. Source: WGIll AR5 Scenario Database (Annex II.10). Includes only scenarios based on idealized policy implementation that provide emissions at the sectoral level. Note that scenarios from the AMPERE study were excluded due to large overlap with the EMF27 study, adapted from Historical data: IPCC (2013), IEA (2012), see Annex II.9."
Clarification
6 83 1 1 Changed "therefore constitutes" to "could therefore constitute".
Clarification
6 83 4 4 Replaced "focus either by "are those that focus".
Clarification
6 83 5 5 Added "those that focus" after "and/or".
Clarification
6 83 10 10 Corrected reference to Figure 6.16 to Figure 6.17.
Error Correction
6 83 49 49 Replaced "transformation" with "mitigation".
Consistency
6 84 22 23 Replaced "the colour coding is based on categories of 2100" by "for baseline and mitigation scenarios reaching 430-480 ppm and 530-580 ppm in 2100".
Clarification
<table>
<thead>
<tr>
<th>Line Numbers</th>
<th>Changes Made</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
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<td>6 85 16 16</td>
<td>replaced “transformation” with “mitigation”</td>
<td>Consistency</td>
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<tr>
<td>6 85 18 19</td>
<td>Deleted “The thick black line corresponds to the median, the coloured box”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6 86 6 6</td>
<td>6.38: Changed “Historic Data 2010” to “Actual 2010 Level”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 86 8 8</td>
<td>replace “transformation” with “mitigation”</td>
<td>Consistency</td>
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<tr>
<td>6 86 11 13</td>
<td>Deleted “The thick black line corresponds to the median, the coloured box to the inter-quartile range (25th to 75th percentile) and the whiskers to the total range across all reviewed scenarios.”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6 86 13 13</td>
<td>Replaced “full sectoral coverage” by “additional climate policies whereas empty symbols correspond to studies with baseline assumptions”</td>
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<tr>
<td>6 86 19 19</td>
<td>Changed “four” to “three”</td>
<td>Consistency</td>
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<tr>
<td>6 86 20 20</td>
<td>Added “It also influences mitigation through” and deleted “and” before “biogeophysical”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6 86 25 25</td>
<td>Changed “carbon storage is” to “efforts to store carbon in land are”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6 87 22 22</td>
<td>Addition of reference to the German BMBF assessment (Rickels et al. 2011) which was missed</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 87 40 41</td>
<td>Added “involved for some techniques, particularly most CDR methods, and the”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 87 41 41</td>
<td>Inserted “with the nearly all techniques” after “involved”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 87 42 45</td>
<td>This short paragraph was changed to make clear that not all SRM techniques increase the planetary albedo: “SRM geoengineering technologies aim to lower the Earth’s temperature by reducing the amount of sunlight that is absorbed by the Earth’s surface, and thus countering some of the greenhouse gas induced global warming. Most techniques work by increasing the planetary albedo, thus reflecting a greater fraction of the incoming sunlight back to space. A number of SRM methods have been proposed.”</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 90 23 28</td>
<td>This short paragraph was changed to make clear that not all SRM techniques increase the planetary albedo: “SRM geoengineering technologies aim to lower the Earth’s temperature by reducing the amount of sunlight that is absorbed by the Earth’s surface, and thus countering some of the greenhouse gas induced global warming. Most techniques work by increasing the planetary albedo, thus reflecting a greater fraction of the incoming sunlight back to space. A number of SRM methods have been proposed.”</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 90 31 31</td>
<td>“replicate” replaced with “imitate” as the aim to produce a similar effect.</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 90 37 37</td>
<td>Replaced “could” with “might”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 90 38 38</td>
<td>Replaced “could” with “might” as the effect would not be identical to the analogy.</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 91 3 3</td>
<td>“enhancing the planetary albedo” replaced with “reducing incoming solar radiation” as the new phrase is more inclusive.</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 91 11 11</td>
<td>Replaced “hydrological intensity” with “hydrological cycle intensity” as this is the correct scientific term</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 92 10 10</td>
<td>replaced “limiting global radiative forcing” with “counteracting global GHG radiative forcing” to replace the erroneous “limit” and to clarify.</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 92 16 16</td>
<td>added “SRM” before “forcing” to clarify</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 92 17 17</td>
<td>replaced “it” with “the SRM forcing” to clarify</td>
<td>Clarification</td>
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<tr>
<td>6 93 43 43</td>
<td>Added “actually” before “play”.</td>
<td>Clarification</td>
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<tr>
<td>6 93 43 44</td>
<td>The first sentence was modified as it didn’t acknowledge the large role of some CDR approaches in the RCP scenarios, the new sentence follows: “Despite the assumption of some form of negative CO2 emissions in many scenarios, including those leading to 2100 concentrations approaching 450 ppm CO2eq, whether proposed CDR or SRM geoengineering techniques can actually play a useful role in transformation pathways is uncertain as the efficacy and risks of many techniques are poorly understood at present.”</td>
<td>Clarification</td>
</tr>
<tr>
<td>6 95 33 33</td>
<td>After “time” the following was insert: “although a portfolio approach is necessary” as previous sentence was moved up within paragraph.</td>
<td>Clarification</td>
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<tr>
<td>6 100 1 2</td>
<td>deleted reference as not cited in chapter</td>
<td>Clarification</td>
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<tr>
<td>6 105 9 10</td>
<td>deleted reference as not cited in chapter</td>
<td>Clarification</td>
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<tr>
<td>6 113 20 22</td>
<td>corrected title of paper (authors, doi, etc. were correct)</td>
<td>Error Correction</td>
</tr>
<tr>
<td>6 Al 1</td>
<td>Terminology in AFOLU was made more precise and for data that includes scenarios including land-related emissions “LUC” was changed to “Net AFOLU”.</td>
<td>Clarification</td>
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<tr>
<td>6 Al 1</td>
<td>Captions of all figures were adjusted to reflect changes in all figures of the chapter due to them being designed by the graphic designer; further, caption text was revised if necessary to comprehensively explain the figure elements</td>
<td>Consistency</td>
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<tr>
<td>7 4 6 6</td>
<td>Added ‘energy’ before ‘end-use’</td>
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<tr>
<td>7 4 10 10</td>
<td>Growth in sector replaced by “Annual GHG-emissions growth in the global energy supply sector.”</td>
<td>Clarification</td>
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<tr>
<td>Error Correction</td>
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</table>
Text inserted: "...although some reservoirs act as sinks (Chanudet et al 2011). Few studies appraise net emissions from freshwater reservoirs, i.e., adjusting for pre-existing natural sources and sinks and unrelated anthropogenic sources (Kumar et al, 2011, section 5.6.3.2)."

Sentence amended to read "The global average emission rate was estimated to be 70 gCO2eq/kWh." Due to the high variability among power stations, the average emissions rate is not suitable for the estimation of emissions of individual countries or projects.

Figure header changed to read "Scenarios Reaching 430 - 530 ppm CO2 eq in 2100 in Integrated Models".

Figure 7.7. Heading of left-bottom panel amended to read "Emission Intensity of Electricity (gCO2eq/kWh)"; units in text of legend "Conditions of Operation" changed from "100 USD2010/tCO2" to "100 USD2010/tCO2eq".

Figure caption changed to read "gCO2eq/kWh" in one instance.

Text amended to read "cf. Figure 7.6 for lifecycle emissions; Annex III, ... for LCOE)", adding reference to Figure 7.6.

Text inserted 'in 2030 and 2050'.

Chapter 6 replaced by Annex II, Section A.10.

Deleted Figure notes. Replaced with sentence reading "Note: The inter-comparability of LCOE is limited. For details on general methodological issues and interpretation see Annexes as mentioned above."

Text added "The global average of specific direct CO2 emissions (gCO2/kWh) of power generation in 2010 is shown as a vertical line (IEA, 2013)."

Text added at end of paragraph: (see Section 7.5.5)

Text added to column heading Social reading "(including health)"

Paragraph repeated - deleted from text.

257,400 converted to 2010 USD.

Figure 7.8 and caption moved behind call-out on subsequent page.

If often' replaced by 'may be'

Delete 'GHG'.

such as' replaced by 'related to'.

Add (see also section 2.6.6.2).

After 'slums', text inserted, particularly in sub-Saharan Africa.

Delete 'assessment'.

Delete 'assessment'.

Replace 'emissions' with 'climate change'.

Delete 'emissions'.

and fossil fuels with CCS' amended to read "fossil fuels with CCS and bioenergy with CCS".

Text inserted reading"Note: Only scenarios that apply the full, unconstrained mitigation technology portfolio of the underlying models (default technology assumption) are shown. Scenarios with exogenous carbon price assumptions are excluded in both panels. In the right panel, scenarios with policies affecting the timing of mitigation other than 2030 interim targets are also excluded."

Replace 'sequestration' with 'dioxide storage'.

Add 'dioxide'.

Delete 'assessment'.

Add 'dioxide'.

Delete 'GHG'.

Add 'dioxide'.

Changed paragraph from: "The mitigation potential of biofuels (particularly advanced "drop-in" fuels for aircraft and other vehicles) will depend on technology advances and sustainable feedstocks (medium evidence; medium agreement) [8.3] to "Methane-based fuels are already increasing their share for road vehicles and waterborne craft. Electricity produced from low-carbon sources has near-term potential for electric rail and short- to medium-term potential as electric buses, light-duty and 2-wheel road vehicles are deployed. Hydrogen fuels from low-carbon sources constitute longer-term options. Gaseous and liquid biofuels can provide co-benefits. Their mitigation potential depends on technology advances (particularly advanced "drop-in" fuels for aircraft and other vehicles) and sustainable feedstocks. (medium evidence,, medium agreement) [8.2, 8.3]"
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<td>8</td>
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<td>16</td>
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<td></td>
<td>Changed &quot;Over the medium-term (up to 2030) to long-term (to 2050 and beyond), urban redevelopment and new infrastructure, linked with land use policies, could evolve to reduce GHG intensity through more compact and integrated transit, cycling and walking-oriented urban planning (with a 20-50% reduction below baseline possible between 2010 and 2050).&quot; to &quot;Over the medium-term (up to 2030) to long-term (to 2050 and beyond), urban (re)development and investments in new infrastructure, linked with land use policies, integrated urban planning, transit-oriented development and more compact urban form that supports cycling and walking can all lead to modal shifts. Such mitigation measures could evolve to possibly reduce GHG intensity by 20-50% below 2010 baseline by 2050.&quot;</td>
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| 8    | 6        | 8        | 12       | 13       | 14       |
|      | Added "In least developed countries, prioritizing access to pedestrians and integrating non-motorized and public transport services can result in higher levels of economic and social prosperity. In fast growing emerging economies, investments in mass transit and other low-carbon transport infrastructure can help avoid future lock-in to carbon intensive modes." to "Prioritizing access to pedestrians and integrating non-motorized and public transport services can result in higher levels of economic and social prosperity. In all regions. Good opportunities exist for both structural and technological change around low-carbon transport systems in most countries but particularly in fast growing emerging economies, where investments in mass transit and other low-carbon transport infrastructure can help avoid future lock-in to carbon intensive modes."

| 8    | 7        | 12       | 13       | 14       | 15       |
|      | After 2010 added footnote "CO2eq units are used throughout this chapter for direct emissions wherever feasible, although this is not always the case in some literature that reports CO2 emissions only. For most transport modes, non-CO2 gases are usually less than 5% of total vehicle emissions".

| 8    | 7        | 23       | 24       | 25       | 26       |
|      | Fig 8.3: Slight adjustment of indirect emissions numbers as methodology was revised to be improve consistency with direct emission data |

| 8    | 10       | 10       | 11       | 12       | 13       |
|      | Fig 8.3: In the inset on the x-axis we corrected "Int$2000" to "Int$2005". |

| 8    | 10       | 11       | 12       | 13       | 14       |
|      | Fig 8.3: Slight adjustment of indirect emissions numbers as methodology was revised to be improve consistency with direct emission data |

| 8    | 11       | 12       | 13       | 14       | 15       |
|      | Fig 8.4: Data was remapped to comply with standardised RCS regions (for their definition see Annex II.2) |

| 8    | 13       | 14       | 15       | 16       | 17       |
|      | In Section 8.2 swapped Sections 8.2.2 (Trends) and 8.2.1 (Drivers) |

| 8    | 29       | 5        | 6        | 7        | 8        |
|      | Table 8.3 reordered for easier comprehension (Standardised with Figs TS 21 and TS 22) |

| 8    | 43       | 5        | 6        | 7        | 8        |
|      | Table 8.4, row 2, column 3: Changed 'Noise' to 'Health impact via reduced noise' |

| 8    | 43       | 5        | 6        | 7        | 8        |
|      | Row 4 ("Compact urban form and improved transport infrastructure. Modal shift ("), column 3 change "Increased activity" to "Increased physical activity" |

| 8    | 51       | 28       | 29       | 30       | 31       |
|      | Change 2nd last sentence in note to: "The specific observations from sectoral studies are shown as black dots with light bars (policy) or dark bars (baseline) to give the full ranges."

| 8    | 52       | 7        | 8        | 9        | 10       |
|      | Fig 8.10: Changed left panel y-axis to "Transport Demand for Passengers [p-km/cap/yr] and Freight [t-km/cap/yr]" |

| 8    | 54       | 4        | 5        | 6        | 7        |
|      | Added after "2050": "Box plots show minimum/maximum, 25th/75th percentile and median." and removed "1" and "3" in next sentence. |

| 8    | 54       | 8        | 9        | 10       | 11       |
|      | Added after "type" for clarification "instead of GHG concentration categories."

| 8    | 57       | 20       | 21       | 22       | 23       |
|      | Change "price signals especially for passenger travel" to "price signals, such as fuel carbon taxes, especially for passenger travel" |

| 8    | 58       | 1        | 4        | 5        | 6        |
|      | Change "Even if this trend of slowing LDV demand eventually heads downwards, it is unlikely to offset projected growth in total LDV emissions because, in the rest of the world, populations and economies are likely to continue to grow along with LDV ownership." to "Even if this OECD trend of slowing growth in LDV travel continues or even eventually heads downwards, it is unlikely to offset projected growth in non-OECD LDV travel or emissions because those populations and economies are likely to continue to grow rapidly along with LDV ownership." |

| 8    | 59       | 1        | 2        | 3        | 4        |
|      | Fig 8.13: Added "LDV Emission Efficiency" to y-axis |

<p>| 8    | 64       | 7        | 9        | 10       | 11       |
|      | Change &quot;The inclusion of air transport in the EU emission trading scheme (ETS) is the only binding policy to attempt to mitigate emissions in this sector (Anger, 2010; Petersen, 2008). Preston et al., (2012) estimated that the EU is currently responsible for 35% of global aviation emissions.&quot; to &quot;The EU is currently responsible for 35% of global aviation emissions. The inclusion of air transport in the EU emission trading scheme (ETS) is the only binding policy to attempt to mitigate emissions in this sector (Anger, 2010; Petersen, 2008; Preston et al., 2012).&quot; |</p>
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<td>Converted from 2010 EUR to 2010 USD</td>
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<tr>
<td>9</td>
<td>25</td>
<td>20</td>
<td>Section 9.3.6 on F-gas shares better explained</td>
<td>Error Correction</td>
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<tr>
<td>9</td>
<td>26</td>
<td>7</td>
<td>removed &quot;India&quot;</td>
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<td>replaced &quot;in particular the &quot;part time &amp; part space&quot; indoor climate conditioning, passive design for indoor thermal and lighting and take mechanic system only for the remaining needs when the passive approaches cannot meet the comfort demand. By relative innovation technologies towards further improvements in indoor service levels, such&quot; with &quot;in particular through the use of 'part-time' and 'part-space' indoor climate conditioning, using mechanical systems only for the remaining needs when passive approaches cannot meet comfort demands. Such&quot;</td>
<td>Clarification</td>
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<td>9</td>
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<td>29</td>
<td>Figure 9.9, caption: replaced &quot;Peng et al., 2012&quot; with &quot;Zhang et al., 2010&quot;</td>
<td>Clarification</td>
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<td>Figure 9.10, caption: replaced &quot;Peng et al., 2012&quot; with &quot;Zhang et al., 2010&quot;</td>
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<td>Figure 9.11, caption: replaced &quot;Peng et al., 2012&quot; with &quot;Zhang et al., 2010&quot;</td>
<td>Clarification</td>
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<td>31</td>
<td>30</td>
<td>Fig 9.13 Taiwan, Province of China and Hong Kong, SAR, China removed</td>
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<tr>
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<td>32</td>
<td>22</td>
<td>Figure 9.12, caption: replaced &quot;Final building heating and cooling energy use scenarios from 2005 to 2050 in the Global Energy Assessment&quot; by &quot;Final building heating and cooling energy use in 2005 and in scenarios from the Global Energy Assessment (GEA) for 2050,&quot;</td>
<td>Clarification</td>
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<tr>
<td>9</td>
<td>32</td>
<td>30</td>
<td>Fig 9.13: Changed colour coding of datapoint from individual countries (too many colours needed) to encodingRC10 regions.</td>
<td>Clarification</td>
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<tr>
<td>9</td>
<td>32</td>
<td>33</td>
<td>Figure 9.13, caption: Added at end &quot;For RC10 region definitions see Annex II.2.1.&quot;</td>
<td>Clarification</td>
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<td>9</td>
<td>32</td>
<td>33</td>
<td>added at end caption Figure 9.13: &quot;Note that for some studies there are multiple entries (indicated by number in extra bracket).&quot;</td>
<td>Clarification</td>
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<td>9</td>
<td>33</td>
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<td>Table 9.6 Taiwan, Province of China removed</td>
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<td>Table 9.6 Hong Kong, SAR, China removed</td>
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<td>9</td>
<td>34</td>
<td>1</td>
<td>Table 9.6: Linked caption used also in Fig.9.13 with individual country names so that Fig.9.13 entries can be properly identified.</td>
<td>Clarification</td>
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| 9    | 36   | 1      | replaced all footnotes with "1) The Table presents the potential of final energy use reduction (if not otherwise specified) compared to the baseline and/or base year for the end-uses given in the column 3 and for the sectors indicated in the column 5.  
2) References: 1 - (Anisimova, 2011), 2 – 15 - (IEA, 2002), 16 - (Yue and Huang, 2011), 17 - (Vardimon, 2011), 18 - (Izquierdo et al., 2011), 19 - (GPI, 2010), 20 - (Brown et al., 2008a), 21 - (Sartori et al., 2009), 22 - (Pantong et al., 2011), 23 - (Dubois and Blomsterberg, 2011), 24 - (Garrido-Soria et al., 2012), 25 - (Radhi, 2009), 26 - (Taylor et al., 2010), 27 - (Zhou et al., 2011a), 28 - (Ürge- Vorsatz et al., 2012a), 29 (IEA, 2008b), 30 - (Harvey, 2010), 31 - (Laitner et al., 2012), 32 - (Eichhammer et al., 2009), 33 - (Tommerup and Svendsen, 2006), 34 - (Chan and Yeung, 2005), 35 - (Siller et al., 2007), 36 - (Schimschar et al., 2011), 37 - (Giraudet et al., 2012), 38 - (Sanquist et al., 2012), 39 - (Streimikiene and Volochov, 2011), 40 – (Mills, 2011);  
3) EE = energy efficiency;  
4) H – space heating; C – space cooling; W – hot water; L – lighting; APPL – appliances; ALL – all end-uses; EL – electricity;  
5) T – technical; T-E – techno-economical;  
6) BS – the whole building sector; RS – residential sector; CS – commercial sector;  
7) pr.e. – primary energy." | Clarification |
| 9    | 38   | 10     | Figure 9.14: Change x-axis label to "Energy Performance Improvement (Difference to Baseline) [W/h/m²/yr]" | Clarification |
| 9    | 38   | 10     | Figure 9.15: Change x-axis label to "Energy Performance Improvement (Difference to Baseline) [kWh/m²/yr]" | Clarification |
| 9    | 38   | 10     | Figure 9.16: Change x-axis label to "Energy Saving Relative to Baseline [%]" and changed axis values (0 -> 0, 0.2 -> 20%, ..., 1 -> 100%) | Clarification |
| 9    | 39   | 23     | Example to clarify the computation of cost effectiveness ("For instance, a "Passive House II" represents a factor of 10 – 20 improvement when compared to average building stocks", while but only a fraction of this when compared to, for instance, upcoming German new building codes [...]") | Clarification |
| 9    | 44   | 1      | Figure 9.18, caption: add "from different provinces, countries and regions" | Clarification |
Figure 9.18: Changed y-axis label to "Jobs Created per Money Spent (millions of jobs/USD2010)"

