



CLIMATE<sup>AND</sup>  
HEALTH  
ALLIANCE



Public Health Association  
AUSTRALIA

## Joint Submission to Climate Change Authority Special Review

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## **ABOUT THE CLIMATE AND HEALTH ALLIANCE**

The Climate and Health Alliance (CAHA) is a not-for-profit organisation that is a national alliance of organisations and people in the health sector working together to raise awareness about the health risks of climate change and the health benefits of emissions reductions.

CAHA's members recognise that health care stakeholders have a particular responsibility to the community in advocating for public policy that will promote and protect human health.

Membership of the Climate and Health Alliance includes a broad cross section of the health sector with 28 organisational members, representing hundreds of thousands of health care professionals from a range of disciplines, health care service providers, institutions, academics, researchers, and health consumers.

The Climate and Health Alliance, as its name suggests, is concerned with the health threats from climate change, and the organisation works to raise awareness of those risks and advocate for effective societal responses, including public policies, to reduce risks to health.

Parts of this work involves examining and seeking to mitigate the drivers of climate change, which in large part (in terms of Australia's contribution) arise from the burning of fossil fuels for energy and transport.

These concerns extend include both the climate impacts as well as the direct and immediate impacts associated with pollution from burning fossil fuels (from energy and transport sectors in particular).

To this end, the Climate and Health Alliance has produced a number of submissions and reports. It produced the [Coal and Health in the Hunter: Lessons from One Valley for the World](#) in 2015; the joint report '[Our Uncashed Dividend](#)' with The Climate Institute on the health benefits of reducing greenhouse gas emissions; led the development of the [Joint Position Statement and Background Paper on Health and Energy Choices](#); conducted a national [Roundtable on the Health Implications of Energy Policy](#); prepared a [Briefing Paper](#) on the same topic; produced a film on the risks to health and climate from coal and gas, [The Human Cost of Power](#); conducted a national [Forum on Climate and Health: Research, Policy and Advocacy](#); and contributed to numerous conferences, community dialogues, and forums, both nationally and internationally on these issues.

For more information about the membership and governance of the Climate and Health Alliance, please see Appendix A. For further information see [www.caha.org.au](http://www.caha.org.au)

## **ABOUT THE PUBLIC HEALTH ASSOCIATION OF AUSTRALIA**

The Public Health Association of Australia Incorporated (PHAA) is recognised as the principal non-government organisation for public health in Australia and works to promote the health and well-being of all Australians. The Association seeks better population health outcomes. The PHAA has a vision for a healthy region, a healthy nation and healthy people living in a healthy society and a sustaining environment based on prevention, the social determinants of health and equity principles.

### **Public Health**

Public health seeks equitable health for all and goes beyond the treatment of individuals to encompass health promotion, prevention of disease and disability, recovery and rehabilitation, and disability support. .

### **The Public Health Association of Australia**

PHAA is a national organisation comprising around 1900 individual members and representing over 40 professional groups concerned with the promotion of health at a population level.

Key roles of the organisation include the development of policy, capacity building and advocacy. Core to our work is an evidence base drawn from a wide range of members working in public health practice, research, administration and related fields who volunteer their time to inform policy, support advocacy and assist in capacity building within the sector.

The PHAA is an active participant in a range of population health alliances including the *Australian Health Care Reform Alliance*, the *Social Determinants of Health Alliance*, the *National Complex Needs Alliance*, the *National Alliance for Action on Alcohol*, and the *Climate and Health Alliance*.

PHAA has Branches in every State and Territory and a wide range of Special Interest Groups. In addition to these groups the PHAA is responsible for an outstanding peer review journal - the *Australian and New Zealand Journal of Public Health* (ANZJPH).

### **Advocacy and capacity building**

In recent years PHAA has further developed its advocacy role to achieve the best possible health outcomes for the community, both through working with all levels of governments and agencies, and promoting key policies and advocacy goals through the media, public events and by other means.

