

## Climate change

- 9.1 Climate change and its impacts on the ASEAN region is attracting increased attention from ASEAN member states and Australia. While there are serious consequences arising from climate change, there are also opportunities for those ready to grasp them.
- 9.2 A detailed assessment of climate change and its impacts is not the major focus of this inquiry. Consequently, evidence received by the Committee was limited.
- 9.3 This chapter considers the evidence received concerning:
- the scale of the problem and ASEAN's response;
  - cooperation between Australia and the ASEAN member states; and
  - challenges and opportunities which Australia faces in its response to climate change.

### **Impact of climate change**

- 9.4 Engineers Australia provided the Committee with assessments from the International Panel on Climate Change (IPCC) and the Lowy Institute on the impact of climate change on the ASEAN region. The IPCC fourth report predicted reduced crop yields, increased risks of

hunger and water scarcity, damage to ecosystems, population displacement, significant adverse effects on human health, and increased urbanisation, with associated environmental impacts.<sup>1</sup>

9.5 The Lowy Institute suggested consequences such as:

- ‘economic damage and risk to coastal cities’;
- increasing likelihood of border disputes due to loss of land area;
- tensions over energy supply;
- ‘increased instability in weak and failing states’; and
- an increase on migration pressures.<sup>2</sup>

9.6 DFAT’s submission summarised the situation:

Australia considers climate change to be a serious long-term global challenge that will incrementally intensify climate-related stresses, including extreme weather events, sea-level rise and resource availability. Other impacts may include alterations to the geographical range of some infectious diseases. Over time, these climate change impacts are also expected to contribute additional stresses to local and regional stability, and resource and food security. The countries of ASEAN, particularly those with low-lying coastal and island communities, are vulnerable to the impacts of climate change. Climate change in these areas has the potential to affect key industries, notably tourism and agriculture.<sup>3</sup>

9.7 DIAC also drew attention to the high impacts of climate change on ‘mega-deltas’. (One of these – the Mekong Delta – the Committee notes is situated across ASEAN member states.) The increased likelihood and severity of extreme weather events such as flooding would interrupt food production and, DIAC suggested, would increase internal displacement and pressures for migration to Australia.<sup>4</sup>

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1 IPCC *Fourth Assessment Report*, 2007, quoted in Engineers Australia, *Submission No. 3*, p. 38.

2 Alan Dupont and Graeme Pearman, *Heating Up the Planet: Climate Change and Security*, 13 June 2006, [www.lowyinstitute.org](http://www.lowyinstitute.org) quoted in Engineers Australia, *Submission No. 3*, pp. 38–9.

3 DFAT, *Submission No. 24*, p. 302.

4 DIAC, *Submission No. 4*, p. 59.

## ASEAN's response

- 9.8 DFAT advised the Committee that there was a 'growing awareness' of climate change amongst ASEAN member states.<sup>5</sup>
- 9.9 References to climate change and environmental issues are made in the following declarations:
- ASEAN Vision 2020 (1997);<sup>6</sup>
  - ASEAN Agreement on Transboundary Haze Pollution in 2002;<sup>7</sup>
  - ASEAN Concord II (2003);<sup>8</sup>
  - ASEAN Socio-Cultural Community Plan of Action (2003);<sup>9</sup>
  - Cebu Declaration on East Asian Energy Security (2007);<sup>10</sup>
  - ASEAN Declaration on Environmental Sustainability (2007);
  - Singapore Declaration on Climate Change, Energy and the Environment (2007); and
  - The ASEAN Charter (2008).<sup>11</sup>
- 9.10 The ASEAN Declaration on Environmental Sustainability, released at the 3rd East Asia Summit in November 2007, included ASEAN's response to climate change which was:
- (14) To work closely** with the international community to better understand and adapt to the adverse impacts of climate change, including, in particular, the related issues of greenhouse gas emissions and carbon sinks;
- (15) To agree** that the pursuit of climate change and energy security policies should avoid introducing barriers to trade and investment;
- (16) To intensify** cooperation on the joint research, development and deployment of low emission technologies

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5 DFAT, *Submission No. 24*, p. 302.