Clarification

Figure 9.19: caption: Added set sizes to legend.

Clarification

Figure 9.20 split in 2 panels to improve accessibility

Clarification

Figure 9.21: 3CSEP data was missing for HC; data from same source was there for HCW already.

Error Correction

Figure 9.22: "Sources as indicated in Section 9.9.1" with "Sources: Cornelissen et al. (2012), Deng et al. (2012a), Dowling et al. (2012), GPI (2010), Harvey (2010), IEA (2012c0a), Laustsen (2010), McNeil et al. (2013), Urge-Vorsatz et al. (2012a3), WBCSD (2009), WEO (2011) and WG III ARS Scenario Database (Annex II.10)."

Clarification

Figure 9.23 caption: "Source: WG III ARS Scenario Database (Annex II.10)."

Clarification

Corrected reference at end of Fig.9.23 caption to "Source: WG III ARS Scenario Database (Annex II.10)."

Clarification

Figure 9.24: Changed label of right panel (now at bottom as vertically aligned) to "Mitigation Scenarios in 2050."

Clarification

Deleted non-number captions from the last column of Table 9.9

Clarification

Converted from 2010 EUR to 2010 USD

Consistency

References to "Herrero" in the chapter were changed to the correct last name "Tirado Herrero."

Clarification

All figures were replaced by versions produced by a graphic designer, while the content (e.g. the quantitative information) has been retained, colours and other graphical elements might have changed.

Consistency

replaced "options" with "strategies" and "carbon" with "emissions."

Consistency

replaced "switch changes" with "switching."

Consistency

moved "longer life for products" to next parentheses

Consistency

Corrected 2010 global industry and waste/wastewater GHG emissions from 15.5 to 15.4 GtCO2eq

Error Correction

Corrected waste/wastewater emissions from 1.5 to 1.4 GtCO2eq

Error Correction

"In 2010, over half (54%) of global GHG emissions from industry and waste/wastewater were from the Asia region, followed by OECD1990 (25%), EIT (9%), MAF (7%), and LAM (5%)." with "In 2010, over half (52%) of global direct GHG emissions from industry and waste/wastewater were from the Asia region (ASIA), followed by the member countries of the Organisation for Economic Co-operation and Development in 1990 (OECD-1990) (25%), Economies in Transition (EIT) (9%), Middle East and Africa (MAF) (8%), and Latin America (LAM) (6%)."

Error Correction
10 5 7 7 replaced 'GHG' with 'climate change'

10 5 9 14 replaced "Future demand of industrial products for GHG mitigation technologies and adaptation may increase, resulting in increasing industrial emissions (robust evidence, high agreement) [10.4, 10.6]. Producer demand from other sectors for GHG mitigation technologies (e.g. insulation materials for buildings) or adaptation measures (e.g. increased demand for infrastructure materials) contributes to industrial GHG emissions." with "Mitigation activities in other sectors and adaptation measures may result in increased industrial product demand and corresponding emissions (robust evidence, high agreement). Production of mitigation technologies (e.g., insulation materials for buildings) or material demand for adaptation measures (e.g., infrastructure materials) contribute to industrial GHG emissions. [10.4, 10.6]"

10 5 20 20 replaced "Cooperation and cross-sectoral collaboration" with "Collaboration within and across industrial sectors"

10 5 25 25 deleted "that contribute to mitigation"

10 5 26 26 replaced "Options for emission reduction exist in the industrial sector that are estimated to be profitable" with "Several emission-reducing options in the industrial sector are cost-effective and profitable"

10 5 28 28 replaced "0–20 and 20–50 USD/tonCO2eq" with "20–50, 0–20, and even below 0 USD/tonCO2eq"

10 5 35 35 replaced "options" with "measures"

10 6 1 1 replaced "options" with "measures"

10 6 4 6 deleted "There is a lack of experience and often there are no clear incentives either for suppliers or consumers to address improvements in material or product service efficiency."

10 6 7 7 replaced "material efficiency or product service intensity" with "material or product service efficiency"

10 6 17 17 replaced "option" with "strategy"

10 6 18 18 inserted "integrated" behind "long term"

10 6 15 15 replaced "mitigation" with "reduction"

10 7 15 16 inserted "based on Bajiel et al. (2013),"

10 7 28 28 deleted "(totaling 49.5 GtCO2eq)"

10 9 12 12 Replaced 'GHG emissions' with 'climate change'

10 10 7 7 Figure 10.3: inserted y-axis label "Relative growth (1970=1)"

10 12 17 Replaced "Global industry and waste/wastewater GHG emissions grew from 10.42 GtCO2eq in 1990 to 12.98 GtCO2eq in 2005 to 15.51 GtCO2eq in 2010." with "Global industry and waste/wastewater GHG emissions grew from 10.37 GtCO2eq in 1990 to 13.04 GtCO2eq in 2005 to 15.44 GtCO2eq in 2010."

10 12 32 32 replaced "Over half (54%) of global GHG emissions from industry and waste/wastewater are from the ASIA region, followed by OECD1990 (25%), EIT (9%), MAF (7%), and LAM (5%)." with "Over half (52%) of global direct GHG emissions from industry and waste/wastewater are from the ASIA region, followed by OECD1990 (25%), EIT (9.4%), MAF (7.6%), and LAM (5.7%)."

10 13 6 6 Data for figure 10.4 was corrected

10 14 8 8 added "/yr" to unit: (GtCO2eq/yr)

10 14 1 1 Data for figure 10.5 was corrected

10 14 4 4 added "/yr" to unit: (GtCO2eq/yr)

10 15 4 5 Data corrections, deleted final energy columns

10 15 7 9 deleted "Energy use for mining and quarrying is not included in the final and primary energy values; CO2 emissions from mining and quarrying, which are estimated to be less than 3% of total industry emissions, are not included due to data limitations."

10 16 2 2 Data for Table 10.3 was corrected

10 17 55 55 changed "In the period 1990–2005, fluorinated gases (F-gases) were the most important non-CO2 GHG source in manufacturing industry." to "In the period from 1990–2010, fluorinated gases (F-gases) and N2O were the most important non-CO2 GHG emissions in manufacturing industry."

10 19 34 34 replaced "emissions" with "climate change"

10 21 2 2 replaced "CO2 sequestration" with "Carbon dioxide capture and storage (CCS)"
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<td>replaced “From 200 to 118 MtCO2eq” with “almost by half”</td>
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<td>replaced “In order to maintain a constant total demand for meat and dairy,” Garnett (2009) suggests that by 2050 average per capita consumption should be around 25kg meat and 50 litres of milk per week, which is around four times less than current averages in developed economies.” with “In order to maintain a constant total demand for meat and dairy, Garnett (2009) suggests that by 2050 average per capita consumption should be around 0.5 kg meat and 1 litre of milk per week, which is around the current averages in the developing world today.”</td>
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<td>replaced “To ensure consistency with that chapter, the choice has been made to include indirect emissions related to electricity use in the industrial sector using an electricity emission factor of 0.394 kg CO2/kWh (calculated on the basis of a natural gas combined cycle with an efficiency of 55%) and not give any cost estimates for the costs related to decarbonising the electricity mix for the industrial sector.” with “Potentials and costs to decarbonise the electricity sector are covered in Chapter 7. To ensure consistency with that chapter, no estimates are given for the costs related to decarbonising the electricity mix for the industrial sector.”</td>
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<td>Fig. 10.9: Indicative Cost of Conserved Carbon expressed in Dollar per CO2 equivalent: [USD2010/tCO2eq]</td>
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<td>corrected answer to: Global direct industry and waste/wastewater GHG emissions grew from 10 GtCO2eq in 1990 to 13 GtCO2eq in 2005 to 15 GtCO2eq in 2010. Over half (52%) of global GHG emissions from industry and waste/wastewater are from the ASIA region, followed by OECD-1990 (25%), EIT (9%), MAF (8%), and LAM (6%). GHG emissions from industry grew at an average annual rate of 3.5% globally between 2005 and 2010. This included 7% average annual growth in the ASIA region, followed by MAF (4.4%) and LAM (2%), and the EIT countries (0.1%), but declined in the OECD-1990 countries (-1.1%).</td>
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<td>corrected waste/wastewater emissions from 1.5 to 1.4 GtCO2eq</td>
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mitigation

 derived

 Emissions

 agriculture,

 and

 [GtCO2eq/yr]

 Clarification

 "Emissions

 issues

 significant

 pathway,

 and

 bioenergy

 (full

 range:

 13.78)

 Potential

 could

 have

 realized

 compared

 with

 "EIT"

 and

 "AFOLU"

 with

 "AFOLU"

 “AFOLU" emissions
could change
substantially
in transformation
paths, with
significant
mitigation potential
from agriculture,
forestry, and
bioenergy mitigation
measures (medium evidence; high agreement). Recent multi-model comparisons of idealized implementation transformation scenarios find land emissions (nitrous oxide, N2O; methane, CH4; CO2) changing by -4 to 99% through 2080, and 7 to 76% through 2100, with the potential for increased emissions from land carbon stocks. Land-related mitigation, including bioenergy, could contribute 20 to 60% of total cumulative abatement to 2030, and 15 to 40% to 2100. However, policy coordination and implementation issues are challenges to realizing this potential (11.9)."

"Mitigation and adaptation synergies and risk-tradeoffs" to "11.5.5 Mitigation and adaptation synergies and tradeoffs"

"AFOLU" forms a significant component of mitigation in transformation pathways, offering a variety of mitigation options and a large, cost-competitive mitigation potential [limited evidence; medium agreement]. Recent multi-model comparisons have found that all land-related mitigation strategies (agriculture, forestry, bioenergy) were projected to contribute 20 to 60% of total cumulative abatement to 2030, and still 15 to 45% to 2100 (11.9). With "AFOLU" emissions could change substantially in transformation pathways, with significant mitigation potential from agriculture, forestry, and bioenergy mitigation measures (medium evidence; high agreement). Recent multi-model comparisons of idealized implementation transformation scenarios find land emissions (nitrous oxide, N2O; methane, CH4; CO2) changing by -4 to 99% through 2080, and 7 to 76% through 2100, with the potential for increased emissions from land carbon stocks. Land-related mitigation, including bioenergy, could contribute 20 to 60% of total cumulative abatement to 2030, and 15 to 40% to 2100. However, policy coordination and implementation issues are challenges to realizing this potential (11.9)."

11.2a: inserted "AFOLU" with "Economies in Transition (EIT)"

11.4.3: inserted "AFOLU" with "Economies in Transition (EIT)"

11.2a: inserted "AFOLU" with "Economies in Transition (EIT)"

11.13.2: inserted "AFOLU" with "Economies in Transition (EIT)"

11.5.5: inserted "AFOLU" with "Economies in Transition (EIT)"

11.7.4: inserted "AFOLU" with "Economies in Transition (EIT)"

11.9.4: inserted "AFOLU" with "Economies in Transition (EIT)"

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11.15.5: inserted "AFOLU" with "Economies in Transition (EIT)"

11.18.7: inserted "AFOLU" with "Economies in Transition (EIT)"

11.11.2: inserted "AFOLU" with "Economies in Transition (EIT)"

11.14.3: inserted "AFOLU" with "Economies in Transition (EIT)"

11.15.5: inserted "AFOLU" with "Economies in Transition (EIT)"

11.18.7: inserted "AFOLU" with "Economies in Transition (EIT)"

11.11.2: inserted "AFOLU" with "Economies in Transition (EIT)"

11.14.3: inserted "AFOLU" with "Economies in Transition (EIT)"

11.15.5: inserted "AFOLU" with "Economies in Transition (EIT)"

11.18.7: inserted "AFOLU" with "Economies in Transition (EIT)"

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11.18.7: inserted "AFOLU" with "Economies in Transition (EIT)"
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<td>Added</td>
<td>&quot;Urbanization is associated with increases in income, and higher urban incomes are correlated with higher consumption of energy use and GHG emissions (medium evidence, high agreement)&quot; and reference to Section 12.3 at end of paragraph.</td>
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<td>&quot;The largest opportunities for future urban GHG emissions reduction might be in rapidly urbanizing countries where infrastructure inertia has not set in; however, the required governance, technical, financial, and institutional capacities can be limited&quot; to &quot;The largest opportunities for future urban GHG emissions reduction are in rapidly urbanizing areas where urban form and infrastructure are not locked-in, but where there are often limited governance, technical, financial, and institutional capacities.&quot;</td>
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<td>&quot;Thousands of cities are undertaking climate action plans, but the extent of urban climate mitigation is highly uncertain&quot; to &quot;Thousands of cities are undertaking climate action plans, but their aggregate impact on urban emissions is uncertain&quot;</td>
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<td>&quot;Urban areas throughout the world continue to struggle with challenges, including ensuring access to energy, limiting air and water pollution, and maintaining employment opportunities and competitiveness. Action on urban-scale mitigation often depends on the ability to relate climate change mitigation efforts to local co-benefits. &quot;</td>
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<td>Figure 12.3, caption: Changed &quot;Average Built-Up Area per Person (m²) in 1990 (red) and 2000 (green) for 120 Cities. Average annual percent change in density (blue, secondary y-axis).&quot; to &quot;Left: Average annual percent change in density between 1990 and 2010 (light blue). Right: Average built-up area per person (m²) in 1990 (yellow) and 2000 (blue). Data from 120 cities.&quot;</td>
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<td>Figure</td>
<td>Figure 12.5, caption: Added after &quot;England&quot;: &quot; in 2004. The extended territorial CO2 emissions accounts assign CO2 emissions from electricity consumption to each municipality's energy use. The consumption-based carbon footprint accounts assign all emissions from the production of goods and services in the global supply chain to the municipality where final consumption takes place&quot;.</td>
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<td>29</td>
<td>Added (GPP)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>30</td>
<td>Technology</td>
<td>Technology, infrastructure and form — unbolded terms and used single quotes</td>
</tr>
<tr>
<td>12</td>
<td>31</td>
<td>Removed</td>
<td>&quot;e.g the case study of... for Tunisia&quot; from citation</td>
</tr>
<tr>
<td>12</td>
<td>32</td>
<td>Added reference</td>
<td>Added reference to &quot;Grubler et al., 2012&quot; as the figure in this format is taken from that report</td>
</tr>
<tr>
<td>12</td>
<td>33</td>
<td>Deletions</td>
<td>This was first formulated for macro-economic growth accounts (from which the IPAT identity is conceptually derived) by Abramovitz (1993) who emphasized the coevolution and interdependence of the income and technology variables in the IPAT identity. &quot;</td>
</tr>
<tr>
<td>12</td>
<td>34</td>
<td>Added Text</td>
<td>This section assesses the relative importance of the GHG drivers in different urban contexts such as size, scale, and age, and examines the differences between cities in developed and developing countries.</td>
</tr>
</tbody>
</table>
| 12   | 35   | Consistency | This underscores that the production of infrastructure materials such as concrete and metals rely heavily on fossil-fuel combustion, which is predicted to contribute 496 Gt of CO2 between 2010 and 2060 (from a range of 282 to 701 Gt of CO2) (Cole, 1998; Horvath, 2004; Allwood et al., 2010; Davis et al., 2010). The continued expansion of infrastructure would produce cumulative emissions of 3000 to 7400 Gt of CO2 from now.* to **This is in addition to the "committed emissions" from existing energy and transportation infrastructure, estimated to be in the range of 282 to 701 Gt of CO2 between 2010 and 2060 (Davis et al., 2010). Under scenarios of continued expansion of infrastructure, cumulative emissions would be between 3000 to 7400 Gt of CO2 from 2010**
Fig. 12.3(a): At end before reference added: “Numbers in panels show the cumulated CO2 emissions from 2010 to 2060 in Gt.”

