

POSITION STATEMENT ON CLIMATE CHANGE

The EIANZ accepts the international consensus of the Intergovernmental Panel on Climate Change (IPCC) that human activities are the main cause of the climate change observed over the last century. The global nature of climate change requires integrated international, national and local responses.

The EIANZ endorses the *Paris Agreement* of December 2015 to limit the increase in global average temperature to less than 2° C, and pursue efforts to limit the rise to 1.5° C.

The EIANZ supports the United Nations *Sustainable Development Goals*, and in particular, [Goal 13: Take urgent action to combat climate change and its impacts.](#)

The EIANZ encourages Australia and New Zealand to vigorously pursue strategies in ongoing negotiations on the rulebook underpinning the Agreement that will ensure the rules enable all countries to participate in equitable measures towards achieving SDG13.

Guiding principles for the EIANZ's approach to climate change policy are:

- Advocate that the purpose of the *Paris Agreement* and *Sustainable Development Goals*, particularly Goal 13, provides strong scientific and policy basis for climate change action.
- Action today is better than action delayed into the future, for our economies, societies and our environment;
- Governments have a key role in providing strong, clear leadership and policy frameworks that encourage rapid implementation of emission reduction strategies, the protection and enhancement of the environment and adaptation to the impacts of climate change;
- Action on climate change requires collaboration between government, business, research, not-for-profits, communities and individuals through a range of approaches, measures and behaviour change;
- Action is required to ensure communities, especially those that are vulnerable, adapt and are resilient to the impacts of climate change
- Mitigation and adaptation strategies require new approaches and partnerships in addition to strengthening those that already exist;
- Mitigation and adaptation strategies must consider intra- and inter-generational equity and sustainability with implications for the economic, social and physical fabric of societies and the environment worldwide; and
- While the issue is global, the solutions require actions and encouragement at local, regional, and national levels.

Call to Action

As the peak body for Environmental Professionals, the EIANZ and its members have a central role in informing and advising governments, businesses and civil society about suitable climate change action.

The EIANZ will continue to educate, train and certify Environmental and Sustainability Professionals to build capacity and capability to address climate change related issues.

The EIANZ sets out a recommended approach for consideration (The Approach – attached).

The EIANZ calls on the national, state and local governments of Australia and New Zealand to:

- Further develop contemporary climate change and related policies to reflect the Paris Agreement and Sustainable Development Goals. We encourage them to lead their citizens and the world in addressing climate change in accordance with the *Paris Agreement*.
- Develop and implement strong action and mechanisms to implement the above policies.

THE APPROACH

The EIANZ recognises that mainstreaming climate change in policy and ensuring robust implementation strategies across all sectors requires all stakeholders to embrace *leadership, research, policy making, capacity building, finance, tackling both mitigation and adaptation* to deal with the environmental, social, cultural and economic challenges of climate change.

Leadership

Leadership, education and awareness of climate change is the shared responsibility of government, industry, research and NGOs so:

- anthropogenic greenhouse gas emissions are actively and rapidly reduced;
- policy, legislative and regulatory frameworks to tackle climate change are integrated, fit-for-purpose and equitable; and
- understanding of climate change risks and opportunities for Australia and New Zealand is enhanced.

Australia and New Zealand's governments should actively engage in the international climate change response with a number of key actions, including:

Develop and set legally binding mid- and long-term greenhouse gas emission reduction targets

1. Playing a leadership role in further United Nations Framework Convention on Climate Change (UNFCCC) discussions to strengthen the terms of the *Paris Agreement*, including in relation to mid- and long-term greenhouse gas emission reduction targets;
2. Prioritising climate change mitigation practices and technologies in the economy to ensure Australia and New Zealand are well positioned in the low-carbon economy;
3. Developing a comprehensive approach to ensuring that new development is resilient; and existing communities are able to adapt to the impact of climate change;
4. Recognising the need for climate change decision making to be informed by Certified Environmental Professionals;
5. Playing a role as a regional leader in assisting developing countries where assistance is needed to adapt to the impacts of climate change and transition to low-carbon economies; and
6. Raising the profile of and championing the United Nations Sustainable Development Goals within the communities of both Australia and New Zealand.