6 <<http://www.aseansec.org/2357.htm>> Accessed January 2009.

7 *Exhibit No. 1*, pp. 16–17; <<http://www.aseansec.org/6086.htm>> Accessed 28 January 2009.

8 <<http://www.aseansec.org/15159.htm>> Accessed January 2009.

9 <<http://www.aseansec.org/16833.htm>> Accessed January 2009.

10 <<http://www.aseansec.org/19319.htm>> Accessed January 2009.

11 <<http://www.aseansec.org/ASEAN-Charter.pdf>> Accessed January 2009.

for the cleaner use of fossil fuels, recognising that fossil fuels will continue to play a major role in our energy mix;

**(17) To take** concrete measures to promote the use of renewable and alternative energy sources such as solar, hydro, wind, tide, biomass, biofuels and geothermal energy, as well as, for interested parties, civilian nuclear power, while ensuring safety and safeguards that are of current international standards, and environmental sustainability throughout the full life cycle of production and use;

**(18) To improve** energy efficiency in key sectors of energy use through capacity building and information sharing of best practices in managing energy use and the adoption of appropriate technologies and practices;

**(19) To undertake** effective measures towards open and competitive regional and international markets geared towards providing affordable energy at all economic levels to facilitate the adoption of energy-efficient and low-emission technologies.<sup>12</sup>

9.11 The Singapore Declaration on Climate Change, Energy and the Environment, released on the following day, committed countries of the East Asia Summit 'to the common goal of stabilising atmospheric greenhouse gas concentrations in the long run, at a level that would prevent dangerous anthropogenic interference with the climate system' and to 'work to achieve a common understanding on a long-term aspirational global emissions reduction goal to pave the way for a more effective post-2012 international arrangement'.

9.12 Further, the Singapore Declaration committed to ongoing cooperation to improve energy efficiency and the use of cleaner energy including 'cooperating for the development and use of civilian nuclear power, in a manner ensuring nuclear safety, security and non-proliferation' consistent with the IAEA framework. It also committed to:

... cooperation on afforestation and reforestation, and to reduce deforestation, forest degradation and forest fires, including by promoting sustainable forest management, combating illegal logging, protecting biodiversity, and addressing the underlying economic and social drivers ...<sup>13</sup>

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12 <<http://www.aseansec.org/21060.htm>> Accessed January 2009.

13 <<http://www.aseansec.org/21116.htm>> Accessed January 2009.

- 9.13 Most recently, climate change was a topic discussed in the Track II 7<sup>th</sup> Shangri-La Dialogue<sup>14</sup> in May 2008. The report of the 'Breakout Group 1' which discussed climate change and Asia-Pacific security included the following:

According to one military delegate, time had run out for discussion: as the effects of climate change for the next 30 years were already fixed, policy action and coordination were essential. Delegates believed global warming would exacerbate development problems and cause tensions over, for example, water supplies and migration. There was also a strong feeling that governments needed to channel more resources into related science and technologies.

However, the debate revealed that the issue took on many forms depending on the perspective of the viewer, with some delegates choosing to focus more on issues of food and energy security. There were also differing views on how to tackle climate change, with some delegates suggesting that the present international emphasis on emissions cuts was too great and that, for example, renewable and nuclear energy should receive more attention.<sup>15</sup>

## Australian government involvement

- 9.14 DFAT advised the Committee that Australia was involved in many of the discussions and agreements on climate change involving ASEAN member countries such as those leading to the Singapore Declaration on Climate Change, Energy and the Environment (see above).<sup>16</sup>
- 9.15 Further, Australia was a member of the Asia-Pacific Network on Climate Change, to which all ASEAN member states belonged except Burma and Brunei. The group, DFAT advised, provided 'a platform for policy dialogue and consultation through annual seminars and provision of information'.<sup>17</sup>

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14 Membership is drawn from the wider Asia-Pacific region.