Figure 12.13: caption: At end before reference added: “Figures 12.13.1, 12.13.2, and 12.13.3. Numbers in panels show the cumulated CO2 emissions from 2010 to 2060 in Gt.”

27 Replaced “This underscores that the production of infrastructure materials such as concrete and metals rely heavily on fossil-fuel combustion, which is predicted to contribute 496 Gt of CO2 between 2010 and 2060 (from a change of 282 to 701 Gt of CO2)” (Cole, 1998; Horvath, 2004; Allwood et al., 2010; Davis et al., 2010). The continued expansion of infrastructure would produce cumulative emissions of 3000 to 7400 Gt of CO2 from now through the end of this century, which would lead to 1 atmospheric concentrations greater than 600 ppm with “This is in addition to the “committed emissions” from existing energy and transportation infrastructure, estimated to be in the range of 282 to 701 Gt of CO2 between 2010 and 2060.”

18 Metric conversion. From “In the U.S., households located in relatively low density areas (0-50 households per square mile) produce twice as much GHG emissions as households located in relatively high density areas (5,000-9,999 households per square mile)” to “In the United States, households located in relatively low density areas (0-19 households/km2) produce twice as much GHG emissions as households located in relatively high density areas (1,900 –3,900 households/km2)”

55 Added “We demonstrate the effectiveness of this methodology by comparing the FAD with the cluster analysis from Figure 12.13.1.”

44 “They” to “The dominant trend is declining density, however…”

41 “There are a number of reasons for this: distances tend to be shorter and the system of small blocks promotes convenience and walking” to “Two main reasons for this are that distances tend to be shorter and the system of small blocks promotes convenience and walking.”

6 Added “In a rapidly motorising city of Santiago de Chile, proximity to the central business district as well as metro stations has a relatively strong association with VKT (Zegras, 2010).”

48 Changed “For example, the city of Cape Town has set a target of increasing energy efficiency within the municipality by 12% by 2010 (Holgate, 2007), and Mexico City has implemented a target of reducing GHG by 12% below 1990 levels by 2012 (Romero Lankao, 2007).” to “For example, the city of Cape Town has set a target of increasing energy efficiency within the municipality by 12% by 2010 (Holgate, 2007), and Mexico City has implemented a target of reducing 7 million tons of GHG from 2008 to 2012 (Delgado-Ramos, 2013).”

38 1st sentence of second bullet “Market Drivers…” moved to “Primary drivers” bullet.

35 “Excessive” has been changed to “Outdated or poorly designed”

34 Deleted “Scale is a particularly important determinant of success.”

52 “Hong Kong” has been changed to “Hong Kong SAR, China”
<table>
<thead>
<tr>
<th>Page</th>
<th>Incorrect Line</th>
<th>Corrected Line</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>86</td>
<td>12</td>
<td>Deleted this reference as not referred to from the text anymore</td>
</tr>
<tr>
<td>12</td>
<td>92</td>
<td>9</td>
<td>Deleted this reference as not referred to from the text anymore</td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>16</td>
<td>Include “5” after “13.” to read and refer to section 13.5</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>1</td>
<td>Clarified that the term “climate benefits” refers to “climate change mitigation and adaptation benefits”</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>17</td>
<td>Replace ‘13.1’ with ‘13.14’ as the last entry in square brackets</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>38</td>
<td>Replace “Mitigation pledges by individual countries in the Copenhagen-Cancun regime, if fully implemented, will help reduce emissions to below the business-as-usual level in 2020, but are unlikely to attain an emission level by 2020 consistent with a trajectory that achieves the long-term 2°C goal.” with “Mitigation pledges by individual countries in the Copenhagen-Cancun regime, if fully implemented, will help reduce emissions to below the projected business-as-usual level, but are unlikely to attain an emission level in 2020 consistent with cost-effective pathways, based on the immediate onset of mitigation, that achieve the long-term 2°C goal with a greater than 50% probability.”</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>43</td>
<td>Revised the finding to be consistent with language used in the TS. Replaced the text “not been as successful as intended” with more specific and qualified language based on the underlying chapter. Added a citation to Section 5.2.</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>4</td>
<td>Replaced “flexibility mechanism” with “flexible mechanism” to match language in the chapter and TS</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>7</td>
<td>Updated the number of CDM credits generated to a more current number to match the underlying chapter and TS</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>16</td>
<td>Revised with language that better matches the underlying chapter and TS (i.e. clarifying commitments vs. contributions, funding vs. finance and technology). Added in a new sentence about the Durban Platform supported by the underlying chapter and TS</td>
</tr>
<tr>
<td>13</td>
<td>16</td>
<td>3</td>
<td>Figure 13.1 caption: Inserted revised caption for clarification: The landscape of agreements and institutions on climate change. Lines connecting different types of agreements and institutions indicate different types of links. In some cases, lines represent a formal agreement of a division of labour (e.g. between the UNFCCC and ICAO concerning aviation emissions). In other cases, lines represent a more simple mutual recognition (e.g. the accreditation of C40 cities by the UNFCCC). In others still, lines represent a functional linkage without any formal relationship (e.g. the relationship between the CDM and the NGOs certification of carbon offsets). This is a rapidly-changing landscape and not all links may be captured.</td>
</tr>
<tr>
<td>13</td>
<td>19</td>
<td>22</td>
<td>Correct references and include missing ref (Finus and Pintassilgo, 2012, 2013)</td>
</tr>
<tr>
<td>13</td>
<td>22</td>
<td>9</td>
<td>Figure 13.2: Changes to figure made for clarity and consistency: - Deletion the box of Global Carbon Tax, because such an architecture does not really arise in the literature and is infeasible. - Deletion of the box on Border Tax Adjustments, because this is not a form of international cooperation, but a unilateral national policy instrument. - Deletion of the box on Investor Governance Initiatives, because the meaning and location of this box was unclear and it is not a form of international cooperation. - Elimination of the word National from National/Regional ETS Linkages, and change of this box to Regional ETS (which refers to the EU ETS). - Addition of Linked Cap and Trade Systems to the box on Harmonized Carbon Taxes. - Deletion of the 2 degrees goal, because it is still in process. - Vertical realignment of some of the boxes. - Exchange of the colors of existing and proposed architectures, so that greater emphasis is given to existing forms of cooperation.</td>
</tr>
</tbody>
</table>
Figure 13.2: caption: Replaced with the following sentence: ‘Alternative forms of international cooperation. The figure represents a compilation of existing and possible forms of international cooperation, based upon a survey of published research, but is not intended to be exhaustive of existing or potential policy architectures, nor is it intended to be prescriptive. Examples in orange are existing agreements. Examples in blue are structures for agreements proposed in the literature. The width of individual boxes indicates the range of possible degrees of centralization for a particular agreement. The degree of centralization indicates the authority an agreement confers on an international institution, not the process of negotiating the agreement.’

Figure 13.4: Legend entries were corrected for clarity and consistency, which entailed a re-categorization of the following countries: Belize, Bosnia and Herzegovina, Brunei Darussalam, Cambodia, China, Colombia, Costa Rica, Cyprus, Ethiopia, Hong Kong, India, Kazakhstan, Kenya, Macao, Malaysia, Maldives, Mexico, Montenegro, Namibia, Palau, Peru, Philippines, San Marino, Singapore, Sri Lanka, Taiwan and Thailand. Furthermore, South Sudan was added as a country and the categorization of some US Dependencies was adjusted. Finally, proposed links between ETS were updated and information on the acceptance of CDM credits in different ETS was included.

Figure 13.4 caption: Added the following sentences: ‘Linkage through proposed acceptance of offsets and Joint Implementation projects not displayed. In some cases, countries otherwise eligible to host CDM projects must first establish a Designated National Authority. Accurate as of March 2014.’

Table 13.3: caption: Insert ‘climate change’ to read: ‘Summary of performance assessments of existing cooperation of proposed cooperation on climate change.’

Table 13.3: Moved ‘Existing Cooperation [13.13.1]’ entry into the first row to sit next to ‘UNFCCC’; inserted ‘GHG’ in the third column, ‘Kyoto Protocol’ row to read: ‘Aggregate GHG emissions...’; replaced ‘July’ by ‘October’ in the third column, ‘The Kyoto Mechanisms’ row, inserted ‘GHG’ in the third column, ‘Further Agreements under the UNFCCC’ row to read: ‘limit GHG emissions...’ and moved the word ‘cost-effectively’ to read: ‘Unlikely sufficient to limit temperature change to 2°C cost-effectively...’; inserted ‘GHG’ in the third column, ‘G8, G20, MEF’ row to read: ‘recommended GHG emission reduction...’; inserted ‘GHG’ in the third column, ‘Montreal Protocol on Ozone-Depleting Substances (ODS)’ row to read: ‘Spurred GHG emission reductions...’.

Table 13.3: removed the bracket (J) from the second row on the UNFCCC and its Aggregate Economic Performance; also replaced the term ‘implementation’ with the correcter word ‘fulfilment’

Replace ‘13.5.1.1’ with ‘13.7.2’.

Replace ‘insufficient to achieve a 2°C target, resulting in a so-called with ‘inconsistent with cost-effective mitigation scenarios, which are based on the immediate onset of mitigation that maintain temperature change below 2°C target with a greater than 50% probability (see Section 6.4 for detail on these scenarios). The difference between the emissions in 2020 in immediate mitigation pathways scenarios and the Cancún pledges has been referred to as the’

Replace ‘these analyses exhibit substantial differences in quantitative results’ with ‘there are a number of delayed mitigation scenarios that delay mitigation and still meet this temperature goal and have emissions in the range of the Cancún pledges in 2020 (see Section 6.4). Analyses that have quantified the Cancún pledges exhibit substantial differences in results’

Replace ‘trajectory consistent with the 2°C target’ with ‘an immediate mitigation trajectory consistent with maintaining temperature change below 2°C with a 50% or greater chance’
Figure 13.5 caption: Replace with revised text: 'Blue box plots show historic global GHG emissions and emissions in 2020 from business-as-usual projections and projections including Cancun pledges. Four cases are considered which combine assumptions about pledges (unconditional or conditional) and rules for complying with pledges (lenient or strict). The ranges of 2020 emissions (20th percentile, median, and 80th percentile) are taken directly from the UNEP Emissions Gap Report (UNEP, 2012) and represent findings from various modelling groups considering scenarios that begin mitigation immediately. The arrows indicate the difference between the median emissions projection in each case and the median emission level projected to maintain temperature change below 2°C with a greater than 66% probability. The ranges (20th to 80th percentiles) of 2020 emissions that maintain temperature change below 2°C can be compared to those from cost-effective immediate mitigation scenarios from the WGIII ARS Scenario Database: greater than 66% probability: 36-47 GtCO2e/yr; 50-66% probability: 43-47 GtCO2e/yr (see Chapter 6 and Annex II.10 for details, including MAGICC calculations). Differences in these ranges depend, for example, on assumptions about the availability of negative emissions technologies (see, e.g., Figure 6.31).'

Figure 13.3: y-axis: Included ‘annual’ for the label to read “Change in Annual GHG Emission from 1990-2010 (GtCO2e/yr)”. Figure Legend: Replaced entry for „Total GHG Emissions“ with „Net GHG Emissions“.

Figure 14.4 top panel: Adjusted y-axis label to read: “GHG Emissions per Capita (GtCO2e/cap)/yr” and x-axis label to read: “Cumulative Population [Million]”.

Figure 14.4 bottom panel: Adjusted y-axis label to read: “GHG Emissions per GDP (PPP) ([kgCO2e/cap]/yr)” and x-axis label to read: “Cumulative GDP (PPP) ([Billion Int$2005]).”

Figure 14.6 left/top panel: Adjusted y-axis label to read “GHG Emissions per Capita [tCO2eq/cap]” and x-axis label to read “GDP (PPP) per Capita [Int$2005/cap]”.

Figure 14.6 right/bottom panel: Adjusted y-axis label to read “GHG Emissions per GDP (PPP) ([kgCO2eq/Int$2005]/yr)” and x-axis label to read “GDP (PPP) per Capita [Int$2005/cap]/yr”.

Figure 15.1: Changed y-axis label to read: “CO2 Emissions (GtCO2/yr)”

Figure 14.11: Adjusted 1st y-axis to read “Share of Household Expenditure in 2001 [%/yr]” and 2nd y-axis to read “GDP (MER) per Capita in 2001 ([1000 USD2005/cap]/yr)”.

Number of Gt corrected to read 1.1 instead of 1.5

Wrong references, replace ([Taylor et al., 2009; Hurtt et al., 2011; Lawrence et al., 2012]) by Meinshausen et al (2011)
Re-insertion of missing paragraph: As a result, prices fell by two thirds but did not reach zero because allowances could be banked beyond 2012, and the Commission acted swiftly to set a stringent centralized emissions cap for the period 2013-2020 (see Skjærseth, 2010, and Skjærseth and Wettestad, 2010, for the details of the new rules and how interest groups and member states negotiated them). This stabilized prices until late 2011. But again, the unexpected persistence of industrial production decreases led to a situation of general over-allocation and pressure on allowance prices. The European Parliament and member states decided in late 2013 to stop auctioning allowances between 2013 and 2015 to temporarily take up to 900 million allowances out of the market ("backloading").

Consistency

Error Correction
Figure 15.2  
Row 'Government Provision of Public Goods and Services' for the AFOLU column was amended to shift 'Investment in improvement and diffusion of innovative technologies in agriculture and forestry' from subsequent bullet to read 'Investment in improvement and diffusion of innovative technologies in agriculture and forestry'.

15.20 17 17 Delete heading replaced to read 'Overview of policy implementation'  
Clarification

15.22 Column AFOLU Column AFOLU  
CDM expanded to read 'the Kyoto Protocol's Clean Development Mechanism'  
Clarification

15.24 Table 15.2  
Row 'Government Provision of Public Goods and Services' for the AFOLU column was amended to shift 'Investment in improvement and diffusion of innovative technologies in agriculture and forestry' from subsequent bullet to read 'Investment in improvement and diffusion of innovative technologies in agriculture and forestry'.

15.25 38 38 deleted 'partly'  
Error Correction

15.26 10 10 This is amended to read 'Fuel taxes are important for climate change mitigation'  
Clarification

15.27 28 28 Text inserted: "(Sterner, 2007) shows that in Europe, where fuel taxes have been the highest, they have contributed to reductions in CO2 emissions from transport by 50% for this group of countries."  
Consistency

15.28 1 1 Units in figure amended from USD2005 to USD2010, and PPP deleted from x-axis.  
Error Correction

15.28 16 18 Dollar values updated to 2010 USD  
Consistency

15.28 21 21 by 2050 inserted into sentence.  
Clarification

15.28 24 24 Dollar values updated to 2010 USD  
Consistency

15.28 26 26 by 2050 inserted into sentence.  
Clarification

15.28 28 28 this replaced with 'the potential impact of a reduction in subsidies to fossil fuels'  
Clarification

15.28 Figure 15.2  
Figure amended to present all numbers in 2010 USD  
Consistency

15.29 18 18 inserted 'regressivity'  
Clarification

15.30 21 23 Dollar values updated to 2010 USD  
Consistency

15.30 30 30 Heading replaced to read 'Overview of emissions trading schemes'  
Clarification

15.34 7 8 Second half of sentence amended to read '...and will cover the waste sector in May 2014. The agricultural sector must report emissions since January 2012 but a decision on when it will face surrender obligations has not yet been made.'  
Error Correction

15.35 17 18 Sentence amended to read: "Permits have been allocated either by auction, or have been given away for free. In the latter case, allocation has been proportional to past emissions or output (i.e., grandfathered) or proportional to current output."