## Introduction

The Climate and Health Alliance and Public Health Association of Australia welcome the opportunity to contribute to the Climate Change Authority Special Review on Australia's emissions reduction targets. This submission will respond to each of the following questions in relation to the Special Review:

1. Whether Australia should have an emissions trading scheme
2. Whether the USA, China, Japan, Korea and the EU have ETS or schemes that have similar effect
3. Australia's international commitments under UNFCCC and KP
4. What future emissions reduction targets Australia should consider

## Main Points:

1. Australia should adopt an **emissions reduction target of 50% by 2020 and 80% by 2050** to protect health, prevent serious social and economic disruption and to limit higher future costs of mitigation
2. Emissions reductions **targets must be driven by evidence of risks** to human health, social cohesion, food and water security, national security, environmental values including biodiversity, infrastructure and settlements, and the economy both in Australia and globally as well as **recognition of the benefits** to all of the above **from emissions reductions**
3. Achieving emissions reductions requires a **comprehensive suite of complementary policies** implemented **in unison**
4. **Key policies include:**
  - **A price on carbon**, but not necessarily an emissions trading scheme
  - **Expansion of the Renewable Energy Target (RET)** to 60% by 2020
  - Expansion of the carbon price to **include more industries (e.g. transport)**
  - **Removal of fossil fuel subsidies** and redirection of funds towards renewables
  - **Sector specific incentives to encourage emissions reductions** in all sectors, including **energy efficiency** in buildings
  - **Complementary measures** to promote renewable energy, such as loan guarantees and feed in tariffs
  - **A national plan to transition away from fossil fuels**, including regulations to **phase out coal fired power, ban further coal mine licences** and **cessation of coal exports**
  - **A moratorium on unconventional gas**

## 1. Emissions trading

An emissions trading scheme is not a preferred mechanism for reducing emissions, and a policy that places a fixed price on greenhouse gas emissions such as a carbon tax is considered more efficient, administratively simpler, involve lower transaction costs and is likely to be more effective.<sup>1</sup>

Most critical however is the application of a price on carbon – as economists Frank Jotzo and Paul Burke have written:

*“There is a strong consensus among economists and international organisations (the [World Bank](#), the [OECD](#) and the [International Monetary Fund](#)) that a broad pricing mechanism is the best policy approach to reducing greenhouse gas emissions. In the long run, a gradually increasing carbon price would see Australia transition to a low-carbon economy at low economic cost.”<sup>2</sup>*

As a group of respected Australian economists wrote in an Open Letter in 2014:

*“A well-designed mechanism that puts a price and limit on carbon pollution is the most economically efficient way to reduce carbon emissions that cause global warming.”<sup>3</sup>*

## 2. USA, China, Japan, Korea and the EU

Emissions reduction commitments by all the nations referred to as comparable in the request for a special review exceed that of Australia's.

The **European Union** has just announced its official proposed national climate action commitment, known as its “intended nationally determined contribution” (INDC) to the forthcoming global climate agreement to be negotiated in Paris in December 2015.

**The EU** has committed to a binding, economy-wide reduction target of at least 40% reductions in its domestic emissions by 2030 compared to 1990 levels, and has called for regular reviews and strengthening of mitigation commitments consistent with a long-term goal to curb emissions.

This commitment expands beyond the reach of the EU's existing emissions trading scheme which covers around 45% of the EU's greenhouse gas emissions, and limits emissions from installations in the power generation and manufacturing industries, along with aircraft operators in the EU.

**China** has emissions trading schemes in seven cities and provinces and is developing a national system that will commence in 2016. It has a goal to reduce

emissions intensity by 40-45 percent compared with 2005 levels by 2020. China's national scheme will cover 3-4 billion tonnes of annual emissions from six industrial sectors (power generation, metallurgical, non-ferrous metal, building materials, chemicals and aviation).<sup>4</sup>

**South Korea** launched its emissions trading scheme in January 2015. This scheme covers 525 businesses from 23 sectors that account for approximately two-thirds of the country's national emissions. The South Korean ETS is the second largest ETS worldwide after the EU ETS, with a cap of 573 MtCO<sub>2</sub>e in 2015. It covers roughly two-thirds of the country's total emissions. South Korea has a target to reduce emissions 30 percent below business as usual by 2020.