15 <<http://www.iiss.org/EasysiteWeb/getresource.axd?AssetID=19301&type=full&servicetype=Attachment>> p. 60. Accessed January 2009.

16 DFAT, *Submission No. 24*, p. 302.

17 DFAT, *Submission No. 24*, pp. 302-3.

- 9.16 Other multilateral agreements, such as the Joint Declaration on ASEAN-Australia Comprehensive Partnership, and its associated Plan of Action, commit Australia to processes toward further agreements on climate change and other environmental concerns.<sup>18</sup>
- 9.17 DFAT's submission provided information on Australian's \$200 million International Forest Carbon Initiative (IFCI) which supported deforestation reduction efforts initiated through the United Nations Framework Convention on Climate Change. The aim was to 'demonstrate that reducing emissions from deforestation and forest degradation can be part of an equitable and effective international agreement on climate change'. The focus was on developing practical demonstration activities, particularly in Indonesia and Papua New Guinea.<sup>19</sup>
- 9.18 IFCI initiatives with Indonesia are coordinated through the Indonesia-Australia Forest Carbon Partnership. Major activities were:
- \$30 million for the Kalimantan Forests and Climate Partnership which trials 'an innovative, market-oriented approach to financing and implementing measures to reduce emissions from deforestation and forest degradation in Central Kalimantan' – a design process commenced in 2008; and
  - \$10 million for the development of a Forest Resource Information System and a National Carbon Accounting System – the aim being to develop national policy, regulatory frameworks, and strategies to reduce emissions from deforestation and forest degradation, including the prevention and suppression of peat land fires.<sup>20</sup>
- 9.19 DFAT advised that other IFCI assistance included:
- acquisition of historical satellite data on forest cover changes in South-East Asia and the Pacific, and provision of this data to countries in the region; and
  - the Asia-Pacific Forestry Skills and Capacity Building Program, which will assist countries in the region to develop their forest management expertise, combat illegal logging and improve the carbon sequestration performance of their forests (with initial projects including Indonesia, Vietnam, Cambodia and Laos).<sup>21</sup>

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18 DFAT, *Submission No. 24*, pp. 305, 311.

19 <<http://www.climatechange.gov.au/international/publications/fs-ifci.html>> Accessed February 2009.

20 DFAT, *Submission No. 24*, p. 303.

21 DFAT, *Submission No. 24*, pp. 303–4.

- 9.20 In addition, Australia had provided funds to the Mekong River Commission<sup>22</sup> to ‘examine the impact of climate change on the water resources of the Mekong Basin, particularly in relation to food production and fish resources’, and, through AusAID, to other projects in Laos, Cambodia, and Vietnam which focused on renewable energy and power distribution.<sup>23</sup>
- 9.21 Beyond its links with ASEAN, but relevant to the region, Australia also belongs to the Asia-Pacific Partnership on Clean Development and Climate, a ‘public-private sector effort’ in which Australia, Canada, China, India, Japan, Korea, and the United States cooperate ‘in an effort to address increased energy needs and the associated issues of air pollution, energy security, and climate change’. The countries involved collectively ‘account for more than half of the world’s economy, population, and energy use’. Progress, therefore, would have wider results, including for ASEAN countries.<sup>24</sup>

## Opportunities for Australia

- 9.22 The AAS told the Committee that climate change presented opportunities for Australia. Many of the challenges faced by the world were global in nature and required a collaborative multinational response:

By strengthening its science and technology links with ASEAN countries, Australia can contribute to the development of solutions to global challenges such as climate change, sustainability and the security of food and energy resources.<sup>25</sup>

- 9.23 The AAS submission added:

Australia, as a key developed economy in the southern hemisphere, is conveniently located to observe the Southern Ocean, and can be a provider of climate knowledge and climate-change solutions to all nations in our hemisphere. This area of science ranks as a major emerging one, and will

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22 The Commission comprises Cambodia, Laos, Thailand, and Vietnam.

