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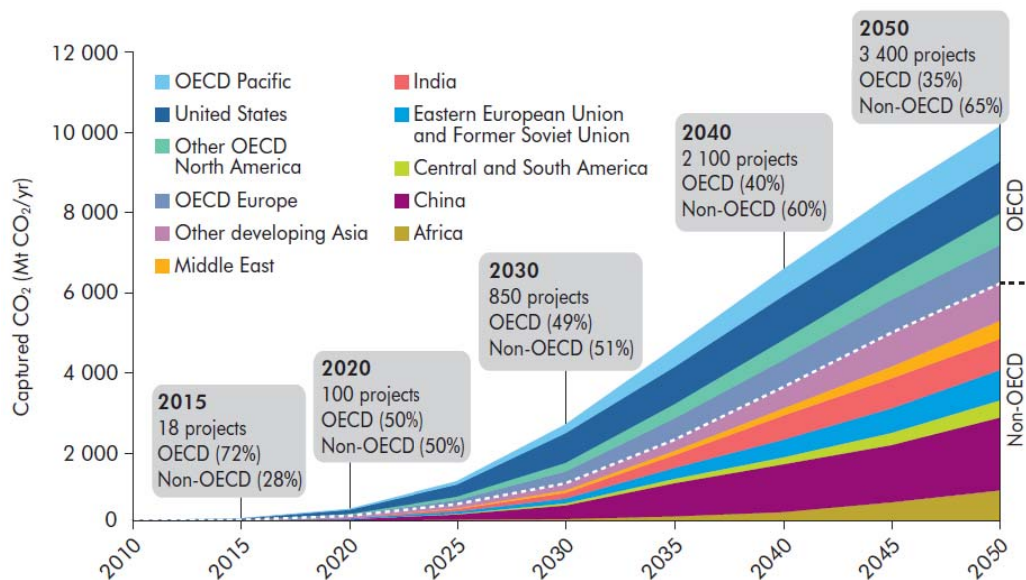
Submission to the UNFCCC secretariat

### Modalities and procedures for inclusion of carbon dioxide capture and storage in geological formations as a project activity under the clean development mechanism

The International Energy Agency (IEA) welcomes the decision<sup>1</sup> of the sixth Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 6 Decision) that carbon dioxide capture and storage (CCS) in geological formations is an eligible project activity under the clean development mechanism (CDM), subject to resolution of certain specified issues<sup>2</sup>.

The IEA provides objective analysis and advice to IEA member and non-member countries on all energy technologies and across the key energy policy drivers – energy security, environmental protection and economic development. The IEA has been advising on CCS within this context for over a decade. IEA analysis identifies CCS as a crucial part of worldwide efforts to limit global warming by reducing greenhouse-gas emissions. The IEA estimates that the broad deployment of low-carbon energy technologies could reduce projected 2050 emissions to half 2005 levels – and that CCS could contribute about one-fifth of those reductions in a least-cost technology portfolio.<sup>3</sup> Reaching that goal, however, would require around 100 CCS projects to be implemented by 2020 and over 3 000 by 2050 (see Figure 1).

Figure 1: CCS deployment by region, 2010-50



Source: 2009 IEA *Technology Roadmap: Carbon capture and storage* (IEA CCS Roadmap)

<sup>1</sup> Decision -/CMP. 6 “Carbon dioxide capture and storage in geological formations as clean development mechanism project activities”.

<sup>2</sup> Issues identified in decision 2/CMP. 5, paragraph 29 (CMP 5 Decision), as well as paragraph 3 of the CMP 6 Decision.

<sup>3</sup> *Energy Technology Perspectives 2010* (IEA).

As Figure 1 indicates, successful deployment of CCS in developing countries will be critical: the IEA *CCS Roadmap* suggests that around 65% of required projects in 2050 will have to occur in non-Annex 1 countries. To meet this challenge, large scale funding will be required through various mechanisms, including CO<sub>2</sub> markets. As the CDM is currently the only large scale CO<sub>2</sub> market-based funding mechanism operating in developing countries, the CMP 6 Decision provides an important first step towards a mechanism that will help finance CCS projects in non-Annex 1 countries. The IEA urges countries to continue progress towards a final decision at CMP 7, reflecting the importance of CCS deployment in these countries.