**Japan** has a voluntary emissions trading scheme, introduced in September 2005. While plans for a nation-wide mandatory emissions trading scheme were postponed in 2012, Japan introduced a carbon tax and established a feed-in tariff for all renewable energy sources.<sup>5</sup> These measures introduce new taxes on coal, oil, and natural gas, as well as a feed-in tariff that incentivizes increased domestic renewable energy generation.

Mandatory emissions trading schemes exist in two prefectures in **Japan**: in Tokyo where it has reduced emissions by 23% in 2014 compared to base-year emissions (2010), and the Saitama Prefecture where an emissions trading scheme (cap-and-trade) commenced in 2011. As part of the Copenhagen Accord, **Japan** pledged to reduce GHG emissions 25% below 1990 levels by 2020. The country's 2030 goal is to reduce CO<sub>2</sub> from fossil fuels 30% below 1990 levels.<sup>6</sup>

**The U.S.** is committed to reducing the U.S. GHG emissions in the range of 17 per cent below 2005 levels by 2020. It also aims to [buy at least 20 per cent of its electricity from renewable sources by 2020](#).

The US Environmental Protection Agency has developed carbon pollution standards for new and existing power plants. Ten states are implementing market-based programs to reduce GHG pollution and more than 35 states have renewable energy targets.

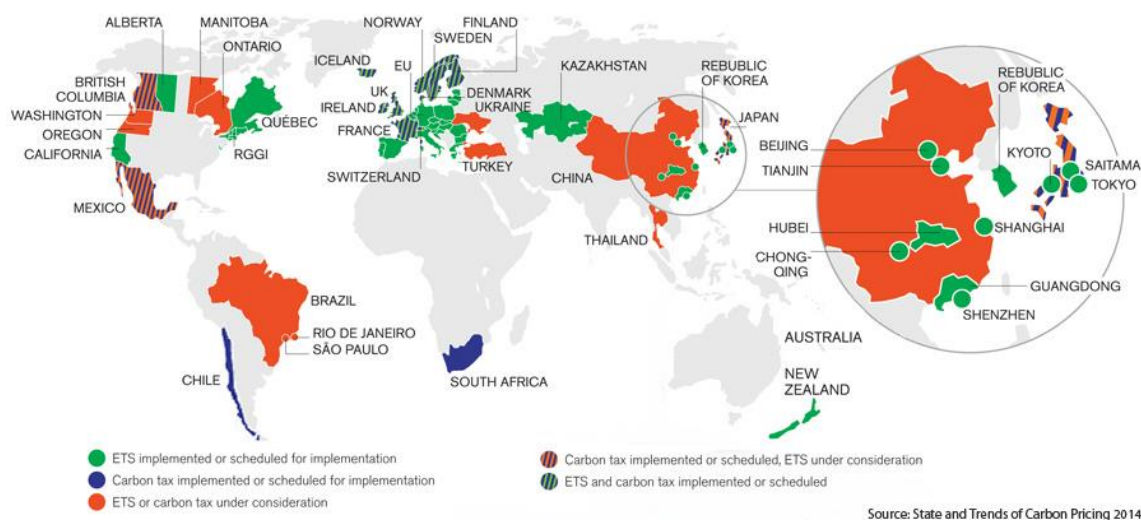
The Regional Greenhouse Gas Initiative (RGGI) in the US is a mandatory emissions trading scheme covering fossil fuel power stations that has been in force in the US since 2009. The participating states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont have committed to reduce GHG emissions from the regulated power sector by more than 50% from 2005 levels by 2020.

