Senate Inquiry: *Recent Trends in and Preparedness for Extreme Weather Events*

SUBMISSION

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General Comments:

On-going research supports the view that the prognosis for human driven climate change is getting worse and worse. Every new assessment paints a worse picture of our future. The most recent assessments point to a 4 to 6 degree global temperature rise by the end of this century if we continue on our current path.

Yet our international leadership continues to bicker and delay any effective agreement. A study of human nature (and history) suggests action on green house emissions will be too little, too late.

It beggars belief that we have the opportunity to deflect the worst of the crisis by instigating rapid reductions in the use of fossil fuels and yet we stand around while our major companies plan to burn 5 times the amount that would push us past the 2 degree safety rail.

This enquiry must recognize the need to act forcefully to increase adaptation to climate change impacts. We are clearly not acting quickly enough to deflect the changes to our climate that will result from increased green house gases. Therefore, we must adapt to rapid and aggressive impacts of nature on our settlements and infrastructure. Extreme weather events will be at the forefront of these impacts.

(a) recent trends on the frequency of extreme weather events, including but not limited to drought, bushfires, heatwaves, floods and storm surges;

It is quite clear from the science that as global temperature increases there will be further increases in the intensity of extreme weather. For example, it has emerged in recent years that cyclones will increase in intensity with more Category 3, 4 and 5 cyclones (if not any increase in numbers of cyclones).

The increase in heat in our oceans, combined with the increase in average moisture content of the atmosphere is driving and will drive more intensity in rainfall events. The increased energy available to feed extreme events leads to more powerful storms. Besides increased intensity of rainfall, it is probable that winds will also increase with resulting increase in waves and storm surge.

We must recognize that our coastlines and coastal cities are highly vulnerable to such action and take measures to increase the resilience to climate change impacts.

Increased heat from rising global temperatures will drive hotter and dryer conditions interspersed with intense rainfall events. Droughts will increase and bushfires will become more dangerous. We need to be ready to deal with such dangers. Insurance will not be able to protect us from such a world as insurance is designed to pick up afterwards and not stop the event from happening. Insurance is also designed to deal with the rare event. Once these extreme events become more common, they can no longer be covered by insurance as they occur too often.

(b) based on global warming scenarios outlined by the Intergovernmental Panel on Climate Change and the Commonwealth Scientific and Industrial Research Organisation of 1 to 5 degrees by 2070:

In our opinion, due to the lack of international agreement to take rapid action, there is very little chance temperature rises will be less than 2 degrees. It is more probable that 3 or 4 degrees rise will occur this century. If global lack of agreement to reduce emissions continues, we are likely to face 6 degrees or more. Such a scenario would be catastrophic with a sudden reduction in world population and collapse of civilization, culture and knowledge.

We must expect the worst and plan for the impacts currently understood for 4 degrees with a view to what might happen under 6 degrees. Changes will likely be worse than we can currently project due to unforeseen consequences of the rapid rate of change in climate forcing that we are causing.

(i) projections on the frequency of extreme weather events, including but not limited to drought, bushfires, heatwaves, floods and storm surges,

As stated above, rapid rises in temperature are leading to increases in the intensity of extreme weather events such as storms and droughts.

(ii) the costs of extreme weather events and impacts on natural ecosystems, social and economic infrastructure and human health, and

We refer to studies by CSIRO and other bodies that set out some of the possible impacts of increasing extreme events. It must be borne in mind that these studies are based on IPCC scenarios that themselves are based on there being strong and rapid reductions in emissions. Clearly, this is not happening and international agreement looks likely to be continually delayed and watered down. Any assessment of the impacts and costs of climate change must keep in mind what would happen if we continue to do nothing to reduce our emissions and the worst projections we currently have are realized.

(iii) the availability and affordability of private insurance, impacts on availability and affordability under different global warming scenarios, and regional social and economic impacts;

Once currently extreme weather becomes the norm there will be no ability to insure against such events. Insurance by definition can only cover extremes that are ‘rare’. When a 1 in 100 event becomes a 1 in 20 event, it is no longer economically viable to insure against it.

Sea level rise is a classic example of this – once a storm surge tide of 1% AEP becomes a once a year tide, it is no longer an extreme event. The economics of insuring against such a common event is prohibitive.

(c) an assessment of the preparedness of key sectors for extreme weather events, including major infrastructure (electricity, water, transport, telecommunications), health, construction and property, and agriculture and forestry;

With state governments such as NSW and Queensland removing the benchmarks and discouraging Councils from acting to increase resilience to climate impacts, the community is being left with little resilience to change.

For example, the NSW Govt. has stated that Councils should no longer use the benchmarks for sea level rise set in 2010. Instead they have to develop their own benchmarks. This has left many Councils in limbo with no support for action to reduce storm impacts on the community.

Councils should be encouraged to prevent further development of at risk waterfront areas. Action should be taken to begin the process of moving coastal habitation to higher ground. Institutions such as schools and hospitals, police stations and other emergency services should be transitioned over time to land protected from increases in sea level or bushfire threat.

(d) an assessment of the preparedness and the adequacy of resources in the emergency services sector to prevent and respond to extreme weather events;

Whatever the current state of emergency services resources, it is clear that as the climate changes there will be increased demand for such services. Increasing the resilience of the community to extreme events would relieve the pressure on emergency services. More appropriate buildings in better locations and more resistant services to damage would assist in this. Even with such improvements, there will still be an increased need for emergency services.

(e) the current roles and effectiveness of the division of responsibilities between different levels of government (federal, state and local) to manage extreme weather events;

With the rapid development of knowledge in the area of extreme events, it would appear good policy to establish a central organization tasked with setting criteria for extreme event projections. For example, modeling of changes in rainfall, increases in sea level from region to region, changes in temperatures or weather patterns should be coordinated through one central prediction organization so that all users (federal, state and local) can source reliable and up to date information. This would reduce duplication and provide consistency of information.

Perhaps the Climate Change Authority could be expanded to take on this role.

(f) progress in developing effective national coordination of climate change response and risk management, including legislative and regulatory reform, standards and codes, taxation

We support increased resources for coordination of CC response and risk management.

(g) any gaps in Australia's Climate Change Adaptation Framework and the steps required for effective national coordination of climate change response and risk management; and

Gaps include inconsistency across regions in the projections being used in planning; local political decision making interfering in the effective increase in resilience; lack of education of the public and at all levels of politics as to the probable impacts of climate change (some public figures still deny the importance of fossil fuel emissions).

(h) any related matter.

Finally, we say again, this enquiry must recognize the need to act forcefully to increase adaptation to climate change impacts. It is clear that our international leadership is not acting quickly enough to prevent serious impacts from occurring. This means that we must be well prepared for the impacts if we are to survive the looming challenge of climate change. Extreme events such as storms, droughts, floods, fire, etc will be at the forefront of this challenge.