The CMP 6 Decision invites Parties and admitted observer organisations to submit to the UNFCCC secretariat their views on how the issues referred to in paragraph 3 of the CMP 6 Decision can be addressed in modalities and procedures for the inclusion of CCS as an eligible project activity under the CDM. The IEA considers that significant work has been done in previous submissions to the UNFCCC secretariat, as well as recently submitted CCS-CDM methodologies, project design documents and other supporting documentation, towards addressing the issues identified. Accordingly, the core of the IEA's submission is Table 1, which draws out where this existing body of work addresses the key issues raised.

In addition to the issues addressed in Table 1, the IEA considers that for all CCS development, in Annex-1 or non-Annex-1 countries, it is crucial that appropriate **institutional and regulatory arrangements** are in place to provide assurance regarding the protection of public health, safety and the environment and the effective stewardship of storage sites in the short-, medium- and long-term. Such arrangements are also required to underpin performance and associated incentive schemes. In the case of the CDM, CCS capacity will need to be ensured within, or in support of, relevant CDM bodies. This may take the form of, for example:

- Creation of a special Working Group on CCS that could support the evaluation and approval of new CCS methodologies. The CCS Working Group could also assess CCS project design documents, and provide recommendations with respect to the final approval of these projects.
- Defining CCS as a new CDM "sector-scope" with associated accreditation of DOEs interested in working with CCS-CDM projects. Accreditation of DOEs for CCS projects would impose requirements on companies seeking to validate, verify and certify CCS projects, to demonstrate knowledge and expertise in all aspects of CCS technologies.

Where this capacity is not in place, either at a national level or international level, organisations such as the IEA can provide assistance with CCS capacity building.

The IEA also emphasises that:

- Specific modalities and procedures for CCS **should only be developed to the extent necessary**. The IEA considers that many issues referred to in paragraph 3 of the CMP 6 Decision may already be sufficiently addressed in general modalities and procedures or may be more appropriately addressed elsewhere such as in approved methodologies or in host country regulatory frameworks. For example, for liabilities associated with CCS projects, arrangements to address 'local' liability (damage to property or public health, 'non-global' environmental damage and associated corrective or remediation measures) will largely be a matter for host countries to manage within the scope of domestic CCS regulatory arrangements.
- Specific modalities and procedures for CCS should **take into account the existing body of knowledge already in place for CCS**. To date, significant work has been undertaken across a

number of forums to address many of the issues referred to in paragraph 3 of the CMP 6 Decision. For example, the Intergovernmental Panel on Climate Change 2006 Greenhouse Gas Inventory Guidelines (2006 guidelines) provide a useful framework to address issues such as **storage site selection and monitoring, reporting and verification**.