Mitigation

Mitigation strategies are important to rapidly reduce emissions and to shift economic and social development to a significantly lower dependence on fossil fuels. Implementation of mitigation strategies should have regard to potential adverse

impacts and risks of climate change to the biophysical world, society, cultures and the economy. These strategies should include:

- Assessing climate change risk in strategic decision making and long-term planning;
- educating the community about mitigation options which may ease cost pressures such as energy conservation, energy efficiency, travel demand management and waste reduction and avoidance;
- developing effective mechanisms to ensure cost-effective abatement of greenhouse gas emissions, providing for a clear price signal for emitting fossil carbon and incentives to shift expenditure to sustainable low pollution technology;
- reducing emissions associated with land use including reducing deforestation, provision of increased terrestrial carbon sinks through improved land management, to reduce the contribution of agriculture, land use change and forestry to climate change;
- Developing mechanisms to assist industries and sectors facing difficulties in retooling or transforming to a low fossil carbon future;
- funding technologies and supporting industries offering sustainable low carbon or non-fossil carbon alternatives and solutions which are low polluting, especially for energy supplies; and
- utilising carbon offset schemes, especially those that offer ecological, cultural or social co-benefits.

Adaptation

Adaptation strategies will be important in adjusting to human-induced climate change in circumstances where mitigation is ineffective or inappropriate. There is also a need to identify and take advantage of any new opportunities arising from climate change. Adaptation strategies include:

- including climate change risk assessment in strategic decision making and long-term planning, particularly for infrastructure and land use;
- developing transition and support mechanisms for industries and communities at high risk from climate change;
- implementing programs to that may reduce vulnerability of ecosystems to changing climatic conditions such as by reducing other pressures on biodiversity and managing biodiversity for natural climate variability; and
- assisting industries, sectors and regions to identify and take advantage of new opportunities that may arise out of climate change.

Research

Research should be the foundation for successful strategies to cope with climate change. The EIANZ recommends funding for continued research to contribute to an evidence-based approach to climate change mitigation and adaptation. While not delaying action (the Precautionary Principle), research needs to:

- continually improve the understanding of climate science, modelling and vulnerabilities, including better understanding of regional, national and sub-national impacts and contributing to international efforts;
- improve existing technologies or develop innovations to rapidly reduce fossil carbon use and emissions across all industries and sectors of the economy that will improve sustainable outcomes;
- lead to greater understanding, planning and management of physical and socio-economic consequences of climate change and the implications of delaying action;
- identify factors influencing the public perception of responses to climate change and strategies to bring about behavioural change that will lead to reduced anthropogenic emissions; and
- monitor and evaluate mitigation and adaptation programs and policies to inform continuous improvement strategies and further programs.

BACKGROUND

Climate change, principally caused by human induced global warming since the Industrial Revolution, is one of the greatest global challenges of our time. The viability of the Earth's biosphere and most life on earth is dependent on the *natural greenhouse* around the planet provide by the earth's atmosphere. Atmospheric gases such as water vapour, carbon dioxide, methane, ozone, and nitrous oxide trap heat, keeping the surface of the planet approximately 30°C warmer than it would be in their absence. Over geological time scales, the climate has fluctuated from a range of natural causes including asteroid strikes, oceanic current changes, continental drift, solar activity, volcanic activity and variations in the Earth's orbit around the Sun. The rate of change and time-scale of these natural climatic fluctuations span hundreds to thousands to millions of years.

In the past century the global average surface temperature of the earth (measured as near-surface air temperatures) has risen by some 0.8°C. The current decadal average temperature of the Earth is the highest since 1850. A majority of the global scientific community recognizes that there is an *enhanced greenhouse effect* now trapping more heat in the Earth's atmosphere, caused by increased concentrations of certain greenhouse gases. These increased concentrations are the result of increased anthropogenic (human induced) emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and also synthetic industrial gases (perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF₆)). Carbon dioxide is the largest contributor to radiative forcing of climate change, followed by methane, synthetic industrial gases and nitrous oxide.

For example, the burning of fossil fuels (coal, oil and natural gas) for energy has released carbon dioxide from fossil carbon originating from geological deposits laid down millions of years ago in the global carbon cycle. Deforestation also releases carbon stored in vegetation and soils, and reduces the ability of the Earth's ecosystems to continue storing carbon. Anthropogenic emissions of methane and N₂O are also created from the use of fossil fuels. Methane is emitted from ruminant

livestock production, waste landfills, rice agriculture and thawing permafrost peat. N₂O is released during chemical and industrial processes and from soils used in agriculture. The synthetic industrial gases have been developed for specific technological applications.

In 1988, the Intergovernmental Panel on Climate Change (IPCC) was established to assess information relevant to understanding climate change, its potential impacts and the adaptation and mitigation options for response. The IPCC regularly reviews worldwide research. Its recent report in 2013, reflects a broad scientific consensus that:

“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.”¹

Anthropogenic emissions of greenhouse gases are accepted by the global scientific community as the most significant cause of global warming and associated forms of climate change (e.g., changes in rainfall and sea level) which present major threats to species, ecosystems, human settlements, societies and economies.