23 DFAT, *Submission No. 24*, p. 303.

24 *Asia-Pacific Partnership on Clean Development and Climate (Fact sheet)*, <[http://www.asiapacificpartnership.org/pdf/translated\\_versions/FactSheet\\_English\\_Aug08.pdf](http://www.asiapacificpartnership.org/pdf/translated_versions/FactSheet_English_Aug08.pdf)> Accessed January 2009.

25 Professor Michael Dopita, *Transcript 12 September 2008*, p. 60.

become increasingly more important to the nation's economy.<sup>26</sup>

9.24 The ACTU, while registering concern over the parameters of employment as ASEAN member states responded to climate change, anticipated benefits from the increase in the number of 'green jobs' in environmental services that were expected to emerge.<sup>27</sup> The ASU, CPSU and CEPU agreed, envisaging a key role for Australia in providing technical support, and exporting technical services, relevant to climate change, to ASEAN member states.<sup>28</sup>

9.25 CSIRO noted that science and technology could make an appreciable difference to the complex challenges of climate change in the ASEAN region, where countries face rapid rate of change:

... as a complex mix of drivers such as rapid urbanisation, climate change, energy affordability and food security combine with political factors and population growth ... Given that many natural resources such as water, soil, forests and fish are already declining, more needs to be done to understand how to respond to the increasing level of consumption.<sup>29</sup>

9.26 The Committee received specific evidence in the areas of:

- climate change modelling and prediction;
- primary production sustainability;
- energy efficiency and carbon emissions trading.

## Climate change modelling and prediction

9.27 The AAS advised that Australia's involvement in international bodies provided opportunities for Australian scientists to engage with ASEAN on climate change. Examples of these international bodies were:

- the Intergovernmental Panel on Climate Change;
- the Intergovernmental Ocean Commission;
- the World Climate Research Programme; and

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26 AAS, *Submission No. 9*, p. 92.

27 ACTU, *Submission No. 27*, pp. 373, 397.

28 ASU, CPSU & CEPU, *Submission No. 17*, pp. 192, 201.

29 Ms Spink, CSIRO, *Transcript 2 October 2008*, p. 78.



- the International Geosphere-Biosphere Programme.<sup>30</sup>

9.28 CSIRO told the Committee that it was assisting Indonesia to develop its climate modelling capability and meteorological capacity:

... we are assisting them with the IPCC climate projections. They are on a very coarse scale and do not provide the necessary precision for making projections that can be used to make decisions for the country, so we have been working with the bureau of meteorology to take six of the global climate change models and bring them down to a 60-kilometre resolution.<sup>31</sup>

9.29 The aim, CSIRO added, was to enable the Indonesians to use the climate models, increase their coverage of Indonesia, and predict the impacts of extreme climate events.<sup>32</sup>

## Primary production sustainability

9.30 CSIRO told the Committee that meeting the challenges posed by rapid change in a sustainable manner had become the aim of its recent work with ASEAN countries, which focused on 'sustainable agriculture, including animal diseases and natural resource management issues'.<sup>33</sup> CSIRO provided several examples:

- an assessment of the impact by 2030 of climate change on the water resources and productivity of the Mekong basin;
- collaboration on foot and mouth disease, and white spot disease in prawns – this incidentally would provide improved diagnostic and emergency response capabilities in Australia;
- research partnerships with the Centre for International Forestry Research in Indonesia and the International Rice Research Institute in the Philippines aimed at enhancing regional sustainability and economic productivity;<sup>34</sup> and
- collaboration with the state department in Sarawak to characterise timber properties and assist in planting acacias and eucalypts.<sup>35</sup>

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30 AAS, *Submission No. 9*, p. 91.