15.36 5 5 Last year’s replaced with ‘the announcement in 2013’  
Clarification

15.36 31 31 Replace ‘tradable permits’ with ‘emissions trading’ to be consistent with 15.5.3 heading  
Consistency

15.38 25 25 Delete ‘climate’  
Consistency

15.38 30 30 Heading replaced to read 'Overview of the implementation of regulatory approaches'  
Clarification

15.40 12 13 Text inserted: "(Allcott, 2011) exhibits this case in a recent survey of US car buyers, 40% of whom were shown not to consider fuel costs in their purchasing decision"  
Clarification

15.41 30 30 Add ‘and procurement’ to be consistent with 15.3.4 heading  
Consistency

15.41 42 42 Add ‘change’ between ‘climate’ and ‘mitigation’  
Consistency

15.41 43 43 Delete ‘climate’  
Consistency

15.42 17 17 Replace ‘GHG’ with ‘climate change’  
Consistency

15.42 29 29 Add ‘change’ between ‘climate’ and ‘mitigation’  
Consistency

15.43 11 11 Heading ‘Introduction’ deleted.  
Error Correction
15 44 Chinese provision of Taiwan’ amended to read ‘Taiwan, province of China.’ Error Correction
15 45 Chinese provision of Taiwan’ amended to read ‘Taiwan, province of China.’ Error Correction
15 46 Add ‘change’ between ‘climate’ and ‘mitigation’ Consistency
15 46 Delete ‘carbon’ Consistency
15 46 Add ‘change’ between ‘climate’ and ‘mitigation’ Consistency
15 46 Replace ‘1.4’ with ‘an estimated 1.3’ and ‘lack access to clean fuel for’ with ‘rely on highly polluting and unhealthy traditional solid fuel for household’ Error Correction
15 47 Replace ‘IEA/OECD, 2013’ with ‘IEA, 2012’ and add ‘(see Section 14.3.2.1)’ Error Correction
15 47 Heading replaced to read “Overview of the role of technology policy and R&D policy” Clarification
15 47 Replace ‘GHG’ with ‘climate change’ Consistency
15 48 Add ‘change’ between ‘climate’ and ‘mitigation’ Consistency
15 48 Delete ‘GHG’ Consistency
15 51 Replace ‘sequestration’ by ‘dioxide storage’ Consistency
15 53 Heading replaced to read ‘Summary of technology policy and R&D policy’ Clarification
15 53 Replace ‘GHG’ with ‘climate change’ Consistency
15 53 Replace ‘GHG reducing’ with ‘mitigation’ Consistency
15 53 Replace ‘GHG’ with ‘climate change’ Consistency
15 53 Heading ‘Introduction’ deleted. Error Correction
15 54 Replace ‘mitigation’ with ‘transformation’ Consistency
15 54 Add ‘reductions in’ before ‘health’ Consistency
15 54 Footnote moved into text behind line 22. Consistency
15 56 Delete ‘change’ Consistency
15 58 Heading replaced to read ‘Overview of linkages across jurisdictions’ Clarification
15 58 Delete ‘change’ Consistency
15 59 Replace a ‘horizontal’ movement of economic activities to other jurisdictions without mandatory with ‘(see the glossary in Annex I for a definition)’ Error Correction
15 59 Delete ‘change’ Consistency
15 60 Heading ‘Introduction’ deleted. Error Correction
15 60 Delete ‘climate’ Consistency
15 61 Heading replaced to read ‘Summary of the role of stakeholders’ Clarification
15 62 Delete ‘change’ (twice) Consistency
15 66 Delete ‘climate’ Consistency
15 67 Sentence amended to read: “It is difficult to gauge the contribution of fuel taxes to mitigation efforts” Clarification
16 3 Add "with global total annual investment in the energy sector at about USD 1200 billion." Clarification
16 7 Substitute "Under the UNFCCC, climate finance is funding provided to developing countries by Annex II Parties for climate related activities. ’ by "Under the United Nations Framework Convention on Climate Change (UNFCCC), climate finance is not well-defined. Annex II Parties provide and mobilize funding for climate related activities in developing countries." Clarification
16 10 Change “all” into “the majority”. Error Correction
16 13 Add ", 9% for multiple objectives and for 2% of the funding the purpose is unknown. ” Clarification
16 14 Add "global total annual investment at about USD 1200 billion and” behind "energy sector with”. Clarification
16 14 Figure 16.2 Figure up-dated. Error Correction
16 15 Add "billion”. Clarification
16 16 Delete ‘GHG’ and ‘approx’. Consistency
16 17 Swap number of studies for World/non-OECD. Error Correction
16 17 Figure 16.3 Change group heading from „Power Plants” to „Electricity Generation”. Clarification
16 18 Figure 16.4 Change group heading from „Power Plants” to „Electricity Generation”. Clarification
16 18 Delete ‘IEA (2011): 450 Scenario (450) relative to the Constant Policies Scenario (CPS). CPS investment in CCS is also included under Coal & Gas (retrofitting); World investment in biofuels includes international bunkers; investment in solar and PV in buildings is attributed to power plants in supply-side investment.” Consistency
16 20 Change wording to: "decreasing”. Clarification
16 21 Change wording to: “shrinking”. Clarification
16 29 Change from "but it difficult to establish it up front and to adapt it as the market evolves and technologies mature” into “but it is difficult to establish the appropriate level up front and to adapt it as the market evolves and the technology matures.” Clarification
16 31 Delete "development”. Error Correction
16 38 Delete “they” and include “private actors” instead. Clarification
<table>
<thead>
<tr>
<th>No.</th>
<th>Page</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
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<th>Verified Text</th>
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</thead>
<tbody>
<tr>
<td>Al 2</td>
<td>2</td>
<td>1</td>
<td>41</td>
<td>11</td>
<td>Substitute &quot;Under the UNFCCC, climate finance is funding provided to developing countries by Annex II Parties for climate related activities.&quot; by &quot;Under the United Nations Framework Convention on Climate Change (UNFCCC), climate finance is not well-defined. Annex II Parties provide and mobilize funding for climate related activities in developing countries.&quot;</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>10</td>
<td>The color of those terms that are defined in the glossary was changed from red to blue.</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 2</td>
<td>2</td>
<td>15</td>
<td>17</td>
<td></td>
<td>Following the WGII Approval Plenary, the second and third sentence were changed to &quot;In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>Al 3</td>
<td>3</td>
<td>37</td>
<td>37</td>
<td>10</td>
<td>Added ‘FOLU (Forestry and Other Land Use)’ – also referred to as LULUCF (Land use, land-use change, and forestry) – is the subset of AFOLU emissions and removals of greenhouse gases (GHGs) resulting from direct human-induced land use, land-use change and forestry activities excluding agricultural emissions. In response to government comments.</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 6</td>
<td>6</td>
<td>37</td>
<td>38</td>
<td>10</td>
<td>In response to a plenary decision, the definition of ‘biomass’ was expanded to more explicitly define ‘traditional biomass’ and ‘modern biomass’. It now reads: &quot;Traditional biomass refers to the biomass – fuelwood, charcoal, agricultural residues, and animal dung – used with the so-called traditional technologies such as open fires for cooking, rustic kilns and ovens for small industries. Widely used in developing countries, where about 2.6 billion people cook with open wood fires, and hundreds of thousands small industries. The use of these rustic technologies leads to high pollution levels and, in specific circumstances, to forest degradation and deforestation. There are many successful initiatives around the world to make traditional biomass burned more efficiently and cleanly using efficient cookstoves and kilns. This last use of traditional biomass is sustainable and provides large health and economic benefits to local populations in developing countries, particularly in rural and peri-urban areas. Modern biomass All biomass used in high efficiency conversion systems.&quot;</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 7</td>
<td>7</td>
<td>16</td>
<td>20</td>
<td>10</td>
<td>Added &quot;(also referred to as Effort sharing)&quot; to the term ‘Burden sharing’</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 7</td>
<td>7</td>
<td>19</td>
<td>20</td>
<td></td>
<td>Deleted ‘Burden sharing includes reducing the sources and enhancing the sinks of GHGs’ due to redundancy</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 7</td>
<td>7</td>
<td>24</td>
<td>24</td>
<td></td>
<td>Replaced ‘COP17/CMP1’ with ‘the 16th Session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change’.</td>
<td>Consistency</td>
</tr>
<tr>
<td>Al 7</td>
<td>7</td>
<td>30</td>
<td>30</td>
<td>10</td>
<td>In response to a plenary decision, a definition of Cancun Pledges was added and reads: &quot;During 2010, many countries submitted their existing plans for controlling greenhouse gas (GHG) emissions to the Climate Change Secretariat and these proposals have now been formally acknowledged under the United Nations Framework Convention on Climate Change (UNFCCC). Developed countries presented their plans in the shape of economy-wide targets to reduce emissions, mainly up to 2020, while developing countries proposed ways to limit their growth of emissions in the shape of plans of action.&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>Al 7</td>
<td>7</td>
<td>35</td>
<td>36</td>
<td></td>
<td>Replaced ‘total emissions permissible with limits on cumulative emissions estimated’</td>
<td>Clarification</td>
</tr>
<tr>
<td>Al 8</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>To ensure consistency with the underlying WGIII report, the WGII definition of ‘carbon cycle’ was slightly adapted. Consistent with the WGII glossary, equivalently ‘PgC [1015g] was replaced with ‘GtC’ (1 GtC corresponds to 3.667 GtC).’</td>
<td>Consistency</td>
</tr>
<tr>
<td>Al 8</td>
<td>8</td>
<td>2</td>
<td>2</td>
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<td>Changed ‘sinks’ to ‘reservoirs’ to ensure consistency with WGII.</td>
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<td>Al 8</td>
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<td>10</td>
<td>Added ‘See Annex II.9.1 for GWP values for other GHGs.’</td>
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<td>Replaced the existing definition with ‘The price for the emission of avoided or released carbon dioxide (CO2) or CO2-equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits.’ in response to government comments</td>
<td>Error Correction</td>
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<td>To clarify the new definition of ‘carbon price’ and in response to a plenary decision, the definition was expanded to include the sentence: &quot;In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.&quot;</td>
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<td>Deleted ‘hydrochlorofluorocarbons and’</td>
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<td>In response to a plenary decision, the 'climate finance' definition was expanded. To that end, the last sentence was changed and a number of sub-entries added to read: &quot;The literature includes several concepts in these categories, among which the most commonly used include: 1) Incremental costs: The cost of capital of the incremental investment and the change of operating and maintenance costs for a mitigation or adaptation project in comparison to a reference project. It can be calculated as the difference of the net present values of the two projects. See also Additionality. Incremental investment: The extra capital required for the initial investment for a mitigation or adaptation project in comparison to a reference project. See also Additionality. 2) Total climate finance: All financial flows whose expected effect is to reduce net greenhouse gas (GHG) emissions and/or to enhance resilience to the impacts of climate variability and the projected climate change. This covers private and public funds, domestic and international flows, expenditures for mitigation and adaptation to current climate variability as well as future climate change.</td>
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<td>continued: 3) Total climate finance flowing to developing countries: The amount of the total climate finance invested in developing countries that comes from developed countries. This covers private and public funds. 4) Private climate finance flowing to developing countries: Finance and investment by private actors in/from developed countries for mitigation and adaptation activities in developing countries. 5) Public climate finance flowing to developing countries: Finance provided by developed countries' governments and bilateral institutions as well as by multilateral institutions for mitigation and adaptation activities in developing countries. Most of the funds provided are concessional loans and grants.&quot;</td>
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<td>In accordance with the SYR definition and to reflect the fact that radiative forcing calculations in the version of MAGGI used for this report includes albedo changes (subsequently translated into CO2-equivalent concentration forTables 6.2 and 6.3), 'and aerosols' was replaced by 'aerosols, and surface albedo changes'. Similarly. 'GHGs' was replaced by 'forcing components'.</td>
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<td>Behind 'Annex II.9.1', and WGI AR5 Table 8.A.1' was added since the most up-to-date GWP values can be found in the WGI contribution to the AR5.</td>
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<td>Added 'see Annex II.9.1 for GWP values of the different GHGs'</td>
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<td>Replaced 'also called' with 'often referred to as'</td>
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<td>The reference to WGI Table 1.1 was changed to read '1.2.'</td>
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<td>Replaced 'limit or reduce greenhouse gas (GHG) emissions' with 'contribute to mitigation'</td>
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<td>The following cross-reference was added to the entry; &quot;See Annex II.2.1&quot;</td>
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<td>Replaced 'show' with 'are influenced by' in line with other Working Groups</td>
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<td>Expanded existing definition to avoid misundertanding to 'Emissions that arise from the production and delivery of a product(ood or service or the build-up of infrastructures. infrastructure. Depending on the chosen system boundaries, upstream emissions are often included (e.g., emissions resulting from the extraction of raw materiais). See also Lifecycle assessment (LCA).'</td>
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<td>Added 'see also Annex II.6.2.'</td>
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<td>Consistent with the AR5 Uncertainty Guidance Note, the words &quot;quality, and consistency&quot; were added behind &quot;amount&quot;.</td>
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<td>Deleted the definition of 'full-cost pricing' because it is not used in the report.</td>
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<td>Replaced the existing sentence with 'Unless stated otherwise, this report uses GWP values calculated with a 100-year time horizon which are often derived from the IPCC Second Assessment Report (see Annex II.8.3 for the GWP values for the different GHGs).'</td>
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<td>Added 'and Annex II.9.1 for GWP values'</td>
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<td>AI</td>
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<td>18</td>
<td>In accordance with WGI and WGII glossaries, a definition of 'Industrial Revolution' was added to the glossary: 'A period of rapid industrial growth with far-reaching social and economic consequences, beginning in Britain during the second half of the 18th century and spreading to Europe and later to other countries including the United States. The invention of the steam engine was an important trigger of this development. The industrial revolution marks the beginning of a strong increase in the use of fossil fuels and emission of, in particular, fossil carbon dioxide. In this report the terms pre-industrial and industrial refer, somewhat arbitrarily, to the periods before and after 1750, respectively.'</td>
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<td>AI</td>
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<td>5</td>
<td>10</td>
<td>Deleted the definition of IEA because this is publicly available information.</td>
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</table>
| AI | 26 | 20 | 20 | Added a definition for LULUCF in response to government comments: 'A greenhouse gas (GHG) inventory sector that covers emissions and removals of GHGs resulting from direct human-induced land use, land use change and forestry activities excluding agricultural emissions. See also Agriculture, Forestry and Other Land use (AFOLU).'
| AI | 26 | 27 | 27 | Added 'land use' | Consistency |
| AI | 26 | 29 | 29 | Added: 'In the context of Carbon Dioxide Capture and Storage (CCS), 'CO2 leakage' refers to the escape of injected carbon dioxide (CO2) from the storage location and eventual release to the atmosphere. In the context of other substances, the term is used more generically, as for 'methane (CH4) leakage' (e.g., from fossil fuel extraction activities), and 'hydrofluorocarbon (HFC) leakage' (e.g., from refrigeration and air-conditioning systems).'
| AI | 27 | 12 | 12 | Added 'See also Annex II.6.3.' | Clarification |
| AI | 27 | 15 | 19 | For clarification and consistency with the SPM, the likelihood qualifiers were changed to read: 'virtually certain' 99–100% probability, very likely 90–100%, likely 66–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%. Additional terms (more likely than not > 50–100%, and more unlikely than likely 0–5%) may also be used when appropriate. Assessed likelihood is typeset in italics, e.g., very likely.' | Consistency |
| AI | 27 | 23 | 24 | Deleted the definition of 'marginal cost pricing' because it is not used in the report. | Consistency |
| AI | 27 | 27 | 27 | To avoid misunderstanding, 'and' was changed to 'and/or' because the listed changes do not necessarily materialize all at the same time. | Clarification |
| AI | 27 | 37 | 37 | Added 'See also Purchasing power parity (PPP) and Annex II.1.3 for the monetary conversion process applied throughout this report.' | Clarification |
| AI | 28 | 9 | 9 | Added 'See also Annex II.6.1.' | Clarification |
| AI | 28 | 22 | 22 | Added 'and Annex II.9.1 for GWP values.' | Clarification |
| AI | 30 | 18 | 18 | Added 'and Annex II.9.1 for GWP values.' | Clarification |
| AI | 31 | 37 | 37 | Added 'and Annex II.9.1 for GWP values.' | Clarification |
| AI | 32 | 27 | 27 | In accordance with the WGI and WGII glossaries, the term 'Pre-industrial' was added, pointing to the newly inserted definition of 'Industrial Revolution.'

| AI | 32 | 32 | 32 | Added a definition for 'private costs' in response to government comments: 'Private costs are carried by individuals, companies or other private entities that undertake an action, whereas social costs include additionally the external costs on the environment and on society as a whole. Quantitative estimates of both private and social costs may be incomplete, because of difficulties in measuring all relevant effects.' | Clarification |
| AI | 33 | 4 | 4 | Added 'See also Market exchange rate (MER) and Annex II.1.3 for the monetary conversion process applied throughout this report.' | Clarification |
| AI | 33 | 10 | 10 | In accordance with the WGI and SYR glossary entries, one sentence was added to the end of the definition: 'For the purposes of this report, radiative forcing is further defined as the change relative to the year 1750 and refers to a global and annual average value.' | Consistency |
| AI | 33 | 17 | 17 | Replaced 'reduced' with 'reducing' | Error Correction |
| AI | 34 | 37 | 39 | Following the WGII Approval Plenary, the definitions were slightly changed to read: 'The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation' | Consistency |
| AI | 35 | 1 | 1 | To clarify that the definition of 'risk' is to some extent report-specific, the following words were added at the beginning: 'In this report, the term risk is often used to refer to the' | Clarification |
| AI | 35 | 2 | 2 | In accordance with the WGI and SYR glossaries, 'species' was added behind 'ecosystems.' | Consistency |
| AI | 35 | 8 | 8 | In accordance with the WGI and SYR glossaries, 'implemented' was deleted. | Consistency |
| AI | 35 | 26 | 29 | Deleted the definition of 'sectoral mechanism' because it is not used in the report. | Consistency |
| AI | 36 | 35 | 36 | Replaced 'baseline mitigation trajectory over time with associated emissions' with 'emissions trajectory over time.' | Clarification |
| AI | 37 | 1 | 5 | Deleted the definition of 'social unit cost of mitigation' because it is not used in the report. | Consistency |
| AI | 37 | 28 | 28 | To acknowledge that SRES scenarios were also used in WGI AR5, the following words were added: 'as well as WGI AR5' behind '2007.' | Consistency |
Figure caption was amended to read "...from the National Flood Insurance Program per dollar income per county per year for the years 1980 to 2008 in USD2010. Considering dollar claims per dollar income in each county corrects for increasing exposure. Note: The vertical axis gives mean excess loss, given loss at least as large as the horizontal axis."  