- The 2006 guidelines provide for the development of an assurance-based scheme to demonstrate good storage site selection, based on geological appraisal, evaluation of risks of containment loss, demonstration of a dedicated monitoring plan, and adaptive learning principles. As such, they create *de facto* principles for an approval process for appropriate CO<sub>2</sub> storage site selection, risk assessment, and monitoring design. Work such as this can inform, or provide a basis for, addressing these issues in the context of the CDM. In the future, monitoring, reporting and verification for CCS projects in the CDM could be linked to biannual reports from non-Annex 1 countries of their national greenhouse gas inventories, as mentioned in the Cancun draft decision<sup>4</sup>. This could potentially facilitate long-term reporting on CCS storage sites.
- **Modalities and procedures should not exclude any CCS activity configurations** such as CCS associated with biomass processing or combustion (bioenergy with CCS or “BECCS”) and CO<sub>2</sub>-based enhanced hydrocarbon recovery (CO<sub>2</sub>-EHR). CCS activities such as these, which to date have not received significant attention in the context of the UNFCCC discussions, are likely to be important for the broad deployment of CCS in many non-Annex I countries, including countries which have yet to realise any CDM projects.
  - BECCS, which combines a CO<sub>2</sub> neutral biofuel cycle with CO<sub>2</sub> storage, can potentially achieve a net removal of CO<sub>2</sub> from the atmosphere by taking CO<sub>2</sub> from atmosphere into the biogenic pool, and then transferring it into the geological pool, thus giving rise to “negative emissions”. Negative emissions can decrease CO<sub>2</sub> emissions faster than otherwise possible or be used to compensate for emissions that, for economic and technical reasons, are difficult to abate by other means.
  - CO<sub>2</sub>-EHR can offer an additional economic and energy security incentive to CCS operations. To be a legitimate CO<sub>2</sub> mitigation option and qualify for the CDM, CO<sub>2</sub>-EHR projects will need to prove that they can deliver an overall reduction in CO<sub>2</sub> emissions over the project life time, and that they are additional to what would happen under a business as usual scenario. Current CO<sub>2</sub>-EHR projects may not always achieve a net reduction in emissions as they often optimise operations to minimise CO<sub>2</sub> stored. However, through optimised project operation a net CO<sub>2</sub> reduction could be achieved.

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<sup>4</sup> Draft decision -/CP.16 “Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention” states in paragraph 60 c) that “Developing countries, consistent with their capabilities and the level of support provided for reporting, should also submit biannual update reports, containing updates of national greenhouse gas inventories including a national inventory report and information on mitigation actions, needs and support received”.

**Table 1: CMP 6 Decision paragraph 3 issues as addressed in previous UNFCCC submissions, CCS CDM methodologies and other documentation**

Issue	CMP 6 Decision Paragraphs	CMP 5 Decision Paragraphs <sup>i</sup>	Synthesis reports <sup>ii</sup>	Mandate and Party submissions addressing issue <sup>iii</sup>	Observer submissions which address issue	Additional documentation which addresses this issue
Site selection criteria	3(a) & 3(d)	29(a)	<p><u>INF.1</u> Para. 34, 37-42, 60, 95(c-e)</p> <p><u>INF.3</u> Para. 24-28, 93(b &amp; c)</p>	<p><u>Decision 7/CMP.1</u> Australia, pp 8 Austria (EU), pp 10, 12 Canada, pp 18 Norway, pp 29</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Canada, pp 5-8 Norway, pp 13-14, 15 Portugal (EU), pp 20-24 South Korea, pp 4</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Norway, pp 12, 14-15, 19 Slovenia (EU), pp 24</p> <p><u>Decision 2/CMP.5</u> Australia, pp 6-7 Indonesia, pp 21 Norway, pp 24, 25, 26-27 Spain (EU), pp 33,</p>	<p><u>Decision 7/CMP.1</u> IETA, pp 5-7 WCI, pp 4</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> IRGC, pp 1 WWF, pp 15-16 Bellona, pp 11-12 WCI, pp 9-10</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Greenpeace Int'l, pp 1-2 IETA, pp 12, 16-17</p> <p><u>Decision 2/CMP.5</u> Eskom, pp 1</p>	<p>A wide range of literature on all the Issues exists. Some examples are highlighted below:</p> <p>WRI (2010)<sup>iv</sup> Shell/QP (2010)<sup>v</sup> IEA (2010)<sup>vi</sup> UNFCCC (2009)<sup>vii</sup> BP/In Salah JIP (2009)<sup>viii</sup> DNV (2009)<sup>ix</sup> IEA GHG (2007)<sup>x</sup> IPIECA/API (2007)<sup>xi</sup> IPCC (2006)<sup>xii</sup> IPCC (2005)<sup>xiii</sup></p>
Monitoring plan	3(b), 3(d) & 3(g)	29(a) & 29(b)	<p><u>INF.1</u> Para. 18, 19(b), 20(e), 32, 47-52, 95(g)</p> <p><u>INF.3</u> Para. 16, 20, 31-34, 45(c), 47, 85, 91(b)</p>	<p><u>Decision 7/CMP.1</u> Australia, pp 6-8 Austria (EU), pp 11, 12 Brazil, pp 14 Canada, pp 18 Japan, pp 22, 23 Norway, pp 30 Switzerland, pp 34</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Japan, pp 3 Canada, pp 5, 6-8 Norway, pp 11, 14, 16</p>	<p><u>Decision 7/CMP.1</u> IETA, pp 4, 6</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Greenpeace (monitoring paper) IETA WWF</p>	<p>WRI (2010) Shell/QP (2010) IEA (2010) UNFCCC (2009) BP/In Salah JIP (2009) DNV (2009) IEA GHG (2007) IPIECA/API (2007) IPCC (2006) IPCC (2005)</p>