31 Ms Melinda Spink, *Transcript 2 October 2008*, p. 79.

32 Ms Melinda Spink, *Transcript 2 October 2008*, p. 80.

33 Ms Spink, CSIRO, *Transcript 2 October 2008*, p. 78.

34 Ms Spink, CSIRO, *Transcript 2 October 2008*, pp. 78–9.

35 Dr Ta-Yan Leong, CSIRO, *Transcript 2 October 2008*, p. 81.

- 9.31 A further example provided by the AAS was the Coral Triangle Initiative, which was proposed by Indonesia's President Yudhoyono in 2007.<sup>36</sup> The project spanned a number of countries in the region, the largest of which were Indonesia, the Philippines, Malaysia.<sup>37</sup> Australian universities were involved in a 'multilateral partnership on coral reefs, fisheries and food security', the aim being to respond to the two main threats to coral reefs: resource exploitation and climate change.<sup>38</sup>
- 9.32 The AAS cautioned, however, that many research activities would 'take many years to show really powerful concrete results' and, while providing an opportunity for Australia, would require a long-term commitment.<sup>39</sup>

## Energy efficiency and carbon emissions trading

- 9.33 Engineers Australia's submission drew the Committee's attention to the Draft Garnaut Report which noted that in 2005, ASEAN countries collectively emitted 4.8 per cent of global greenhouse gas emissions compared to 1.5 per cent by Australia. The submission added:

... Australia has a vital interest in convincing ASEAN countries that greenhouse gas reduction is essential to their futures in that active ASEAN participation in securing an international agreement on climate change mitigation is essential.<sup>40</sup>

- 9.34 Engineers Australia also advised the Committee that Australia could help to improve energy efficiency by supplying technical support:

... energy efficiency measures and technologies offer particular potential for international collaboration. Low energy efficiency is widely recognised as a major contributor to excess energy use and to energy related emissions in developed countries. Assisting ASEAN countries in becoming more energy efficient will enable them to by-pass the mistakes made in other countries while assisting them to meet development aspirations.<sup>41</sup>

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36 Professor Dopita, AAS, *Transcript 12 September 2008*, p. 61.

37 AAS, *Submission No. 9*, p. 94.

38 AAS, *Submission No. 9*, p. 94.

39 Professor Michael Dopita, *Transcript 12 September 2008*, p. 61.

40 Engineers Australia, *Submission No. 3*, p. 38.

41 Engineers Australia, *Submission No. 3*, p. 39.

- 9.35 Engineers Australia also noted that Australia was involved in a number of 'small cooperative activities' in carbon emissions reduction, including the International Forest Carbon Initiative; the Methane to Market Partnership; the Renewable Energy and Energy Efficiency Partnership; and the Carbon Sequestration Leadership Forum. There was, however:
- ... considerable scope for Australia to expand these activities both in scale and in the coverage of countries. Rapid accumulation of knowledge relating to carbon accounting, how it is applied to different countries carbon challenges and how it relates to active participation in a comprehensive international emissions reduction agreement are vital to Australia's interests.<sup>42</sup>
- 9.36 Telstra considered there was the potential to alleviate carbon emissions through the greater use of communications technology, including 'demand-side energy management'; video conferencing in lieu of air travel; real-time freight management; better management of idle devices; and telecommuting.<sup>43</sup>
- 9.37 Telstra provided two examples where it had saved greenhouse gas emissions through the use of new technology:
- in 2007, the use of the video conferencing for some 20 000 hours of meetings had 'saved around 4200 tonnes CO<sub>2</sub> equivalent from avoided travel'; and
  - installing GPS devices in technicians' vehicles, combined with improved routing scheduling and better sequencing of work had led to an 'estimated 19 per cent reduction in greenhouse gas emissions per install/repair task.'<sup>44</sup>
- 9.38 Concerns were expressed to the Committee about the adoption of an emissions trading scheme, especially if such a scheme was not adopted by Australia's ASEAN trading partners.
- 9.39 Australian Pork Ltd represented the impact of on primary producers:
- The expected increase of production costs for Australian pork producers due to the [Carbon Pollution Reduction Scheme] would also further reduce the industry's competitiveness against comparatively lower cost of pig production countries
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42 Engineers Australia, *Submission No. 3*, p. 39.