Text inserted 'Source: adapted from (Koutrakis and Cooke, 2009)'  

Sentence added to caption reading "Note: The vertical axis gives mean excess loss, given loss at least as large as the horizontal axis."  

Text inserted 'Source: adapted from (Koutrakis and Cooke, 2009)'  

Text inserted 'For the FOLU sub-sector EDGAR (JRC/PBL, 2012) represents land-based CO2 emissions from forest and peat fires and decay to approximate the CO2 flux from anthropogenic emission sources.'  

Text inserted delineating which gases and associated GWPs are covered in the EDGAR database.  

Three' replaced with 'four'  

Delete 'climate' (three times)  

Row 'China MARKAL/TIMES' deleted  

Text deleted 'IIM, IIM-3.0'  

Table II.14 replaced by 139  

Row 'PECE 2' deleted.  

42 replaced with 41  

18 replaced by 16, 95 replaced by 83, 17 replaced by 16 and 378 replaced by 162  

4 replaced by 3, 118 replaced by 105  

Two column labels in Table A.II.16 were switched: "Overshoot Category" and "Negative Emissions Category"  

Text inserted in 'Case of missing land-use related CO2 emissions the average of the RCPs was used.'  

Text inserted 'carbohydrate aerosols and/or nitrate'  

Text amended to read "those were added by interpolating data from RCP2.6 and RCP8.5 on the basis of the energy-related CO2 emissions of the relevant scenario vis-à-vis these RCPs. If scenarios were part of a model intercomparison project and gases, or forcers were missing, data was used from what was diagnosed as a "central" model for the same scenario (Schaeffer u. a., 2013). At a minimum requirement to derive not only Kyoto forcing, but also full anthropogenic forcing, sulfur emissions in addition to CO2, CH4, and N2O needed to be reported. Forcing from mineral dust and land use albedo was fixed at year-2000 values."  

Deleting text [ref & stri]  

Last row of the table was amended to change 114 → 104 and 110 → 100  

Text inserted in Sections A.II.10.1 to A.II.10.3  

"This includes a switch to a zero carbon non-electric fuel, e.g., some types of biomass, or to natural gas." replaced by "This is assuming that natural gas is used as non-electric fuel. Further reductions in non-electric fuel emission intensity are technically possible, e.g., by increased use of biomass."  

Insert ‘in the context of climate change,’  

Replace "goal" by "objective".  

Insert "stabilize greenhouse gas concentrations in the atmosphere at a level to" and "sufficient"  

Quote changed to "dangerous interference with the climate system".  

Shift period from before to after bracket  

Shift period from before to after bracket  

Added "considering" after "involves".  

Insert after "systems": "Effective risk management strategies not only consider people’s values, and their intuitive thinking decision processes but utilize formal models and decision aids for systematically addressing issues of risk and uncertainty" and delete "coupled with formal models and decision aids that foster deliberative thinking."  

Delete "coupled with formal models and decision aids that foster deliberative thinking".  

Throughout this section some edits were undertaken for the ease of understanding: 1) improved cross-referencing within TS whenever possible as well as the referencing to the underlying chapters and sections of the full report; 2) qualified generic references to emissions wherever possible; E42  

Replace "emissions or climate impacts" by "warming"
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<td>9</td>
<td>45</td>
<td>2</td>
<td>Rephrase by importing sentence from SPM. By doing so add uncertainty estimates for global GHG emissions: &quot;Total anthropogenic GHG emissions were the highest in human history from 2000 to 2010 and reached 49 ± 4.5 GtCO2eq per year (GtCO2eq / yr) in 2010.&quot; Add footnote for transparency: &quot;In this summary, uncertainty in historic GHG emissions data is reported using 90% uncertainty intervals unless otherwise stated. GHG emissions levels are rounded to two significant digits throughout this document; as a consequence, small differences in sums due to rounding may occur.&quot;</td>
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<td>9</td>
<td>Removed this language and included in next finding in line with SPM.</td>
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| 10 | 10   | 14  | Imported SPM language for clarification and consistency. Made sure that all historic emission numbers are reported at two significant digits. The text with its extension reads: "CO2 emissions from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emission increase from 1970 to 2010, with similar percentage contribution for the period 2000 – 2010 (high confidence). Fossil fuel-related CO2 emissions reached 32 ± 2.7 GtCO2 / yr in 2010 and grew further by about 3% between 2010 and 2011 and by about 1 – 2% between 2011 and 2012. Since AR4, the shares of the major groups of GHG emissions have remained stable. Of the 49 (± 4.5) GtCO2eq / yr in total anthropogenic GHG emissions in 2010, CO2 remains the major anthropogenic GHG accounting for 76% (38 ± 3.8 GtCO2eq / yr) of total anthropogenic GHG emissions. 16% (7.8 ± 1.6 GtCO2eq / yr) come from methane (CH4), 6.2% (1.1 ± 1.9 GtCO2eq / yr) from nitrous oxide (N2O), and 2% (0.1 ± 0.2 GtCO2eq / yr) from fluorinated gases (Figure T5.1). Added an additional footnote from SPM in its corrected version: "In this report, data on non-CO2 GHGs, including fluorinated gases, are taken from the EDGAR database (see Annex II.9), which covers substances included in the Kyoto Protocol in its first commitment period."

*Made the change consistent with this report, where the sentence now reads: "CO2 emissions from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emission increase from 1970 to 2010, with similar percentage contribution for the period 2000 – 2010 (high confidence). Fossil fuel-related CO2 emissions reached 32 ± 2.7 GtCO2 / yr in 2010 and grew further by about 3% between 2010 and 2011 and by about 1 – 2% between 2011 and 2012. Since AR4, the shares of the major groups of GHG emissions have remained stable. Of the 49 (± 4.5) GtCO2eq / yr in total anthropogenic GHG emissions in 2010, CO2 remains the major anthropogenic GHG accounting for 76% (38 ± 3.8 GtCO2eq / yr) of total anthropogenic GHG emissions. 16% (7.8 ± 1.6 GtCO2eq / yr) come from methane (CH4), 6.2% (1.1 ± 1.9 GtCO2eq / yr) from nitrous oxide (N2O), and 2% (0.1 ± 0.2 GtCO2eq / yr) from fluorinated gases (Figure T5.1). Added an additional footnote from SPM in its corrected version: "In this report, data on non-CO2 GHGs, including fluorinated gases, are taken from the EDGAR database (see Annex II.9), which covers substances included in the Kyoto Protocol in its first commitment period."* | Consistency |
| 10 | 19   | Delete "of type". | Consistency |
| 10 | 23   | 29  | Comprehensively revised the figure caption to make it fully self-contained. | Clarification |
| 10 | 27   | 27  | Deleted "net" | Error Correction |
| 10 | 28   | 28  | Replaced "whisker" by "error bars" | Clarification |
| 11  | 2   | 2   | Replaced 900 by 910 for consistent reporting of historic emissions at two significant digits in this section. | Clarification |
| 11  | 3   | 3   | Replaced "fossil CO2 emissions" by "CO2 emissions from fossil fuel combustion, cement production and flaring" | Error Correction |
| 11  | 5   | Import additional footnote from SPM to define FOLU and explain relationship to AFOLU for transparency of text: "FOLU (Forestry and Other Land Use) — also referred to as LULUCF (Land Use, Land-Use Change, and Forestry) — is the subset of Agriculture, Forestry, and Other Land Use (AFOLU) emissions and removals of GHGs related to direct human induced land use, land-use change and forestry activities excluding agricultural emissions (see WGIII AR5 Glossary)." | Clarification |
| 11  | 7   | 12  | Added reference to sector and region definitions. | Clarification |
| 11  | 8   | Insert additional sentence from SPM with some further clarification: "Since 2000, GHG emissions have been growing in all sectors, except Agriculture, Forestry and Other Land Use (AFOLU) where positive and negative emission changes are reported across different databases and uncertainties in the data are high."

*Made the change consistent with this report, where the sentence now reads: "Since 2000, GHG emissions have been growing in all sectors, except Agriculture, Forestry and Other Land Use (AFOLU) where positive and negative emission changes are reported across different databases and uncertainties in the data are high."* | Consistency |
<p>| 11  | 10  | Added footnote to provide information about country income groupings: &quot;When countries are assigned to income groups in this summary, the World Bank income classification for 2013 is used. For details see Annex II.2.3.&quot; | Clarification |
| 11  | 15  | 20  | Added &quot;Of the 49 (± 4.5) GtCO2eq emissions in 2010&quot; for clarification. Added absolute contributions to GHG emissions in 2010 in brackets. | Clarification |
| 11  | 17  | Replace &quot;6%&quot; by &quot;6.4%&quot; to consistently round to two significant digits. | Clarification |
| 11  | 19  | Delete &quot;by 11% and 12%-points&quot;. Redundant information. | Clarification |
| 11  | 19  | Replace 32% by 31%. This was a rounding error. | Error correction |
| 12  | 2   | 9   | Revised figure caption. Replace &quot;all sources&quot; by &quot;the sum of all sources&quot;: Added &quot;(90% confidence interval)&quot; at the end of the sentence to provide full transparency. Add reference to annex with regional definitions. Replace &quot;whiskers&quot; by &quot;error bars&quot;. Refer to country income groups rather than economic regions. | Clarification |
| 13  | 1   | Replaced two upper panels by Figure SPM.2 for greater consistency between upper and lower panel as well as TS and SPM. Revised the figure caption comprehensively to reflect this change and to make it fully self-contained. | Consistency |
| 13  | 13  | 13  | Add additional information for full transparency: &quot;Emissions are converted into CO2-equivalents based on Global Warming Potentials with a 100 year time horizon (GWP100) from the IPCC Second Assessment Report. Assignment of countries to income groups is based on the World Bank income classification in 2013. For details see Annex II.2.3. Sector definitions are provided in Annex II.9.&quot; | Clarification |
| TS | 14 | 1 | 11 | Improved the cross-referencing to Figures. Used more appropriate language for last sentence, which reads: &quot;Mean per capita GHG emissions are different from median mainly in low-income countries as individual low-income countries have high per capita emissions due to large CO2 emissions from land-use change (Figure TS.4, right panel).&quot; | Clarification |
| TS | 14 | 2 | 1 | Added &quot;/yr&quot; to unit description for clarification | Clarification |
| TS | 14 | 3 | 3 | Add reference to Annex with regional definitions. | Clarification |
| TS | 14 | 6 | 7 | Change order of reference to 10th and 90th percentile | Error Correction |
| TS | 14 | 8 | 8 | Replace &quot;regional group&quot; by country income group&quot; | Clarification |
| TS | 14 | 13 | 20 | Comprehensively revised the figure caption to make it fully self-contained. | Clarification |
| TS | 15 | 11 | 18 | Comprehensively revised the figure caption to make it fully self-contained. | Clarification |
| TS | 16 | 3 | 8 | Remove &quot;of important&quot; to avoid judgemental tone. Similarly, simplify language to &quot;However, there is no metric that is both conceptually correct and practical to implement.&quot; | Clarification |
| TS | 16 | 20 | 21 | Remove &quot;some important&quot; to avoid judgemental tone. | Clarification |
| TS | 16 | 34 | Clarified reference and replaced &quot;6.2&quot; by &quot;6.3.2.5&quot;. | Clarification |
| TS | 16 | 39 | 45 | Put last paragraph into a footnote to box. | Clarification |
| TS | 17 | 9 | 10 | Made the bolded lead sentence consistent with SPM language: &quot;Globally, economic and population growth continue to be the most important drivers of increases in CO2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.&quot; | Consistency |
| TS | 17 | 10 | Corrected wording to read: &quot;Over the same period, income as measured through production and/or consumption per capita has grown by a factor of about two. The exact measurement of global economic growth is difficult because countries use different currencies and converting individual national economic figures into global totals can be done in various ways.&quot; | Error Correction |
| TS | 17 | 24 | 28 | Corrected figure and its caption consistent with the respective error-corrected version of Figure SPM.3 | Error Correction |
| TS | 18 | 16 | 17 | Extended bolded finding to make it consistent with SPM. This clarifies the language. It now reads: &quot;Without additional efforts to reduce GHG emissions beyond those in place today, emissions growth is expected to persist, driven by growth in global population and economic activities despite improvements in energy supply and end-use technologies (high confidence).&quot; | Consistency |
| TS | 18 | 19 | Clarified CO2eq concentrations in footnote consistent with approach taken in SPM (removed from para). The footnote reads: &quot;These CO2eq concentrations represent full radiative forcing, including GHGs, halogenated gases, tropospheric ozone, aerosols, mineral dust and albedo change. &quot; | Consistency |
| TS | 18 | 19 | Added temperature projections for baseline scenarios for consistency with SPM and subsequent sections in the TS at the end of sentence: &quot;and result in projected global mean surface temperature increases in 2100 from 3.7 to 4.8 °C compared to pre-industrial levels (range based on median climate response; the range is 2.5 °C to 7.8 °C when including climate uncertainty, see Table TS.1). Notes that these include SPM corrections around the &quot;median climate response&quot;. Transparency requires also the addition of two footnotes to establish the required transparency over these projections as in SPM. The first footnote explains the pre-industrial temperature reference: &quot;Based on the longest global surface temperature dataset available, the observed change between the average of the period 1850 – 1900 and of the AR5 reference period (1986 – 2005) is 0.61 °C (5 – 95% confidence interval: 0.55 to 0.67 °C) [WGI SPM.1], which is used here as an approximation of the change in global mean surface temperature since pre-industrial times, referred to as the period before 1750.&quot; The second footnote establishes explains the climate uncertainty range: &quot;Provided estimates reflect the 10th to the 90th percentile of baseline scenarios collected for this assessment. The climate uncertainty reflects the 5th to 95th percentile of climate model calculations described in Table TS.1 for each scenario.&quot; | Consistency |
| TS | 18 | 22 | 24 | Corrected 2011 radiative forcing estimates in line with SPM: &quot;For comparison, the CO2eq concentration in 2011 has been estimated to be 430 ppm (uncertainty range 340–520 ppm).&quot; Added footnote for further clarification and transparency. It reads: &quot;This is based on the assessment of total anthropogenic radiative forcing for 2011 relative to 1750 in WGI, i.e. 2.3 W m−2, uncertainty range 1.1 to 3.3 W m−2. [WGI AR5 Figure SPM.5, WGI 8.5, WGI 12.3]&quot; | Error correction |</p>
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<tr>
<td>TS 18</td>
<td>3</td>
<td>Throughout this section 3.1 some edits were undertaken for the ease of understanding: 1) Reference to scenario categories with short hands as highlighted in Table TS.1/SPM1: &quot;about 450&quot; for 430-480 category; &quot;about 500&quot; for 480-530 category; &quot;about 550&quot; for 530-580 category. 2) Corrected GHG concentrations to CO2eq concentrations, wherever erroneously included. 3) Improved cross-referencing within TS and referencing to underlying report wherever possible.</td>
</tr>
<tr>
<td>TS 21</td>
<td>5</td>
<td>Added reference to Box TS.7. Correct reference to section 2.6.3 (instead of 2.4.4.4).</td>
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<tr>
<td>TS 21</td>
<td>10</td>
<td>Added a sentence for consistency with SPM and improve cross-referencing to underlying report: &quot;At the national level, change is considered most effective when it reflects country and local visions and approaches to achieving sustainable development according to national circumstances and priorities. (4.1, 6.3.6.8, 11.8)&quot;</td>
</tr>
<tr>
<td>TS 21</td>
<td>15</td>
<td>Changed &quot;requirements&quot; to &quot;outcomes&quot;.</td>
</tr>
<tr>
<td>TS 21</td>
<td>25</td>
<td>Added &quot;and 300 baseline scenarios&quot; and removed &quot;out of more than 1200 total scenarios&quot; for language clarity.</td>
</tr>
<tr>
<td>TS 22</td>
<td>38</td>
<td>Clarified the language to make it easier digestible for readers and consistent with SPM pulling some text up from the body. More technical information on RCPs removed from heading and introduced in the body of paragraph. It reads: &quot;Mitigation scenarios point to a range of technological and behavioral measures that could allow the world’s societies to follow emissions pathways consistent with a range of different levels of mitigation (high confidence).&quot;</td>
</tr>
<tr>
<td>TS 22</td>
<td>42</td>
<td>Included &quot;and 300 baseline scenarios&quot; and removed &quot;out of more than 1200 total scenarios&quot; for language clarity.</td>
</tr>
<tr>
<td>TS 22</td>
<td>47</td>
<td>Made language consistent with SPM: &quot;The models approximate cost-effective solutions that minimize the aggregate economic costs of achieving mitigation outcomes, unless they are specifically constrained to behave otherwise.&quot;</td>
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</table>
| TS 22 | 49 | Made language consistent with SPM: It reads: "Other scenarios were also assessed, including some scenarios with concentrations in 2100 below 430 ppm CO2eq for a discussion of these scenarios see below."