California has had an emissions trading (cap and trade) scheme since 2012, and in 2015 this covers 85% of the state's emissions. The scheme formally linked to Quebec in 2014.<sup>7</sup>

In addition to the commitments by the countries mentioned here, there is strong support for a carbon price across the world. The World Bank has recently published a joint statement from 73 countries and 11 states and provinces – together responsible for 54 percent of global greenhouse gas emissions and 52 percent of GDP – expressing their support for carbon pricing.<sup>8</sup> [The list](#) of signatories includes China and South Africa, as well as Russia and countries at high risk from climate change, like the Marshall Islands. It includes businesses across [industry](#), [energy](#) and [transportation](#) sectors, and institutional [investors](#) with more than \$24 trillion in assets.

Almost 40 countries and more than 20 cities, states and provinces already use carbon pricing mechanisms or are planning to implement them (see below).<sup>9</sup>

### Locations of Existing, Emerging & Considered Carbon Pricing Instruments



### 3. Australia's international commitments under UNFCCC and Kyoto Protocol

Australia's commitments under the United National Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol to reducing emissions by five per cent below 2000 levels by 2020 are woefully inadequate and are placing Australia at economic risk as the world moved to a post carbon economy, as well as risking its positive international stature as part of the global citizenry.

The 5% below 2000 levels by 2020 ignores Australia's responsibilities as one of the world's largest per capita emitters, as well as flagrantly ignoring the inherent requirement to reduce emissions in line with a fair share of the global carbon budget.

As the scientific evidence makes clear, there is a limited amount of greenhouse gas emissions that can be emitted if the world is to avoid breaching the internationally agreed

upper limit boundary of two degrees to prevent catastrophic and potentially irreversible climate change.

Australians has not inherent moral right to emit more per capita than individuals in any other nation, and we must therefore adopt an emissions reduction target that ensures we only emit a fair share (ie the same amount of emissions per person) of the remaining carbon budget.

This requires deep and rapid emissions reductions across all sectors, particularly the energy and transport sectors, but must include reductions in agriculture, shipping, aviation, manufacturing, tourism, healthcare, education, etc.

Emissions reduction targets must be accompanied by lucid, well-designed policies that will reduce emissions in the short, medium and longer term, and a process for implementation, evaluation and review.

#### **4. Australia's future emissions reduction targets**

In 2013, CAHA advocated for Australia to commit to stronger emissions reductions targets of 50% by 2020 and 80% by 2050. The evidence for emissions reductions of this scale has only strengthened since then, although the ongoing failure to develop effective policy makes the 2020 target increasingly difficult to achieve. However, given the CCA recommendations of carbon neutrality by 2050, having strong short and medium term targets will be vital to ensuring this can be achieved.

Strong emissions reductions are technically feasible - as the 2014 paper from the Australian Visions & Pathways 2040 project: 'Pathways to a zero carbon economy' indicates, emissions reductions of close to 100% emissions reduction are possible in the period 2020–2050.<sup>10</sup>

The substantive actions required to emissions reductions of this scale include:

- Rapid replacement of fossil fuels by renewable energy
- Rapid reduction in energy consumption through improved efficiency and reduced demand
- Reducing land use emissions and improving the role of land use in carbon sequestration