Issue	CMP Decision Paragraphs 6	CMP Decision Paragraphs 5	Synthesis reports <sup>ii</sup>	Mandate and Party submissions addressing issue <sup>iii</sup>	Observer submissions which address issue	Additional documentation which addresses this issue
				Portugal (EU), pp 23-24, 27 South Korea, pp 3-4  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 3, 4-5 Norway, pp 12-14, 15-16, 18-19 Slovenia (EU), pp 24-25  <u>Decision 2/CMP.5</u> Australia, pp 6-7, 9-10 Indonesia, pp 21 Norway, pp. 26, 28-29 Spain (EU), pp 33, 34-35	Sustain US, pp 2 Bellona, pp 12  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> Greenpeace Int'l, pp 2-3 IETA, pp 9, 17, 19-21, 23, 24 Sustain US, pp 2 WCI, pp 11  <u>Decision 2/CMP.5</u> Eurelectric, pp 4 Ind Inst Tech - Kharagpur, pp 9	
Role of modelling	3(c)	29(b)	<u>INF.1</u> Para. 23, 41, 47, 64, 93(b), 95(f & g)  <u>INF.3</u> Para. 38(b)	<u>Decision 7/CMP.1</u> Australia, pp 5, 7 Canada, pp 16, 18, 19 Japan pp 22, 23  <u>Decision 1/CMP.2 (in INF.1)</u> Canada, pp 6-7, 8 Portugal (EU), pp 22-23  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 4 Norway, pp 18-19 Venezuela, pp 7, 8  <u>Decision 2/CMP.5</u> Australia, pp 7, 9, 12 Spain (EU), pp 35	<u>Decision 7/CMP.1</u>   <u>Decision 1/CMP.2 (in INF.1)</u> Bellona, pp 9, 12-13  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> IETA, pp 17, 18, 19 WCI, pp 10  <u>Decision 2/CMP.5</u> Eskom, pp 1	IEA GHG (2007) Shell/QP (2010) IEA (2010) UNFCCC (2009) BP/In Salah JIP (2009) DNV (2009) IPCC (2006) IPCC (2005)
CCS project boundaries	3(e), 3(f)& 3(g)	29(d)	<u>INF.1</u> Para. 38(b), 43-46, 95(b)  <u>INF.3</u>	<u>Decision 7/CMP.1</u> Australia, pp 6 Austria (EU), pp 12 Canada, pp 19	<u>Decision 7/CMP.1</u> HWWI, pp 4 IETA, pp 3-4	WRI (2010) Shell/QP (2010) IEA (2010) UNFCCC (2009)