Figure corrected by including f-gases in the RCP lines and revised caption to make it clear and fully self-consistent. Also corrected that high overshoot scenarios "with large net negative emissions" rather than "large negative emissions" are shown. |
<p>| TS 23 | 2 | Add &quot;net&quot; before &quot;negative emissions&quot;. |
| TS 23 | 16 | Clarified that the climate model MAGICC was used for the calculations. |
| TS 27/28 | 9 | Changed the order of Figures SPM.9 and SPM.10 as the latter requires information from the former. |
| TS 24 | 12 | Missing word, sentence incomplete: Add &quot;meeting&quot; before &quot;different targets&quot;. |
| TS 24 | 26 | Imported critical information from the SPM to clarify the relationship between concentration and temperature change in a balanced way. Removed additional information on 1.5°C scenarios as SPM finding has been inserted in TS later for consistency with SPM and for the ease of the reader. Removed information on how results were calculated as this is redundant with information from Box TS.8. |
| TS 24 | 27 | Improve the clarity of the language and consistency with SPM by importing some SPM language: (1) split the finding into two; (2) added lead sentence for first finding from SPM; (3) made sure that remaining SPM contents are included in second finding. New text include SPM corrections that have been undertaken (see list of errata). (4) Improved cross-referencing to figures. |
| TS 25 | 18 | Updated Table TS.1 to be fully self-contained and match SPM; made sure that any text that has been previously corrected in SPM errata is included here as well. |
| TS 25 | 32 | Imported SPM language for clarification and consistency and to ensure a balanced discussion of emission reduction requirements. Inserted a sentence that clarifies the role of extreme overshoot scenarios in this emissions reductions range. Ensured full consistency with Table TS.1/SPM.1 by reviewing emission reductions and carbon budget numbers. |</p>
<table>
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<th>TS</th>
<th>25</th>
<th>25</th>
<th>Inserted new footnote outlining differences in emission reduction ranges between AR4 and AR5. It reads: &quot;This range differs from the range provided for a similar concentration category in AR4 (50% to 85% lower than 2000 for CO2 only). Reasons for this difference include that this report has assessed a substantially larger number of scenarios than in AR4 and looks at all GHGs. In addition, a large proportion of the new scenarios include Carbon Dioxide Removal (CDR) technologies and associated increases in concentration overshoot. Other factors include the use of 2100 concentration levels instead of stabilization levels and the shift in reference year from 2000 to 2010.&quot; Made sure that any correction that has been undertaken in SPM is carried over here.</th>
<th>Clarification</th>
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<td>TS</td>
<td>25</td>
<td>33</td>
<td>Delete &quot;at lowest global mitigation cost&quot;. As written this is ambiguous and was therefore removed from the text to make it clearer</td>
<td>Clarification</td>
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<tr>
<td>TS</td>
<td>26</td>
<td>5</td>
<td>Set of smaller changes to clarify text and make it consistent with SPM. For accuracy, removed &quot;nearly&quot; and replaced &quot;cannot&quot; by &quot;could not&quot; in the second and third sentences respectively. Inserted SPM language that clarifies the meaning of &quot;low and zero carbon technologies&quot;. Removed &quot;as well as higher levels&quot; from lead sentence for accuracy.</td>
<td>Consistency</td>
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<td>TS</td>
<td>26</td>
<td>11</td>
<td>Added reference to concentration range</td>
<td>Clarification</td>
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<td>TS</td>
<td>26</td>
<td>25</td>
<td>Established closer consistency with SPM language for clarity. 1) Inserted &quot;efforts beyond those in place today&quot; in the lead sentence to clarify that there are already mitigation activities on-going. 2) Removed language explaining that scenarios with emission levels in 2030 above 55 Gt CO2eq are largely driven by delay for simplicity. 3) Corrected reference to median rather than mean emission reductions.</td>
<td>Consistency</td>
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<td>TS</td>
<td>26</td>
<td>39</td>
<td>Updated lead sentence with approved language from SPM: &quot;Estimated global GHG emissions levels in 2020 based on the Cancun Pledges are not consistent with cost-effective long-term mitigation trajectories that reach atmospheric concentrations levels of about 450 to about 500 ppm CO2eq by 2100, but they do not preclude the option to meet that goal (robust evidence, high agreement).&quot;</td>
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<tr>
<td>TS</td>
<td>26</td>
<td>46</td>
<td>Inserted a dedicated finding (including footnote) on the literature related to 1.5°C goal from the SPM. This content was scattered in the TS before and has now one dedicated place. This improves the clarity of the text: &quot;Only a limited number of studies have explored scenarios that are more likely than not to bring temperature change back to below 1.5 °C by 2100 relative to pre-industrial levels; these scenarios bring atmospheric concentrations to below 430 ppm CO2eq by 2100 (high confidence). Assessing this goal is currently difficult because no multi-model study has explored these scenarios. The limited number of published studies exploring this goal have produced associated scenarios that are characterized by (1) immediate mitigation; (2) the rapid upsampling of the full portfolio of mitigation technologies; and (3) development along a low-energy demand trajectory. ([6,3,7.11]). The associated footnote reads: &quot;In these scenarios, the cumulative CO2 emissions range between 680 – 800 GtCO2 for the period 2011 – 2050 and between 300 – 310 GtCO2 for the period 2011 – 2100. Global CO2eq emissions in 2050 are between 70 – 95 % below 2010 emissions, and they are between 110 – 120 % below 2010 emissions in 2100.&quot; Note that any corrections previously made in the SPM have been carried over here.</td>
<td>Clarification</td>
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<tr>
<td>TS</td>
<td>27</td>
<td>1</td>
<td>Made sure that figure including its caption is self-contained and includes all required information for transparency. Comprehensive revisions. Explanations added for: a) historic GHG emissions levels and their uncertainty range (black dot with whiskers); b) historic rates of emission reductions during the last decade (2000-2010). Further, we clarified that extreme scenarios shown are the ones with &quot;high net negative emissions&quot; rather than high negative emissions. This is also corrected in Figure itself. Re-edited caption for better readability and changed sequencing of information in this context.</td>
<td>Error Correction</td>
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<td>TS</td>
<td>28</td>
<td>10</td>
<td>Made sure that figure including its caption is self-contained and includes all required information for transparency. Adjusted figure by including extreme scenarios with large net negative emissions shown as individual points for consistency with previous figures. Corresponding explanations included in caption. Clarified the meaning of the arrows by adding explanation to caption. Clarified that scenarios with exogenous carbon price assumptions are excluded in both panels and scenarios with policies affecting the timing of mitigation other than 2030 interim targets are excluded in the right panel additionally.</td>
<td>Error Correction</td>
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<td>TS</td>
<td>28</td>
<td>13</td>
<td>Added sentence: &quot;Includes only scenarios for which temperature exceedance probabilities were calculated.&quot; to establish full transparency over scenario selection.</td>
<td>Clarification</td>
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<td>11</td>
<td>24</td>
<td>Improved clarity and transparency by inserting some information that was implicit previously. A) highlighted median estimates as in Table T5.2; B) Added information on annual average reduction of consumption growth for short- (2030), medium term (2050) and long-term. This reads: &quot;The consumption losses correspond to an annual average reduction of consumption growth by 0.06 to 0.2 percentage points from 2010 through 2030 (median: 0.09), 0.06 to 0.17 percentage points through 2050 (median: 0.09), and 0.04 to 0.14 percentage points over the century (median: 0.06). These numbers are relative to annual average consumption growth rates in baseline scenarios between 1.9 % and 3.8 % per year through 2050 and between 1.6 % and 3 % per year over the century (Table T5.2, yellow segments).&quot; C) Improved cross-referencing to figures and tables. D) Corrected consumption loss numbers from &quot;3% to 12%&quot; to &quot;3% to 11%&quot; and edited comparison to baseline scenarios in line with SPM to read &quot;relative to consumption in baseline scenarios (those without additional mitigation efforts) that grows anywhere from 300 % to more than 900 % between 2010 and 2100 (baseline consumption growth represents the full range of corresponding baseline scenarios; Figure T5.12, Table T5.2 yellow segments).&quot;</td>
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<td>20</td>
<td>Correct &quot;about 450&quot; to read &quot;430-530&quot;</td>
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<td>22</td>
<td>22</td>
<td>Insert &quot;and limits on technology availability&quot;</td>
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<td>23</td>
<td>23</td>
<td>Add &quot;Both higher and lower estimates have been obtained based on&quot;</td>
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<td>24</td>
<td>Move sentence upward in paragraph to better contextualise information.</td>
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<td>27</td>
<td>35</td>
<td>Revised figure caption to make sure that it is fully self-contained. Changes include: A) Replace: &quot;in scenarios assuming immediate global action and a globally harmonized carbon price&quot; by &quot;idealized implementation&quot;. This is a more generic and adequate description of the scenarios covered. For further information see entries on Figure 6.21. B) Replace &quot;Sample size&quot; by &quot;The number of scenarios included in the boxplots&quot;.</td>
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<td>13</td>
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<td>Inserted sentence that explains reductions in annual average consumption growth for transparency: &quot;They can be expressed as a reduction in overall consumption relative to consumption in the corresponding baseline scenario in a given year or as a reduction of the average rate of consumption growth in the corresponding baseline scenario over a given time period.&quot;</td>
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<td>29</td>
<td>29</td>
<td>Replace &quot;6.3.6.4.b&quot; by &quot;6.3.6.5.&quot;</td>
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<td>30</td>
<td>41</td>
<td>Clarified the notion of delay in mitigation by making the language consistent with SPM: &quot;delaying mitigation efforts beyond those in place today&quot;. Clarified that we are talking about &quot;aggregate&quot; mitigation costs in this paragraph. Removed last sentence as it is redundant with an earlier paragraph to avoid confusion.</td>
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<td>36</td>
<td>39</td>
<td>Sentence was unclear. Rephrased it for greater clarity.</td>
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<td>30</td>
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<td>40</td>
<td>Replace &quot;under delayed mitigation&quot; by &quot;from such emission levels in 2030&quot;. This is more precise language and directly links to the respective figures TS.9 and TS.13</td>
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<td>Imported Table T5.2 from SPM to provide full transparency to reader. Added two columns of information on annual average reduction of consumption growth for short- (2030) and medium term (2050) and long-term. This is important as mitigation costs are not distributed evenly across time.</td>
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<td>31</td>
<td>7</td>
<td>22</td>
<td>Comprehensively revised the figure caption in line with the underlying chapter (Figure 6.24 and 6.25). Included information on number of models that could successfully run technology variation scenario.</td>
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<td>31</td>
<td>24</td>
<td>35</td>
<td>Revision of finding to improve clarity of the language and make it more compatible with SPM language. 1) Bolded lead sentence rephrased along SPM: &quot;The distribution of mitigation costs among different countries depends in part on the nature of effort-sharing frameworks and thus need not be the same as the distribution of mitigation efforts. &quot; 2) Inserted further crucial clarification on effort-sharing: &quot;Different effort-sharing frameworks draw upon different ethical principles.&quot; 3) Import &quot;in cost-effective scenarios&quot; from SPM to make context of finding clear; 4) Remove &quot;will&quot; to avoid perception of prescription; 5) Insert further contextual information and remove impressions of judgement: &quot;Some studies exploring particular effort-sharing frameworks, under the assumption of a global carbon market, estimate that the associated financial flows could be in the order of hundreds billions of USD per year before mid-century to bring concentrations to between about 450 and about 500 ppm CO2eq in 2100.&quot; 6) Edit last sentence for clarity to: &quot;Actual approaches to effort-sharing can deviate from this assumption.&quot;</td>
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<td>16</td>
<td>17</td>
<td>Imported language from SPM for consistency and clarity. It reads: &quot;Mitigation scenarios reaching about 450 to about 500 ppm CO2eq by 2100 show reduced costs for achieving energy security and air quality objectives (medium confidence) (Figure T5.14, lower panel).&quot;</td>
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<td>33</td>
<td>24</td>
<td>Imported language from SPM for consistency and clarity. It reads: &quot;Mitigation scenarios reaching about 450 to about 500 ppm CO2eq by 2100 show co-benefits for energy security objectives, enhancing the sufficiency of resources to meet national energy demand as well as the resilience of the energy system (medium confidence).&quot;</td>
<td>Consistency</td>
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<td>33</td>
<td>30</td>
<td>Imported language from corresponding SPM finding. Retrieved additional information from original finding saying that &quot;a limited number of studies find that mitigation policies could increase the relative competitiveness of conventional oil vis-à-vis more carbon intensive unconventional oil and coal to liquids.&quot;</td>
<td>Consistency</td>
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<td>35</td>
<td>3</td>
<td>Clarified sentence by rephrasing: &quot;The benefits from major cuts in air pollutant emissions are particularly high where currently legislated and planned air pollution controls are weak.&quot; Add reference to Figure TS.14.</td>
<td>Clarification</td>
<td></td>
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<td>35</td>
<td>7</td>
<td>Deleted &quot;and subject to scientific debate&quot; as it does not add any value or information to sentence.</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>8</td>
<td>Imported additional finding from SPM to provide the broader context on the subject of co-benefits and adverse side-effects and to further enhance consistency with SPM. It reads: &quot;There is a wide range of possible adverse side-effects as well as co-benefits and spillovers from climate policy that have not been well-quantified (high confidence). Whether or not side-effects materialize, and to what extent side-effects materialize, will be caseand site-specific, as they will depend on local circumstances and the scale, scope, and pace of implementation. Important examples include biodiversity conservation, water availability, food security, income distribution, efficiency of the taxation system, labour supply and employment, urban sprawl, and the sustainability of the growth of developing countries.&quot; (Box TS.11)&quot;</td>
<td>Clarification</td>
<td></td>
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<td>35</td>
<td>9</td>
<td>Updated the finding with the language from the corresponding SPM finding. It reads now: &quot;Some mitigation policies raise the prices for some energy services and could hamper the ability of societies to expand access to modern energy services to underserved populations (low confidence). These potential adverse side-effects can be avoided with the adoption of complementary policies (medium confidence). Most notably, about 1.3 billion people worldwide do not have access to electricity and about 3 billion are dependent on traditional solid fuels for cooking and heating with severe adverse effects on health, ecosystems and development. Providing access to modern energy services is an important sustainable development objective. The costs of achieving nearly universal access to electricity and clean fuels for cooking and heating are projected to be between 72 to 95 billion USD per year until 2030 with minimal effects on GHG emissions (limited evidence, medium agreement). A transition away from the use of traditional biomass and the more efficient combustion of solid fuels reduce air pollutant emissions, such as sulfur dioxide (SO2), nitrogen oxides (NOx), carbon monoxide (CO), and black carbon (BC), and thus yield large health benefits (high confidence). [4.3, 6.6, 7.9, 9.3, 9.7, 11.13.6, 16.8]&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>21</td>
<td>Revised language for clarity making sure that any impression of prescription is avoided.</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>25</td>
<td>Delete chapeau to subsection TS.3.2 or add chapeau to subsection TS.3.1.</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>2</td>
<td>Included &quot;net&quot; before &quot;CO2 emissions&quot; and replaced &quot;land-use&quot; by &quot;AFOLU&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>14</td>
<td>Merged sentences and replaced &quot;As a result&quot; with &quot;ultimately accounting for the&quot;; removed &quot;as expected&quot; at the end of the merged sentence.</td>
<td>Error Correction</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>15</td>
<td>Included &quot;net&quot; before &quot;CO2 emissions&quot; and replaced &quot;land-use&quot; by &quot;AFOLU&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>17</td>
<td>Replaced &quot;land use&quot; with &quot;AFOLU&quot; and &quot;around 2050&quot; with &quot;towards the end of the century&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>19</td>
<td>Include additional references to underlying chapter sections: 6.3.1.4, 6.8</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>19</td>
<td>Include relevant section references in square brackets [6.3.1.4, 6.3.2.4, 6.8.2]</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>21</td>
<td>Adjusted figure caption in line with figure updates and in line with updated figure caption from Figure 6.34. H67 &quot;Direct (left panel) and direct and indirect emissions (right panel) of CO2 and non-CO2 GHGs across sectors in baseline scenarios. Non-CO2 GHGs are converted to CO2-equivalents based on Global Warming Potentials with a 100-year time horizon from the IPCC Second Assessment Report (SAR) (see Box TS.5). Note that in the case of indirect emissions, only electricity generation emissions are allocated from energy supply to end-use sectors. In the left panel electricity sector emissions are shown (Electricity*) in addition to energy supply sector emissions which they are part of, to illustrate their large role on the energy supply side. The numbers at the bottom refer to the number of scenarios included in the ranges that differ across sectors and time due to different sectoral resolutions and time horizons of models. [Figure 6.34]&quot;</td>
<td>Consistency</td>
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<td>38</td>
<td>1</td>
<td>2</td>
<td>Inserted &quot;reinforcing the importance of early action for ambitious mitigation&quot; at the end of the sentence to emphasize the important effect of lock-in effects for mitigation.</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>4</td>
<td>5</td>
<td>Replaced &quot;land use planning related lock-in&quot; with &quot;lock-in related to infrastructure and spatial planning&quot; to correct for the unclear term &quot;land-use&quot;</td>
<td></td>
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<tr>
<td>38</td>
<td>8</td>
<td>10</td>
<td>Replaced &quot;longer life-times of low emissions&quot; with &quot;with long lifetimes and low lifecycle emissions&quot; to clarify that low emission products do not automatically have longer life times</td>
<td></td>
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<tr>
<td>38</td>
<td>8</td>
<td>6</td>
<td>Inserted term &quot;materials&quot; to clarify that low emission materials are important for producing low emission products and infrastructures</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>10</td>
<td>10</td>
<td>Inserted additional references to underlying chapters: 6.3.6.4, 10.4</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>2</td>
<td>10</td>
<td>Caption Figure TS.16: made reference to categories of mitigation scenarios consistent. New text reads: &quot;Influence of energy demand on the deployment of energy supply technologies in 2050 in mitigation scenarios reaching about 450 to about 500 (430 – 530) ppm CO2eq concentrations by 2100.&quot;</td>
<td></td>
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<tr>
<td>39</td>
<td>12</td>
<td>12</td>
<td>Replaced &quot;and can have&quot; with &quot;with&quot; and inserted &quot;in some sectors, in particular when&quot;</td>
<td></td>
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<tr>
<td>39</td>
<td>13</td>
<td>13</td>
<td>Replaced &quot;limited&quot; by &quot;medium&quot;</td>
<td></td>
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<tr>
<td>39</td>
<td>14</td>
<td>14</td>
<td>Inserted &quot;and mode&quot; as modal changes are an important behaviour related mitigation option in the transport sector</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>21</td>
<td>23</td>
<td>Rewrote sentence to be clearer: In most long-term mitigation scenarios not exceeding 580ppm CO2eq by 2100, global energy supply is fully decarbonized at the end of the twenty-first century with many scenarios relying on a net removal of CO2 from the atmosphere</td>
<td></td>
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<tr>
<td>39</td>
<td>27</td>
<td>27</td>
<td>Inserted &quot;generation&quot; to read &quot;electricity generation emissions&quot;</td>
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<tr>
<td>40</td>
<td>1</td>
<td>2</td>
<td>Reformulated sentence to be correct: The availability of carbon dioxide removal technologies affects the size of the mitigation challenge for the energy supply, energy end-use and AFOLU sectors.</td>
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<td>40</td>
<td>3</td>
<td>3</td>
<td>Inserted &quot;in mitigation scenarios&quot;</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>8</td>
<td>8</td>
<td>Replaced &quot;energy generation&quot; by &quot;biomass supply for energy.&quot;</td>
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<tr>
<td>40</td>
<td>12</td>
<td>12</td>
<td>Replaced figure with updated version</td>
<td></td>
</tr>
</tbody>
</table>
| 43 | 3    | 5    | Inserted "Annual" before "GHG emissions from..." and "global" before "energy" and "supply" before "sector; corrected years to display the full decade. The corrected sentence reads: "Annual GHG emissions from the global energy supply sector grew more rapidly between 2000 and 2010 than in the previous decade; their growth accelerated from 1.7 % / yr from 1990 – 2000 to 3.1 % / yr from 2000 – 2010."