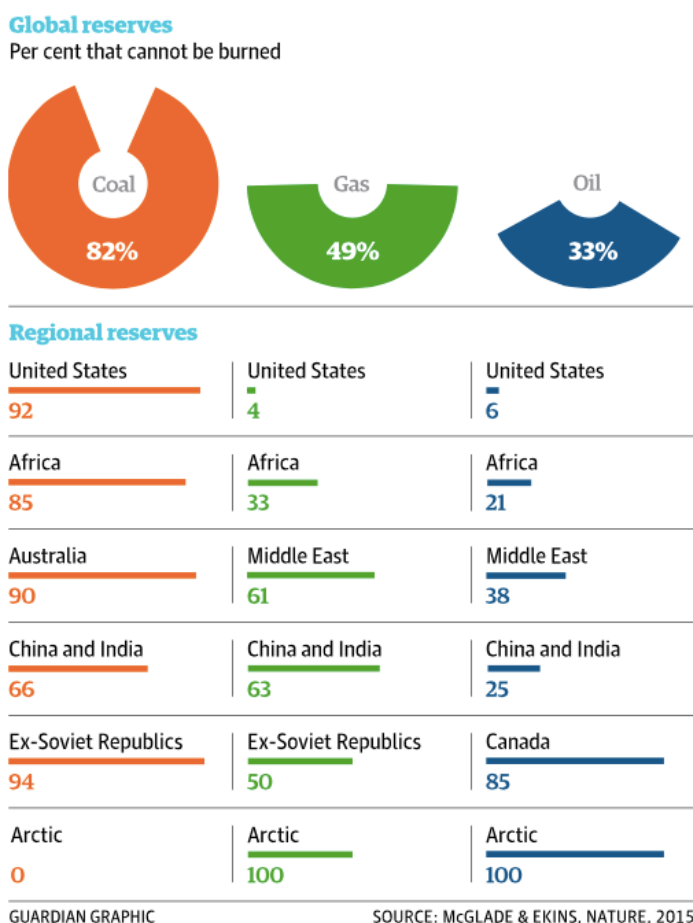
A new study published in the journal *Nature* shows 90% of Australia's coal reserves must stay in the ground if we are to avoid breaching the two degrees guardrail.<sup>11</sup>

This paper reiterates earlier warnings that in order to have a 50% chance of keeping warming below 2 degrees C in the twenty-first century, cumulative carbon emissions between 2011 and 2050 must be limited to around 1,100 gigatonnes of carbon dioxide (Gt CO<sub>2</sub>).



Given that the greenhouse gas emissions in current global fossil fuel reserves are around three times higher than this, only a small proportion of the world's fossil fuel reserves can be burnt to avoid breaching the upper limit of 2 degrees C.

The *Nature* study identifies the geographical distribution of fossil fuels that must be unused when limiting global warming to 2 degrees C – this is particularly important for Australia, given that it reveals 90% of Australia's coal reserves must be unused (see graph below from The Guardian using the McGlade and Ekins paper from *Nature*).



## Risks to health from climate change

The profound risks to people's health from climate change both in Australia and around the world is one of the most compelling drivers for emissions reductions.

The protection of health and welfare constitutes a core element of Article One of the UNFCCC – which expresses one of the aims of reducing emissions to avoid

adverse effects from climate change to “*protect health and welfare*”.

The recent IPCC report outlines the serious risks to health from rising global temperatures and climate change effects, including impacts on food production, leading to under-nutrition and impaired child development, particularly in developing nations; injuries, hospitalisations and deaths due to extreme weather such as heatwaves, fires, floods and other weather disasters; and increases in the spread and incidence of infectious diseases.<sup>12</sup>

Illnesses, diseases and deaths from climate change also occur from the exacerbation of pre-existing health problems. Australians are already vulnerable to the health effects of climate change – witness the large increase in deaths from heatwaves in the summer of 2014;<sup>13</sup> however it is largely people, and in particular children, in impoverished developing nations that suffer the greatest health burden from climate change – a burden Australia has no right to impose by choosing to avoid cutting emissions consistent with a fair share of the global carbon budget.

Emissions reductions must therefore be implemented to reduce any further risks to health from climate change.

## **Benefits to health from reducing emissions**

An important consideration in designing strategies to reduce emissions is the consideration of co-benefits that can arise in addition to the climate benefits/risk reduction. Calculating health co-benefits in economic modeling can help reveal the strong economic case for reducing emissions, and shows cutting emissions is not only affordable, but can deliver budgetary savings, compared to business as usual.