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			Para. 29-30, 93(a), 94(b & c)	<p>Japan, pp 22 Norway, pp 29</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Canada, pp 4-5 Norway, pp 14-15 Portugal (EU), pp 26-27 South Korea, pp 3, 4</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 4-5 New Zealand, pp 8 Norway, pp 13-14 Slovenia (EU), pp 24</p> <p><u>Decision 2/CMP.5</u> Australia, pp 12 Indonesia, pp 21 Norway, pp 25-26 Spain (EU), pp 33-34, 35</p>	<p><u>Decision 1/CMP.2 (in INF.1)</u> IETA, pp 9-10 WWF Bellona, pp 7-8</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> IETA, pp 12, 16</p> <p><u>Decision 2/CMP.5</u> Eurelectric, pp 3-4 Ind Inst Tech - Kharagpur, pp 8</p>	BP/In Salah JIP (2009) DNV (2009) IEA GHG (2007) IPIECA/API (2007) IPCC (2006) IPCC (2005)
Trans-boundary projects	3(h)	29(e)	<p><u>INF.1</u> Para. 26, 62-66, 96(c)</p> <p><u>INF.3</u> Para. 17, 26(g), 41-42</p>	<p><u>Decision 7/CMP.1</u> Australia, pp 5, 7 Austria (EU), pp 10, 11 Canada, pp 17 Japan, pp 22</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Canada, pp 9 Portugal (EU), pp 27</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 4 Norway, pp 14 Venezuela, pp, 7</p>	<p><u>Decision 7/CMP.1</u></p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Bellona, pp 7-8</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> IETA, pp 10 WCI, pp 15</p>	WRI (2010) IEA (2010) IEA GHG (2007) IPCC (2006) IPCC (2005)

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				<u>Decision 2/CMP.5</u> Australia, pp 9, 12-15 Indonesia, pp 22 Norway, pp 26 Spain (EU), pp 35	<u>Decision 2/CMP.5</u> Eurelectric, pp 5 Eskom, pp 2	
Accounting for project emissions	3(i)	29(b) & 29(f)	<u>INF.1</u> Para. 13, 19, 33, 43, 45, 49-51, 59, 63, 64, 93(a)  <u>INF.3</u> Para. 22-23, 29-30, 31(e), 93(a), 94(c)	<u>Decision 7/CMP.1</u> Australia, pp 6-7 Austria (EU), pp 11 Brazil, pp 14 Canada, pp 16, 17, 18, 19 Japan, pp 21, 22, 23 Norway, pp 29, Switzerland, pp 35  <u>Decision 1/CMP.2 (in INF.1)</u> Canada, pp 4-5, 7-8 Norway, pp 15-16 Portugal (EU), pp 25, 26-27  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 4 New Zealand, pp 10 Norway, pp 13-15 Slovenia (EU), pp 25  <u>Decision 2/CMP.5</u> Australia, pp 8-9, 10, 12 Indonesia, pp 22 Norway, pp 24, 25-26 Spain (EU), pp 35	<u>Decision 7/CMP.1</u> HWWI, pp2-4 IETA, pp 4  <u>Decision 1/CMP.2 (in INF.1)</u> Greenpeace (liability paper) Sustain US  <u>SBSTA/2007/16 (L.19) (in INF.3)</u> WCI, pp 11, 13  <u>Decision 2/CMP.5</u>	WRI (2010) Shell/QP (2010) IEA (2010) UNFCCC (2009) BP/In Salah JIP (2009) IEA GHG (2007) IPIECA/API (2007) IPCC (2006) IPCC (2005) EC (2010) <sup>xiv</sup>
Risk and safety assessment	3(j), 3(k) & 3(l)	29(a), 29(c) & 29(h)	<u>INF.1</u> Para. 24-27, 57(c), 88-92  <u>INF.3</u> Para. 15, 17, 25(d), 26(d), 59 (d),	<u>Decision 7/CMP.1</u> Australia, pp 5 Austria (EU), pp 10, 11 Bangladesh, pp 13 Canada, pp 17-18	<u>Decision 7/CMP.1</u> IETA, pp 2-3 IPIECA, pp 2 WCI, pp 4 Sustain US, pp 2	WRI (2010) Shell/QP (2010) IEA (2010) UNFCCC (2009) BP/In Salah JIP (2009)