**TS 38 8 Inserted**

**TS 39 12 Inserted**

**TS 39 14 15 17 Deleted**

**TS 40 12 Replaced**

**TS 43 10 Inserted**

**TS 43 14 Inserted**

**TS 43 15 Deleted**
<table>
<thead>
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<th>Page</th>
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<tbody>
<tr>
<td>7.11’</td>
<td></td>
<td>Inserted additional references to underlying chapter sections: 6.3.4, Figure 6.15.</td>
<td>Consistency</td>
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<tr>
<td>6.15</td>
<td></td>
<td>Replaced “In integrated modelling studies, decarbonizing electricity generation is a key component of cost-effective mitigation strategies” with “Decarbonizing (i.e. reducing the carbon intensity of) electricity generation is a key component of cost-effective mitigation strategies in achieving low-stabilization levels (450-530 ppm CO2eq).” inserted “integrated modelling” before scenarios; inserted “in electricity generation” in context of decarbonization.</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.36</td>
<td></td>
<td>Inserted “in general, the rapid decarbonization of electricity generation is realized by a rapid reduction of conventional coal power generation associated with a limited expansion of natural gas without CCS over the near term (6.8, 7.11)”</td>
<td>Consistency</td>
</tr>
<tr>
<td>7.18</td>
<td></td>
<td>Replaced “In the majority of mitigation scenarios reaching about 450 ppm CO2eq concentrations by 2100, the share of low-carbon electricity supply (comprising RE, nuclear, fossil fuels with CCS, and BECCS) increases from the current share of around 30% to more than 80% by 2050, and fossil fuel power generation without CCS is phased out almost entirely by 2100.”</td>
<td>Consistency</td>
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<tr>
<td>6.37</td>
<td></td>
<td>Inserted “(comprising renewable energy (RE), nuclear and CCS)” after “low carbon electricity supply”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.39</td>
<td></td>
<td>Inserted additional references to underlying chapter sections: [7.14, Figure SPM.7]</td>
<td>Consistency</td>
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<tr>
<td>6.40</td>
<td></td>
<td>Adjusted bold key finding according to approved SPM text: “Since AR4, many RE technologies have demonstrated substantial performance improvements and cost reductions, and a growing number of RE technologies have achieved a level of maturity to enable deployment at significant scale.”</td>
<td>Consistency</td>
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<td>6.45</td>
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<td>Inserted “Regarding electricity generation alone,” before “RE accounted for…”</td>
<td>Consistency</td>
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<tr>
<td>6.46</td>
<td></td>
<td>Inserted “significantly” before “increased”; inserted “RE technology policies have been successful in driving the recent growth of RE.”</td>
<td>Consistency</td>
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<td>6.46</td>
<td></td>
<td>Replaced figure with updated version from Chapter</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.47</td>
<td></td>
<td>Inserted ‘fuel’ to read ‘liquid fuel supply sectors’</td>
<td>Consistency</td>
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<tr>
<td>6.49</td>
<td></td>
<td>Included “and bioenergy with CCS” to clarify that CCS does not only relate to fossil fuels</td>
<td>Consistency</td>
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<tr>
<td>6.52</td>
<td></td>
<td>Adjusted bold key finding according to approved SPM text: “Nuclear energy is a mature low GHG emission source of baseload power, but its share of global electricity generation has been declining (since 1993). Nuclear energy could make an increasing contribution to low-carbon energy supply, but a variety of barriers and risks exist.”</td>
<td>Consistency</td>
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<td>6.56</td>
<td></td>
<td>Inserted additional reference to underlying chapter section: 7.12</td>
<td>Consistency</td>
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<td>6.57</td>
<td></td>
<td>Adjusted bold key finding according to approved SPM text: “Barriers and risks associated with an increasing use of nuclear energy include operational risks and the associated safety concerns, uranium mining risks, financial and regulatory risks, unresolved waste management issues, nuclear weapon proliferation concerns, and adverse public opinion.”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.58</td>
<td></td>
<td>Altered language to clarify what concentration range is meant when talking about stringent mitigation scenarios: “Investigation of stringent mitigation scenarios not exceeding 580 (450ppm, 550ppm CO2 eq)...”</td>
<td>Consistency</td>
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<tr>
<td>6.59</td>
<td></td>
<td>Inserted “and progress has been made concerning safety and waste disposal.”</td>
<td>Consistency</td>
</tr>
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<td>6.61</td>
<td></td>
<td>Deleted ‘also’ as the scenario literature does not provide results for experiments where both technological options, i.e. nuclear and CCS, have been constrained. The corrected sentence reads: “If other technologies, such as CCS, are constrained the role of nuclear power expands.”</td>
<td>Error Correction</td>
</tr>
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<td>6.61</td>
<td></td>
<td>Replaced figure with updated version where CO2 had been corrected to CO2eq</td>
<td>Consistency</td>
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<td>6.62</td>
<td></td>
<td>Replaced figure caption of Figure 6.19 with a more succinct description and corrected unit by inserting “eq” after “CO2” to read “gCO2eq/kWh” and deleted “(and gCO2eq / kWh, respectively)”</td>
<td>Consistency</td>
</tr>
<tr>
<td>6.63</td>
<td></td>
<td>Inserted “about 450 to about 500” and “CO2eq”. The corrected sentence reads: “... for the set of about 450 to about 500 (430-530) ppm CO2eq scenarios...”</td>
<td>Consistency</td>
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<tr>
<td>6.66</td>
<td></td>
<td>Adjusted bold key finding according to approved SPM text: “GHG emissions from energy supply can be reduced significantly by replacing current world average coal-fired power plants with modern, highly efficient natural gas combined cycle power plants or combined heat and power (CHP) plants, provided that natural gas is available and the fugitive emissions associated with its extraction and supply are low or mitigated.”</td>
<td>Consistency</td>
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<td>18</td>
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<tr>
<td>TS</td>
<td>46</td>
<td>32</td>
<td>Inserted missing uncertainty qualifier &quot;(limited evidence, medium agreement)&quot;</td>
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<td>33</td>
<td>34</td>
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<td>TS</td>
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<td>36</td>
<td>38</td>
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<tr>
<td>TS</td>
<td>47</td>
<td>3</td>
<td>Inserted sentence from table into caption: &quot;For possible upstream effects of biomass supply for bioenergy, see Table TS.8.&quot;</td>
</tr>
<tr>
<td>TS</td>
<td>48</td>
<td>2</td>
<td>Inserted 'global' to read: &quot;...emissions in the global transport sector...&quot;</td>
</tr>
<tr>
<td>TS</td>
<td>48</td>
<td>6</td>
<td>8</td>
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<tr>
<td>TS</td>
<td>48</td>
<td>14</td>
<td>Replaced &quot;higher energy demand reduction potential in the transport sector than in the AR4&quot; with &quot;a higher mitigation reduction potential in the transport sector than reported in the AR4&quot;.</td>
</tr>
<tr>
<td>TS</td>
<td>48</td>
<td>19</td>
<td>Included 'relative to baselines'</td>
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<td>TS</td>
<td>48</td>
<td>22</td>
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<td>TS</td>
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<td>23</td>
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<tr>
<td>TS</td>
<td>49</td>
<td>26</td>
<td>Inserted the word &quot;transport&quot;</td>
</tr>
<tr>
<td>TS</td>
<td>50</td>
<td>1</td>
<td>Replaced figure with updated version where CO2 had been corrected to CO2eq</td>
</tr>
<tr>
<td>TS</td>
<td>50</td>
<td>2</td>
<td>Caption of Figure TS.21, inserted: 1) 'eq' after all four instances of CO2 to read CO2 eq; 2) WACC: Weighted average cost of capital.</td>
</tr>
</tbody>
</table>
TS 50 10 11 Replaced sentence "For details on methodology, input data and assumptions see Annex III." by a sentence in parenthesis at the end of the previous sentence, that reads "[see Annex III, Section A.1 III.3 for data and assumptions on emission intensities and cost calculations and Annex II, Section A.1 II.3.1 for methodological issues on levelized cost metrics]". Clarification

TS 50 14 18 Deleted sentence "Over the medium-term (up to 2030) to long-term (to 2050 and beyond), urban redevelopment and new infrastructure, linked with land use policies, could evolve to reduce GHG intensity through more compact urban form, integrated transit, and urban planning oriented to support cycling and walking. This could reduce GHG emissions by 20-50% compared to business-as-usual," and replaced it with "Over the medium-term (up to 2030) to long-term (to 2050 and beyond), urban redevelopment and investments in new infrastructure, linked with integrated urban planning, transit-oriented development, and more compact urban form that supports cycling and walking can all lead to modal shifts. Such mitigation measures are challenging, have uncertain outcomes and could reduce transport GHG emissions by 20-50% compared to baseline (limited evidence, low agreement)." Consistency

TS 50 17 18 Remove sentence "This could reduce GHG emissions by 20-50% compared to business-as-usual." Consistency

TS 51 2 Insert corrected replacement sentence: Altogether, the total range of emissions reduction by all avoided travel is more uncertain than the 20-50% projected for urban transport in 2050, but most likely will be considerably less than 50% (low evidence, low agreement). Consistency

TS 51 9 Replaced figure with updated version where CO2 had been corrected to CO2eq. Clarification

TS 51 10 18 Caption of Figure TS.22, inserted: 1) 'eq' after all three instances of CO2 to read CO2eq; 2) LNG: Liquefied natural gas; WACC: Weighted average cost of capital. Clarification

TS 51 17 18 Replaced sentence "For details on methodology, input data and assumptions see Annex III." by a sentence in parenthesis at the end of the previous sentence, that reads "[see Annex III, Section A.1 III.3 for data and assumptions on emission intensities and cost calculations and Annex II, Section A.1 II.3.1 for methodological issues on levelized cost metrics]". Clarification

TS 52 3 Inserted 'eq' to read [USD / tCO2eq avoided]. Consistency

TS 52 8 Included "emissions reduction" to read: "...have relatively low emissions so their emissions reduction potential is limited." Consistency

TS 52 23 Replaced "transport" with "low-carbon". Clarification

TS 52 27 Inserted 'GHG' to read 'price instruments on GHG emissions'. Clarification