The 2015 New Climate Economy report estimates reducing emissions from coal sources would deliver health benefits worth US\$100 for every tonne of CO<sub>2</sub> abated in developed countries.<sup>14</sup>

The health co-benefits associated with emissions reduction strategies offer extraordinary value in terms of the benefit: cost ratio, with some emissions reduction strategies returning \$10 in health benefits for every dollar invested.<sup>15</sup>

A study published in *Nature Climate Change* in 2014 found reducing emissions from fossil fuelled power generation and transport offers huge health benefits for local populations and significant savings for national budgets.<sup>16</sup>

The MIT study found that the savings from avoided ill health arising from the implementation of a cap and trade program could return up to 10.5 times the cost of implementation.

Another 2014 study from Lawrence Berkeley National Laboratory (Berkeley Lab), the National Institute of Environmental Health Sciences (NIEHS), RAND Corp., and

the University of Washington, has calculated that the economic benefit of reduced health impacts from GHG reduction strategies in the U.S. range between \$6 and \$14 billion annually in 2020, depending on how the reductions are accomplished. This equates to a health benefit of between \$40 and \$93 per metric ton of carbon dioxide reduction.<sup>17</sup>

Emissions reductions measures that also deliver substantive health benefits include substituting coal power with solar and wind power, improving energy efficiency in buildings, shifting modes of transport from private vehicles to public transport and from fossil fuel powered cars to renewable powered electric vehicles, and reducing consumption of animal products.

A recent South Australian study reveals substituting even a small proportion of private car trips with alternative transport modes, such as public or more active forms of transport like walking and cycling can deliver significant environmental and health benefits.<sup>18</sup>

All these findings point to the urgent need for Australia to undertake modeling on the health co-benefits of emissions reductions, as any estimate of costs of benefits will over state the costs and vastly underestimate the benefits if the accompanying health benefits are not included in modeling.

## **Conclusion**

In conclusion, Australia's emissions reduction targets must be as ambitious as possible. The policies developed to deliver those emissions reductions must be designed to accrue health co-benefits in order to realise the most effective combination of reduced climate risk, improved health status, and economic value.

## **APPENDIX A**

### **Climate and Health Alliance Committee of Management**

Dr Liz Hanna, CAHA President  
Ms Fiona Armstrong, CAHA Convenor  
Dr Brad Farrant  
Dr Bret Hart  
Dr Peter Sainsbury  
Dr Elizabeth Haworth  
Danny Vadasz

### **CAHA Organisational Members**

Alliance for Future Health  
Australian Association of Social Workers (AASW)  
Australian College of Nursing (ACN)  
Australian Council of Social Service (ACOSS)  
Australian Hospitals and Healthcare Association (AHHA)  
Australian Health Promotion Association (AHPA)  
Australian Medical Students Association of Australia (AMSA)  
Australian Physiotherapy Association (APA)  
Australian Institute of Health Innovation (AIHI)  
Australian Women's Health Network (AWHN)  
Australian Nursing and Midwifery Federation (ANMF)  
Australian Psychological Society (APS)  
Australian Research Council for Children and Youth (ARACY)  
Australian Rural Health Education Network (ARHEN)  
*CRANaplus*  
Doctors Reform Society (DRS)  
Friends of CAHA  
Health Consumers' Network (Qld)  
Health Issues Centre (HIC)  
Koowerup Regional Health Service  
Psychology for a Safe Climate  
Public Health Association of Australia (PHAA)  
Co-health (formerly North Yarra Community Health)  
School of Public Health and Community Medicine, UNSW  
Services for Australian Rural and Remote Allied Health (SARRAH)  
Women's Health East  
Women's Health in the North  
World Vision Australia

### **Expert Advisory Committee**

Associate Professor Grant Blashki, Nossal Institute for Global Health  
Associate Professor Colin Butler, College of Medicine, Biology and Environment, Australian National University  
Professor Garry Egger, School of Health & Human Sciences, Southern Cross University  
Professor David Karoly, Federation Fellow in the School of Earth Sciences, University of Melbourne  
Professor Stephan Lewandowsky, School of Psychology, University of Western Australia  
Dr Peter Tait, Convenor, Ecology and Environment Special Interest Group, Public Health Association  
Professor Simon Chapman, Professor of Public Health, University of Sydney  
Dr Susie Burke, Senior Psychologist, Public Interest, Environment & Disaster Response, Australian Psychological Society