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			61-64, 92 (a-c), 97 (d)	<p>Switzerland, p 34</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Japan, pp 3 Canada, pp 9 Norway, pp 15, 16 Portugal (EU), pp 20-22, 25 South Korea, pp 2-4</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 3, 5 New Zealand, pp 8, 9, 10 Norway, pp 14-15, 19 Slovenia (EU), pp 24 Venezuela, pp, 8</p> <p><u>Decision 2/CMP.5</u> Australia, pp 6-7, 10-11, 14, 16-17 Indonesia, pp 21-22 Norway, pp 25, 27, 28-29 Spain (EU), pp 32-33, 36-37, 41</p>	<p><u>Decision 1/CMP.2 (in INF.1)</u> Multiple views covered in INF.1 Greenpeace (leakage paper) Bellona, pp 5-7</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Greenpeace Int'l, pp 1-2 IETA, pp 11, 15 Sustain US, pp 1-2 WCI, pp 11</p> <p><u>Decision 2/CMP.5</u> Eurelectric, pp 6 Ind Inst Tech - Kharagpur, pp 9</p>	IPCC (2006) IPCC (2005)
Liability	3(m), 3(n) & 3(o)	29(a), 29(f) & 29(i)	<p><u>INF.1</u> Para. 36, 59, 67-74, 76, 80(a), 87, 96(b), 97(b-d)</p> <p><u>INF.3</u> Para. 36, 43-47, 58(g), 95(d)</p>	<p><u>Decision 7/CMP.1</u> Australia, pp 7 Austria (EU), pp 10, 12 Brazil, pp 14 Norway, pp 30 Switzerland, p 34</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Japan, pp 3 Canada, pp 9 Norway, pp 16 Portugal (EU), pp 25-26 South Korea, pp 3-4</p>	<p><u>Decision 7/CMP.1</u> HWWI, pp 3 IETA, pp 3, 4-6</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> Greenpeace (leakage paper) Greenpeace (liability paper) IETA, pp 10-11 WWF, pp 14-15 Bellona, pp 9-10</p>	WRI (2010) Shell/QP (2010) IEA (2010) UNFCCC (2009) BP/In Salah JIP (2009) IEA GHG (2007) IPIECA/API (2007) IPCC (2005)



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				<p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 4, 5 New Zealand, pp 9 Norway, pp 16-17 Slovenia (EU), pp, 24 Venezuela, pp 7</p> <p><u>Decision 2/CMP.5</u> Australia, pp 8-9, 17 Indonesia, pp 22 Norway, pp 29 Spain (EU), pp 37-38, 39, 41</p>	<p>NFED, pp 1 <u>SBSTA/2007/16 (L.19) (in INF.3)</u> Greenpeace Int'l, pp 1-2 IETA, pp 9-10, 12 Sustain US, pp 2 WCI, pp 10-11</p> <p><u>Decision 2/CMP.5</u> Eurelectric, pp 5</p>	
Potential for perverse outcomes		29(g)	<p><u>INF.1</u> n/a</p> <p><u>INF.3</u> Para. 22-23, 50, 76, 88-90, 98(d)</p>	<p><u>Decision 7/CMP.1</u> Australia, pp 3-6</p> <p><u>Decision 1/CMP.2 (in INF.1)</u> South Korea, pp 2</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Brazil, pp 6 New Zealand, pp 8, 9, Norway, pp 17 Slovenia (EU), pp 25 Venezuela, pp 7</p> <p><u>Decision 2/CMP.5</u> Australia, pp 15-16 Indonesia, pp 22 Norway, pp 29-30 Spain (EU), pp 37</p>	<p><u>Decision 7/CMP.1</u></p> <p><u>Decision 1/CMP.2 (in INF.1)</u> IETA, pp 7 WCI, pp 1-2 WWF Sustain US, pp 2-3 NFED, pp 2</p> <p><u>SBSTA/2007/16 (L.19) (in INF.3)</u> Greenpeace Int'l, pp 2-3 ICC, pp 1-2 IETA, pp 6-7 Sustain US, pp 2-3 WCI, pp 8-9</p> <p><u>Decision 2/CMP.5</u> Eurelectric, pp 2, 5-6 Eskom, pp 2 IRGC, pp 2</p>	<p>BP/In Salah JIP (2009) UNFCCC (2009) IEA GHG (2008)<sup>xv</sup> IEA GHG (2007)</p>