TS 52 54 6 Deleted "In least developed countries, prioritizing access to pedestrians, integrating non-motorized and public transport services, and managing excessive road speed for both urban and rural travellers can result in higher levels of economic and social prosperity. In fast-growing, emerging economies, investments in mass transit and other low-carbon transport infrastructure can help avoid future lock-in to carbon intensive modes. In OECD countries, advanced vehicle technologies could play a bigger role than structural and behavioural changes since economic growth will be slower than for non-OECD countries. [limited evidence, medium agreement]." and replaced with "Prioritizing infrastructure for pedestrians, integrating non-motorized and transit services, and managing excessive road speed for both urban and rural travellers can create economic and social co-benefits in all regions. For all economies, especially those with high rates of urban growth, investments in public transport systems and low-carbon infrastructure can avoid lock-in to carbon intensive modes. Established infrastructure may limit the options for modal shift and lead to a greater reliance on advanced vehicle technologies; a slowing of growth in LDV demand is already evident in some OECD countries. [medium evidence, medium agreement]." Consistency
<table>
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<th>Notes</th>
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<tbody>
<tr>
<td>55</td>
<td>14</td>
<td>Inserted &quot;and related&quot; to read &quot;...from the long lifespans of buildings and related infrastructure...&quot;</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>55</td>
<td>18</td>
<td>Inserted &quot;change&quot; after &quot;lifestyle&quot; and moved the word &quot;urbanization&quot; for the updated sentence to read: &quot;Improvements in wealth, lifestyle change, the provision of access to modern energy services and adequate housing, and urbanization will drive the increases in building energy demand...&quot;</td>
<td>Clarification</td>
<td></td>
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<tr>
<td>55</td>
<td>20</td>
<td>Restructured sentence and included correct numbers. The adjusted sentence reads: &quot;The manner in which those without access to adequate housing (about 0.8 billion people), modern energy carriers, and sufficient levels of energy services including clean cooking and heating (about 3 billion people) meet these needs will influence the development of building related emissions.&quot;</td>
<td>Error Correction</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>29</td>
<td>Deleted the word &quot;proliferation&quot; of</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>9</td>
<td>Included new caption text to be more consistent with newly designed figure: Final energy demand reduction relative to baseline (left panel) and development of final low carbon energy carrier share in final energy (from electricity; right panel) in buildings 2030 and 2050 in mitigation scenarios from three different CO2eq concentrations ranges shown in boxplots (see Section 6.3.2) compared to sectoral studies shown in shapes assessed in Chapter 9. Filled circles correspond to sectoral studies with full sectoral coverage while empty circles correspond to studies with only partial sectoral coverage (e.g., heating and cooling). Figures 6.37 and 6.38</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>56</td>
<td>15</td>
<td>Including new caption text to be more consistent with newly designed figure: Final energy demand reduction relative to baseline (left panel) and development of final low carbon energy carrier share in final energy (from electricity; right panel) in buildings 2030 and 2050 in mitigation scenarios from three different CO2eq concentrations ranges shown in boxplots (see Section 6.3.2) compared to sectoral studies shown in shapes assessed in Chapter 9. Filled circles correspond to sectoral studies with full sectoral coverage while empty circles correspond to studies with only partial sectoral coverage (e.g., heating and cooling). Figures 6.37 and 6.38</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>57</td>
<td>3</td>
<td>Adjusted sentence according to final SPM text to read: &quot;For developed countries, scenarios indicate that lifestyle and behavioural changes could reduce energy demand by up to 20% in the short term and by up to 50% of present levels by mid-century (medium evidence, medium agreement).&quot;</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>57</td>
<td>16</td>
<td>Adjusted section reference to read: [9.6, 9.7]</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>57</td>
<td>17</td>
<td>Inserted the word 'based' to read 'market-based'</td>
<td>Consistency</td>
<td></td>
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<tr>
<td>57</td>
<td>20</td>
<td>Removed energy poverty as not clearly shown as co-benefit in Table TS.5</td>
<td>Error Correction</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>25</td>
<td>Replaced the word ‘levels’ with ‘stages’</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>26</td>
<td>Adjusted section reference to read: [9.8, 9.10]</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>30</td>
<td>Inserted ‘GHG’ to read ‘saving GHG emissions’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>32</td>
<td>Inserted ‘energy performance’ to read ‘such as building and appliance energy performance standards and labels...’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>34</td>
<td>Replaced ‘demonstrated the feasibility of’ with ‘contributed to’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>37</td>
<td>Inserted the word ‘standards’ for clarification</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>39</td>
<td>Included “due to larger capital requirements” for clarification</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>40</td>
<td>Adjusted section reference to read: [9.10]</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>3</td>
<td>Inserted sentence from table into caption: “For possible upstream effects of fuel switching and RE, see Table TS.4.”</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>5</td>
<td>Inserted ‘private’ to read ‘negative private cost’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>23</td>
<td>Inserted “in 2010, the industry sector accounted for around 28% of final energy use, and...” according to SPM approved text.</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>27</td>
<td>Included half sentence: “Despite the declining share of industry in global GDP...”</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>27</td>
<td>Inserted “[of which waste/wastewater accounted for 1.4 GtCO2eq].”</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>27</td>
<td>Corrected number to read: “...to 15 GtCO2-eq in 2010.”</td>
<td>Error Correction</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>28</td>
<td>Reformulated sentence to read: “Carbon dioxide emissions from industry, including direct and indirect emissions as well as process emissions,...”</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>33</td>
<td>Removed sentence and included it in first section paragraph in connection with recent emission growth in the industry sector</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>35</td>
<td>Deleted sentence, in order to include it in the preceding paragraph</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>35</td>
<td>Inserted the words &quot;upgrading, replacement and&quot; to read &quot;The wide-scale upgrading, replacement and deployment of best available technologies...&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>36</td>
<td>Reformulated sentence to read: &quot;could directly reduce the energy intensity of the industry sector by about 25% compared to the current level,...&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>41</td>
<td>Replaced &quot;are the most prevalent&quot; with &quot;are a prevalent&quot;</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>43</td>
<td>Adjusted section reference to read: [10.4, 10.7, 10.9, 10.11]</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>3</td>
<td>Inserted &quot;of policy and experiences in material and product service efficiency are major barriers;&quot;, deleted uncertainty qualifier and inserted reference to Section 10.11.</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>6</td>
<td>[Figure 10.2] instead of [Figure 10.1]</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>11</td>
<td>Replaced &quot;stringent mitigation scenarios&quot; with &quot;in mitigation scenarios not exceeding 650ppm CO2-eq by 2100 relative to baseline scenarios&quot;</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>19</td>
<td>Inserted ‘GHG’ to read ‘direct GHG emissions’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>23</td>
<td>Inserted term ‘globally’</td>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>26</td>
<td>Inserted ‘GHG’ to read ‘reducing GHG emissions’</td>
<td>Clarification</td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>Page</td>
<td>Line</td>
<td>Change Description</td>
<td>Type of Change</td>
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<tr>
<td>61</td>
<td>3</td>
<td>8</td>
<td>Final energy demand reduction relative to baseline (left panel) and development of final low carbon energy carrier shares in final energy (including electricity, heat, hydrogen, and bioenergy; right panel) in industry by 2030 and 2050 in mitigation scenarios from three different CO2eq concentration ranges shown in boxplots (see Section 6.3.2) compared to sectoral studies shown in shapes assessed in Chapter 10. Filled circles correspond to sectoral studies with full sectoral coverage. ([Figures 6.37 and 6.38])</td>
<td>Consistency</td>
</tr>
<tr>
<td>61</td>
<td>10</td>
<td></td>
<td>Replaced ‘intensity’ with ‘efficiency’ to read “... product service efficiency”</td>
<td>Clarification</td>
</tr>
<tr>
<td>61</td>
<td>16</td>
<td></td>
<td>Inserted “CH4, N2O and fluorinated gases from industry accounted for emissions of 0.9 GtCO2eq in 2010.”</td>
<td>Consistency</td>
</tr>
<tr>
<td>61</td>
<td>22</td>
<td></td>
<td>Inserted reference to Table 10.2.</td>
<td>Consistency</td>
</tr>
<tr>
<td>61</td>
<td>23</td>
<td>25</td>
<td>Rephrased sentence according to approved SPM text to read: “Systemic approaches and collaborative activities across companies (large energy intensive industries and Small and Medium Enterprises [SMEs]) and sectors can help to reduce GHG emissions.”</td>
<td>Consistency</td>
</tr>
<tr>
<td>62</td>
<td>14</td>
<td></td>
<td>Included word to clarify meaning: enhanced competitiveness THROUGH cost reductions</td>
<td>Clarification</td>
</tr>
<tr>
<td>64</td>
<td>3</td>
<td>7</td>
<td>Caption of Figure TS.27, inserted: 1) the term ‘indicative’ to read ‘4) indicative global CO2eq emissions for chemicals production; 2) DRI: Direct reduced iron; EAF: Electric arc furnace.”</td>
<td>Clarification</td>
</tr>
<tr>
<td>64</td>
<td>13</td>
<td>15</td>
<td>Caption of Figure TS.28, inserted: 1) ‘eq’ to read ‘indicative CO2eq emission intensities...’ 2) MSW: Municipal solid waste.</td>
<td>Clarification</td>
</tr>
<tr>
<td>65</td>
<td>3</td>
<td></td>
<td>Inserted sentence from table into caption: “For possible upstream effects of low-carbon energy supply (includes CCS), see Table TS.4. For possible upstream effects of biomass supply, see Table TS.8.”</td>
<td>Clarification</td>
</tr>
<tr>
<td>65</td>
<td>7</td>
<td></td>
<td>Table TS.6, column ‘Social’, row ‘Product demand reductions’: Deleted ‘Local conflicts (reduced inequity in consumption) (i / ii)” and changed “New diverse lifestyle concept” to “Wellbeing via diverse lifestyle choices”.</td>
<td>Error Correction</td>
</tr>
<tr>
<td>66</td>
<td>2</td>
<td>3</td>
<td>Inserted ‘GHG’ to read ‘GHG emissions from the AFOLU sector have stabilized but the share of total anthropogenic GHG emissions has decreased’</td>
<td>Clarification</td>
</tr>
<tr>
<td>66</td>
<td>4</td>
<td></td>
<td>Replaced 5.3 GtCO2 eq/yr with 5.0–5.8 GtCO2eq/yr</td>
<td>Consistency</td>
</tr>
<tr>
<td>66</td>
<td>5</td>
<td></td>
<td>Replaced 4.7 GtCO2 eq/yr with 4.3–5.5 GtCO2eq/yr</td>
<td>Consistency</td>
</tr>
<tr>
<td>66</td>
<td>6</td>
<td></td>
<td>Replaced 5.25–5 GtCO2 eq/yr with 5.0–5.8 GtCO2eq/yr</td>
<td>Consistency</td>
</tr>
<tr>
<td>66</td>
<td>10</td>
<td></td>
<td>Inserted “...and increased afforestation...”</td>
<td>Consistency</td>
</tr>
<tr>
<td>66</td>
<td>16</td>
<td>19</td>
<td>Rephrased sentences according to approved SPM text to read: “Net annual baseline CO2 emissions from AFOLU are projected to decline over time with net emissions potentially less than half of the 2010 level by 2050, and the possibility of the AFOLU sector becoming a net sink before the end of century. However, the uncertainty in historical net AFOLU emissions is larger than for other sectors, and additional uncertainties in projected baseline net AFOLU emissions exist.”</td>
<td>Consistency</td>
</tr>
<tr>
<td>66</td>
<td>32</td>
<td></td>
<td>Inserted ‘and’ to read ‘in particular reducing deforestation and land and livestock management.’</td>
<td>Clarification</td>
</tr>
<tr>
<td>66</td>
<td>34</td>
<td>37</td>
<td>Replaced ‘is limited evidence’ with ‘are still few studies’ to avoid using incomplete uncertainty language terms within a sentence</td>
<td>Error Correction</td>
</tr>
<tr>
<td>67</td>
<td>11</td>
<td>12</td>
<td>Rephrased sentence according to approved SPM text to read: “Among supply-side measures, the most cost-effective forestry options are afforestation, sustainable forest management and reducing deforestation, with large differences in their relative importance across regions...”</td>
<td>Consistency</td>
</tr>
<tr>
<td>67</td>
<td>12</td>
<td></td>
<td>Inserted footnote as in SPM to clarify term carbon price: “In many models that are used to assess the economic costs of mitigation, carbon price is used as a proxy to represent the level of effort in mitigation policies (see Glossary).”</td>
<td>Consistency</td>
</tr>
<tr>
<td>67</td>
<td>16</td>
<td>19</td>
<td>Replaced 13.78 GtCO2eq/yr with 10.6 GtCO2eq/yr - previous range (i.e. 13.78 GtCO2eq/yr value) included a forest only study whereas range should only be provided for studies that do both agriculture and forestry</td>
<td>Consistency</td>
</tr>
<tr>
<td>67</td>
<td>16</td>
<td>23</td>
<td>Replaced “7.18 to 10.60” with “7.18 to 10.60 (full range: 0.49–13.78)” with “7.18 to 10.6 (full range of all studies: 0.49–10.6)” and inserted “in 2030 for mitigation efforts consistent with...” to read “the economic mitigation potential in the AFOLU sector is estimated to be 7.18 to 10.6 (full range of all studies: 0.49–10.6) GtCO2eq/yr in 2030 for mitigation efforts consistent with carbon prices up to 100 USD/ tCO2eq...”</td>
<td>Consistency</td>
</tr>
<tr>
<td>67</td>
<td>23</td>
<td>25</td>
<td>Rephrased sentence according to approved SPM text to read: “While demand-side measures are under-researched, changes in diet, reductions of losses in the food supply chain, and other measures have a significant, but uncertain, potential to reduce GHG emissions from food production (0.76–8.55 GtCO2eq/yr by 2050).”</td>
<td>Consistency</td>
</tr>
<tr>
<td>67</td>
<td>25</td>
<td></td>
<td>Replaced (0.76–9.31 GtCO2 eq/yr by 2050) with (0.76–8.55 GtCO2eq/yr by 2050) due to accounting error in underlying spreadsheet and limited evidence (low agreement) with (limited evidence, medium agreement)</td>
<td>Error Correction</td>
</tr>
<tr>
<td>68</td>
<td>1</td>
<td></td>
<td>Figure TS.30 Updated figure according to counting error - maximum value for supply side measures now 8.55 GtCO2eq/yr</td>
<td>Error Correction</td>
</tr>
<tr>
<td>68</td>
<td>10</td>
<td></td>
<td>Included reference to 11.6.2</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>70</td>
<td>2</td>
<td>Inserted sentence: &quot;Some mitigation options in the AFOLU sector (such as soil and forest carbon stocks) may be vulnerable to climate change.&quot; for consistency with SPM.</td>
<td>Consistency</td>
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<tr>
<td>TS</td>
<td>70</td>
<td>11</td>
<td>Inserted reference to Section 11.3.2.</td>
<td>Consistency</td>
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<tr>
<td>TS</td>
<td>70</td>
<td>22</td>
<td>Replaced 4 paragraphs on pages from page 70 line 22 to page 71 line 17 with SPM approved text: &quot;Bioenergy can play a critical role for mitigation, but there are issues to consider, such as the sustainability of practices and the efficiency of bioenergy systems (robust evidence, medium agreement) [11.4.4, Box 11.5, 11.13.6, 11.13.7]. Barriers to large-scale deployment of bioenergy include concerns about GHG emissions from land, food security, water resources, biodiversity conservation and livelihoods. The scientific debate about the overall climate impact related to land-use competition effects of specific bioenergy pathways remains unresolved (robust evidence, high agreement). [11.4.4, 11.13] Bioenergy technologies are diverse and span a wide range of options and technology pathways. Evidence suggests that options with low lifecycle emissions (e.g., sugar cane, Miscanthus, fast growing tree species, and sustainable use of biomass residues) are already available, can reduce GHG emissions; outcomes are site-specific and rely on efficient integrated ‘biomass-to-bioenergy systems’, and sustainable land-use management and governance. In some regions, specific bioenergy options, such as improved cookstoves, and small-scale biogas and biopower production, could reduce GHG emissions and improve livelihoods and health in the context of sustainable development&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>70</td>
<td>39</td>
<td>replaced 3 billion by correct number 2.6 billion people (according to WEO published within the official literature cut-off date for the WGI AR5)</td>
<td>Error Correction</td>
</tr>
<tr>
<td>TS</td>
<td>71</td>
<td>21</td>
<td>Rephrased text according to SPM approved text: &quot;As of 2011, more than 52% of the world’s population...&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>71</td>
<td>22</td>
<td>Replaced sentence: &quot;Urban areas account for 67-76% of total global energy use and 71-76% of global energy-related CO2 emissions. Using Scope 1 accounting, 27 urban share of global CO2 emissions is 44% (Figure TS.31).&quot; with updated sentence to clarify Scope 1 and 2 accounting.</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>71</td>
<td>31</td>
<td>Figure TS.31 caption: Updated figure caption to be consistent with new figure: Estimated shares of direct (Scope 1) and indirect urban CO2 emissions in total emissions across world regions (GtCO2). Indirect emissions (Scope 2) allocate emissions from thermal power plants to urban areas. [12.2.2, Figure 12.4] and inserted: CPA: Centrally Planned Asia and China; EEU: Central and Eastern Europe; FSU: Former Soviet Union; LAM: Latin America and Caribbean; MNA: Middle East and North Africa; NAM: North America; PAS: South-East Asia and Pacific; POECD: Pacific OECD; SAS: South Asia; SSA: Sub-Saharan Africa; WEU: Western Europe.</td>
<td>Consistency</td>
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<tr>
<td>TS</td>
<td>72</td>
<td>10</td>
<td>Rephrased sentence according to approved SPM text: &quot;Accounting for trends in declining population densities, and continued economic and population growth, urban land cover is projected to expand by 56–310% between 2000 and 2030.&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>72</td>
<td>15</td>
<td>Removed sentence</td>
<td>Error Correction</td>
</tr>
<tr>
<td>TS</td>
<td>72</td>
<td>29</td>
<td>Replacing &quot;high land use mixes&quot; with &quot;achieving high diversity and integration of land uses&quot;</td>
<td>Clarification</td>
</tr>
<tr>
<td>TS</td>
<td>72</td>
<td>33</td>
<td>Rephrased sentence according to SPM approved text: &quot;The largest opportunities for future urban GHG emissions reduction might be in rapidly urbanizing countries where urban form and infrastructure are not locked-in but where there are often limited governance, technical, financial, and institutional capacities can be limited (robust evidence, high agreement).&quot;</td>
<td>Consistency</td>
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<tr>
<td>TS</td>
<td>72</td>
<td>38</td>
<td>Rephrased sentence according to SPM approved text: &quot;Thousands of cities are undertaking climate action plans, but their aggregate impact on urban emissions is uncertain ...&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>72</td>
<td>41</td>
<td>Rephrased sentence according to SPM approved text: &quot;However, little systematic assessment regarding the overall extent to which cities are implementing mitigation policies and emission reduction targets are being achieved, or emissions reduced.&quot;</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>72</td>
<td>45</td>
<td>Inserted reference to section 12.9</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>73</td>
<td>2</td>
<td>Figure TS.32 caption: Inserted sentence from figure caption text in underlying chapter to read: &quot;The dark blue row segments under the VET elasticities column provide the range of elasticities for the studies included.&quot; Also inserted: CBD: Central business district.</td>
<td>Clarification</td>
</tr>
<tr>
<td>TS</td>
<td>74</td>
<td>25</td>
<td>Adjusted uncertainty qualifier according to SPM</td>
<td>Consistency</td>
</tr>
<tr>
<td>TS</td>
<td>74</td>
<td>25</td>
<td>Inserted sentence for consistency with related SPM text: &quot;Urban areas throughout the world continue to struggle with challenges, including ensuring access to energy, limiting air and water pollution, and maintaining employment opportunities and competitiveness. Action on urban-scale mitigation often depends on the ability to relate climate change mitigation efforts to local co-benefits.&quot;</td>
<td>Consistency</td>
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<tr>
<td>Page</td>
<td>Column 1</td>
<td>Column 2</td>
<td>Column 3</td>
<td>Natural Text</td>
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<tr>
<td>84</td>
<td>2</td>
<td>14</td>
<td>Replace caption by &quot;Figure TS.36. Economic and governance indicators affecting regional capacities to embrace mitigation policies. Statistics refer to the year 2010 or the most recent year available. Note: The lending interest rate refers to the average interest rate charged by banks to private sector clients for short- to medium-term financing needs. The governance index is a composite measure of governance indicators compiled from various sources, rescaled to a scale of 0 to 1, with 0 representing weakest governance and 1 representing strongest governance. ([Figure 14.2])&quot;</td>
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<td>86</td>
<td>7</td>
<td>11</td>
<td>Replaced caption by &quot;Alternative forms of international cooperation. The figure represents a compilation of existing and possible forms of international cooperation, based upon a survey of published research, but is not intended to be exhaustive of existing or potential policy architectures, nor is it intended to be prescriptive. Examples in orange are existing agreements. Examples in blue are structures for agreements proposed in the literature. The width of individual boxes indicates the range of possible degrees of centralization for a particular agreement. The degree of centralization indicates the authority an agreement confers on an international institution, not the process of negotiating the agreement. ([Figure 13.2])&quot;</td>
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<td>86</td>
<td>7</td>
<td>Insert legend: &quot;Legend: Loose coordination of policies: examples include transnational city networks or NAMAs; R&amp;D technology cooperation: examples include the Major Economies Forum on Energy and Climate Change (MFEF), Global Methane Initiative (GMI), or Renewable Energy and Energy Efficiency Partnership (REEEP); Other International Organization (IO) GHG regulation: examples include the Montreal Protocol, International Civil Aviation Organization (ICAO), International Maritime Organization (IMO); See Figure 13.1 for the details of these examples.&quot;</td>
<td></td>
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<tr>
<td>87</td>
<td>37</td>
<td>Replace &quot;even in the absence of&quot; by &quot;without the Protocol in economies in transition&quot;.</td>
<td></td>
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<tr>
<td>89</td>
<td>4</td>
<td>Replaced &quot;stabilize&quot; by &quot;reach&quot;.</td>
<td></td>
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<tr>
<td>90</td>
<td>4</td>
<td>Replaced &quot;stabilize&quot; by &quot;reach&quot;.</td>
<td></td>
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<tr>
<td>92</td>
<td>13</td>
<td>14</td>
<td>Replace &quot;funding provided to developing countries by Annex II Parties for climate related activities&quot; by &quot;not well-defined. Annex II Parties provide and mobilize funding for climate related activities in developing countries&quot;.</td>
<td></td>
</tr>
</tbody>
</table>