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<sup>1</sup> [https://gupea.ub.gu.se/bitstream/2077/38073/1/gupea\\_2077\\_38073\\_1.pdf](https://gupea.ub.gu.se/bitstream/2077/38073/1/gupea_2077_38073_1.pdf)

<sup>2</sup> <http://insidestory.org.au/direct-action-subsidies-wrong-way-go-back>

<sup>3</sup> <http://blogs.usyd.edu.au/envi-economics/2014%20ECONOMISTS%20OPEN%20LETTER%20%20SUPPORTING%20A%20PRICE%20AND%20LIMIT%20ON%20CARBON%20POLLUTION.pdf>

<sup>4</sup>

[http://www.climateinstitute.org.au/verve/\\_resources/TCI\\_\\_Paris\\_Update\\_March\\_2015\\_Research\\_\\_Brief\\_FINAL.pdf](http://www.climateinstitute.org.au/verve/_resources/TCI__Paris_Update_March_2015_Research__Brief_FINAL.pdf)

<sup>5</sup>

<http://www.ieta.org/assets/EDFCaseStudyMarch2014/japan%20case%20study%20march%202014.pdf>

<sup>6</sup>

[http://www.ieta.org/assets/Reports/EmissionsTradingAroundTheWorld/edf\\_ieta\\_japan\\_case\\_study\\_september\\_2013.pdf](http://www.ieta.org/assets/Reports/EmissionsTradingAroundTheWorld/edf_ieta_japan_case_study_september_2013.pdf)

<sup>7</sup> <https://icapcarbonaction.com/ets-map>

<sup>8</sup> <http://www.worldbank.org/en/news/feature/2014/09/22/governments-businesses-support-carbon-pricing>

<sup>9</sup>

<http://www.worldbank.org/content/dam/Worldbank/Highlights%20&%20Features/Climate%20Change/carbon-pricing-map-900x476-c.jpg>

<sup>10</sup> [http://www.visionsandpathways.com/wp-content/uploads/2014/05/Wiseman\\_Zero-Carbon-Economy-Transitions\\_290514.pdf](http://www.visionsandpathways.com/wp-content/uploads/2014/05/Wiseman_Zero-Carbon-Economy-Transitions_290514.pdf)

<sup>11</sup> McGlade, C & Ekins, P. The geographical distribution of fossil fuels unused when limiting global warming to 2 degrees C , *Nature*, 8 January 2015 | Vol 517.

<sup>12</sup> <http://www.ipcc.ch/report/ar5/#.UxaQorG4ayQ>

<sup>13</sup> <http://www.abc.net.au/news/2014-01-23/heatwave-death-toll-expected-to-top-almost-400/5214496>

<sup>14</sup> Global Commission on the Economy and Climate. *New Climate Economy technical note: Quantifying the multiple benefits from low-carbon actions in a greenhouse gas abatement cost curve framework*. January 2015.

<sup>15</sup> [http://globalchange.mit.edu/news-events/news/news\\_id/402#.VQJL0SkRFUQ](http://globalchange.mit.edu/news-events/news/news_id/402#.VQJL0SkRFUQ)

<sup>16</sup> [http://globalchange.mit.edu/news-events/news/news\\_id/402#.VQJL0SkRFUQ](http://globalchange.mit.edu/news-events/news/news_id/402#.VQJL0SkRFUQ)

<sup>17</sup> <http://newscenter.lbl.gov/2014/11/18/new-research-quantifies-health-benefits-of-reducing-greenhouse-gas-emissions/>

<sup>18</sup> <http://www.sciencedirect.com/science/article/pii/S0160412014002980>