The existence of the *enhanced greenhouse effect* is recognised worldwide.

In 2013, the IPCC reported that CO₂ concentrations had increased by 40% since pre-industrial times to 391 ppm, and are the highest in 800,000 years. The IPCC also reported CH₄ and N₂O concentrations have increased by 150% and 20% respectively since 1750. Global sea level rose by 0.19 m between 1901 and 2010. According to the Bureau of Meteorology, Australia’s average temperature had risen approximately 1 degree C since 1910 and 2013 was the hottest year on record.

There has been an increasing rate of greenhouse gas emissions from burning fuel and other sources since the Industrial Revolution. Industrialised nations are the source of the majority of anthropogenic greenhouse gas emissions. Compounding this situation is the long residence time for greenhouse gases in the atmosphere so that their impacts continue long after the emission occurred. Modelling indicates that, if the current rate of emission increase continues, then CO₂ will double, compared to pre-industrial levels during this century. Models assessed by the IPCC project that a doubling would result in a temperature increase in the range of 1.5 to 4.5°C. Long residence times and the inertia of the global climate system, that includes the ocean, mean that global climate change, including warming, will continue to affect the biosphere for hundreds of years, even after atmospheric emission levels are stabilized or reduced.

Following on from the establishment of the IPCC in 1988, the 1992 UN Framework Convention on Climate Change (UNFCCC) aimed to stabilise emissions “at a level that would prevent dangerous anthropogenic interference with the climate system”

¹ http://ar5-syr.ipcc.ch/topic_observedchanges.php

in a time-frame that will allow ecosystems to adapt naturally, ensure food production is not threatened, and enable economic development to proceed in a sustainable manner. To implement the UNFCCC, the 'Kyoto Protocol' was negotiated and agreed upon in December 1997. The Protocol sets out targets and associated rules, and has mechanisms available to reduce emissions including the use of carbon sinks, Clean Development Mechanism, Joint Implementation and emissions trading. On 16 February 2005, the Kyoto Protocol entered into force for all ratifying signatories around the world.

The range of strategies that could slow and eventually reverse climate change includes:

- lower greenhouse gas emissions through reduced dependence on fossil fuels
- increased use of sustainable low pollution energy sources to minimize irreversible damage to climate and ecosystems
- efficient energy generation and consumption while minimizing short and long term pollution
- reversal of deforestation and expanded implementation of reforestation
- changes in agricultural practices
- application of current and future research to enable sustainable development across generations
- mitigation and/or adaptation strategies to provide equitable outcomes for all societies; and
- effective promotion of awareness in the community and among businesses.

At COP 21 in Paris (in December 2015), Parties to the UNFCCC reached a historic agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. Among other key outcomes, the Paris Agreement requires all Parties to put forward their best efforts through "intended nationally determined contributions" (INDCs) and to strengthen these efforts in the years ahead². The agreement gained the cooperation of Parties *to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius*³.

In Australia and New Zealand, climate change policy needs to inform all areas of government policy because of the impact of climate change on all areas of the economy, environment and society. Australia has major energy resources including fossil fuels (e.g., coal and natural gas), nuclear fuels and renewable resources (wind, solar, etc.). It also has technological skills and a stable political environment, which provide a base for domestic use and export of energy resources which the world requires. Australia's climate change policy could make an effective contribution to the issue world-wide through a national government policy to stabilise and reduce

² http://unfccc.int/paris_agreement/items/9485.php

³ <http://bigpicture.unfccc.int/#content-the-paris-agreemen>

greenhouse gas emissions from the energy sector. Australia's choices about energy for its domestic consumption and for world trade purposes are linked to future climatic change.

New Zealand is less dependent on non-renewable resources than is Australia because of its investments in generating energy from its hydro and geothermal resources. In both countries however, climate change will have effects on a wide range of physical, cultural, ecological and socio-economic assets and activities. These multifarious impacts need to be taken into account by government.

To provide leadership within the EIANZ on climate change, the Institute established a Climate Change Special Interest Section (CCSIS) in 2011 to assist environmental practitioners in the development of skills in climate change issues and management, especially involving education and training programs, and policy formulation. This will ensure that timely and up to date advice can be provided to all sections of the community.

In this regard, the CCSIS has developed a program for the recognition of Climate Change Professionals – the Certified Environmental Professional for Climate Change (CEnvP CC) and the Learning to Adapt (L2A) professional development program.

(For more detail on specific topics related to climate change, such as sustainability, energy, biodiversity or water, reference should be made to other EIANZ position statements at the EIANZ website: <http://www.eianz.org/resources/position-statements>).