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<sup>i</sup> The issues raised in CMP 5 Decision paragraphs are as follows: 29(a) Non-permanence, including long-term permanence; (b) Measuring, reporting and verification; (c) Environmental impacts; (d) Project activity boundaries; (e) International law; (f) Liability; (g) The potential for perverse outcomes; (h) Safety; and (i) Insurance coverage and compensation for damages caused due to seepage or leakage

<sup>ii</sup> Document FCCC/SBSTA/2008/INF.1 and Document FCCC/SBSTA/2008/INF.3

<sup>iii</sup> Page numbers stated come from the documents reviewed.

<sup>iv</sup> Forbes, S.M. and Ziegler, M.S. (2010). *Carbon Dioxide Capture and Storage and the UNFCCC: Recommendations for Addressing Technical Issues*. World Resources Institute, Washington DC, 2010

<sup>v</sup> Submission of a CCS CDM methodology and PDD to the UNFCCC by Shell and Qatar Petroleum

<sup>vi</sup> IEA (2010) *Carbon Capture and Storage: Model Regulatory Framework*. IEA Information Paper. International Energy Agency, Paris.

<sup>vii</sup> UNFCCC (2009) *Implications of the inclusion of Geological Carbon Dioxide Capture and Storage as CDM project activities – An assessment. A report to the UNFCCC*. 50th Meeting of the UNFCCC CDM Executive Board (EB50) 2009 Annex 1.

<sup>viii</sup> In Salah Gas Partners, proposal for CDM new methodology. Capture, transport and long-term storage in Geological Formations of carbon dioxide from natural gas processing operations. (2009) Available at: [http://www.insalahco2.com/index.php?option=com\\_content&view=article&id=110&Itemid=169&lang=en](http://www.insalahco2.com/index.php?option=com_content&view=article&id=110&Itemid=169&lang=en)

<sup>ix</sup> Det Norske Veritas (2009) CO2QUALSTORE: Guideline for Selection and Qualification of Sites and Projects for Geological Storage. DNV, Oslo.

<sup>x</sup> IEA Greenhouse Gas R&D Programme (GHG IA), 2007, ERM – Carbon Dioxide Capture and Storage in the Clean Development Mechanism, Report Number 2007/TR2, (April 2007, IEA GHG).

<sup>xi</sup> International Petroleum Industry Environmental Conservation Association and the American Petroleum Institute (IPIECA/API), 2007, *Carbon capture and geological storage emission reduction project family, in Oil and Gas Industry Guidelines for Greenhouse Gas Reduction Projects*, IPIECA, London

<sup>xii</sup> 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006), *Carbon Dioxide Transport, Injection and Geological*, Volume 2, Chapter 5. Intergovernmental Panel on Climate Change.

<sup>xiii</sup> B Metz, O. Davidson, H. C. de Coninck, M. Loos, and L. A. Meyer (eds.). *IPCC Special Report on Carbon Dioxide Capture and Storage*. Prepared by Working Group III of the Intergovernmental Panel on Climate Change Cambridge and New York: Cambridge University Press. (2005)

<sup>xiv</sup> European Commission (2010). Commission Decision of 8<sup>th</sup> June 2010 amending Decision 2007/589/EC as regards the inclusion of monitoring and reporting guidelines for greenhouse gas emission from the capture, transport and geological storage of carbon dioxide. Decision 2010/345/EC

<sup>xv</sup> GHG IA, *Carbon Dioxide Capture and Storage in the Clean Development Mechanism: Assessing market effects of inclusion*. IEA Greenhouse Gas R&D Programme 2008/13 (November 2008).