43 Telstra, *Submission No. 8*, p. 88.

44 Telstra, *Submission No. 44*, p. 471.

throughout the ASEAN region. There are currently no emission targets for developing countries, especially some members in the ASEAN. Most developing nations in the ASEAN have not complied with their obligations under the Kyoto protocol and most understandably would not have the resources to achieve this. Meat producers in the ASEAN would become more cost competitive if they would not have to comply with greenhouse gas emission mitigation from pig production activities.<sup>45</sup>

9.40 Australian Pork added, however, that the introduction of the scheme should be seen 'as an opportunity to engage other ASEAN members into greenhouse gas emissions reduction and carbon trading.'<sup>46</sup>

9.41 The FCAI was more supportive of a trading scheme, but acknowledged it would be a challenge to balance competing factors:

I think, to be clear, of all the options that Australia has to contribute to efforts to address climate change, a broadly based emissions trading system has to be at the front of the queue. But clearly that has competing impacts. We need to ensure that ... we design it in such a way that it takes into account those competitive impacts and we do not simply end up driving investment offshore into other markets where they do not have the same effective policies in place.<sup>47</sup>

## **Committee comment**

9.42 The Committee considers that ASEAN will respond to climate change in the 'ASEAN Way' (see Chapter 2) through dialogue, consensus, and incremental progress.

9.43 The Committee believes there are significant opportunities for Australia to offer leadership and technical assistance to ASEAN member countries as they face the challenge wrought by climate change.

9.44 In the Committee's view, Australia's present climate change engagements in the region, both government and non-government, are a good basis for meeting these challenges. They contribute to

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45 Australian Pork Ltd, *Submission No. 25*, p. 366.

46 Australian Pork Ltd, *Submission No. 25*, p. 366.

47 Mr Andrew McKellar, *Transcript 2 October 2008*, p. 61.

positive relationships in the region and, by enhancing capacity within ASEAN member states, build a foundation upon which future collaborations can occur.

- 9.45 Regarding the introduction by Australia of an emissions trading scheme, the Committee acknowledges concerns about compromising Australia's competitiveness in relation to its trading partners.
- 9.46 The Committee believes that one response to these concerns is for Australia to negotiate with ASEAN member states, and ASEAN as a single entity, with the object of instituting, in time, an emissions trading scheme which is internationally consistent and covers all countries in the region.
- 9.47 Arising from its review of human rights issues in Chapter 8 and environment issues in this chapter, the Committee considers that human rights including core labour standards and the environment should be pursued in future FTAs. Australia should also take the opportunity to introduce such issues (if they are not already included) when current FTAs are reviewed. Further, the Committee believes that Parliament be advised of progress when DFAT reports to Parliament under Recommendation 2.
- 9.48 The Committee notes that the major FTA Australia has entered into with the US contains chapters on labour and the environment. The chapter on labour includes a shared commitment to ensure that internationally recognised labour principals are recognised and protected by law.<sup>48</sup>

### **Recommendation 8**

- 9.49 **The Committee recommends that human rights, core labour standards, and the environment be pursued in future free trade agreements and, when existing free trade agreements which do not contain such issues are reviewed, these issues should be pursued.**

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48 Chapter 18 of the Australia-US FTA concerns labour, and Chapter 19 concerns the environment.

## **Recommendation 9**

- 9.50 **The Committee recommends that when the Department of Foreign Affairs and Trade reports annually to the Parliament under Recommendation 2, progress with regard to human rights, core labour standards, and the environment be included.**

Senator Michael Forshaw  
Chair  
June 2009