

Alliance for urgent climate change action

The Alliance for Clean and Efficient Energy (ACE²) is an initiative of concerned business and community groups calling for considerable resources to be urgently mobilised to tackle climate change.

Climate change is the most serious global threat to communities, economies, the global environment and security. No country can afford to succumb to this threat.

Australia is well-placed to help develop and then capitalise on the commercial 'upside' of climate change action. Unleashing and supporting the private sector's innovation is key to realising the necessary reductions in greenhouse gas emissions.

Objectives

ACE² has two clear objectives:

- To make Australia the world's leading low carbon economy and to build the nation's next competitive edge in the process
- To stabilise Australia's emissions of greenhouse gas emissions within 3-5 years and to drive emissions down to 25% below 2000 levels by 2020 putting Australia on a trajectory to achieve 90% cuts in emissions by 2050

This is the 'winners approach' that will help generate wealth and protect prosperity.

Five core solutions to tackle climate change

ACE² supports the pricing of carbon pollution through the Carbon Pollution Reduction Scheme (CPRS). CPRS is an essential tool but, on its own, will not drive sufficient abatement and mitigation activity in the early critical years.

ACE² believes that Australia needs a more comprehensive 5-10 year transition program. ACE² says 5 key strategic steps will put Australia in a position to scale up solutions, build new markets and new sectors of business, while helping other countries combat climate change. ACE² has focussed on technologies and approaches that are readily available or under commercial trialling.

1. Energy and resource efficiency

Energy efficiency offers a rapid and cost-effective source of greenhouse gas abatement. Energy efficiency reduces household, commercial and industrial operating costs – this can help buffer against rising energy prices. The built environment, manufacturing, mining and transport sectors offer major potential for reduction in demand for energy. Distributed generation and grid efficiency upgrades are important aspects of transition. Allocating resources to their most efficient use and value-adding are also important elements. Major financial incentives for accelerating business investment, as well as targeted regulation, education/training, removal of perverse incentives, and other measures will be essential to rapidly drive these savings. Public transport and efficient buildings are core components of smart and efficient cities that will play a key role in reducing energy demand and adding value to commercial enterprise.

2. Waste minimisation, recycling and materials selection

Recycling materials, embodied energy in materials and organic waste can turn the waste sector's 3% of national GHG emissions into a 10% reduction in emissions by 2020. This needs a national resource efficiency strategy to harmonise State schemes. Smarter selection of materials, cleaner production and upgrading of manufacturing processes can significantly reduce waste throughout the supply chain. Emissions from existing landfills can be offset by soil carbon credits created by recycling organic waste back to farmlands.

3. Bio-sequestration and forest conservation

Australia is a continental scale country with a relatively low population density. The land use and land use change sector has a significant impact on our national carbon accounts. Australia has cleared over 90 million hectares of forest and woodland vegetation over the past 200 years, and many of our agricultural systems have depleted the soil of organic matter. A major push on revegetation, forestry and improved agricultural soil management could substantially address early net emissions reductions while technology solutions are being implemented. Expanding Australia's plantation forestry sector could also support greater conservation of natural forests and increase our capacity to produce low embodied-energy building materials. Working with our neighbours in Indonesia, Papua New Guinea and the Solomon Islands, Australia could play a catalytic role in reducing deforestation and forest degradation—one of the most pressing issues in addressing climate change mitigation and adaptation.

Replenishing farmland soil carbon with biological fertilisers and low-tillage practices provides one of the best known opportunities to capture historically emitted carbon on a potentially massive scale (over 500 million hectares of agricultural/grazing farmlands in Australia, with 1% increase in soil carbon per hectare could remove around 100 tonnes CO₂). Bio-sequestration is well justified for a range of environmental benefits and will also help buffer against drought and erosion while earning farmers carbon credits and reducing input costs.

4. Large scale renewable energy projects

The development of major renewable energy infrastructure offers major wealth generation opportunities with minimal environmental impact. It is conceivable that by 2030 Australia could have 'mega clean energy parks' with solar thermal and PV, geothermal, wind and marine energy providing baseload energy to the grid. It is also foreseeable that Australia could provide a regional manufacturing and minerals processing hub value-adding to Australian resources.

5. Cleaner fossil fuels

Commercial scale trialling of a portfolio of cleaner coal technologies including carbon capture and storage and implementing CO₂ as a useful feedstock.

Low cost approaches with return on investment

The first 2 steps are low-cost, low-risk 'carbon-bridges' that will deliver GHG abatement and carbon offsets as well as deliver net GDP in the same timeframe. They can be put in place rapidly.

Step 3, bio-sequestration and forest conservation, uses natural processes to actually remove CO₂ emissions from the atmosphere. These steps can be speedily implemented at massive scale with positive economic outcomes.

Steps 4 and 5 have longer-term beneficial economic outcomes. They are approaches that need to be scaled-up to commercial demonstration immediately.

Each step offers significant GHG abatement *and* return on initial investment.

The scale of the challenge and the opportunity

Scientists advise that keeping global temperatures under a 2 degree Celcius average global rise by 2050 is imperative. To achieve this requires global concentrations of carbon dioxide and other greenhouse gases (CO₂-e) in the atmosphere to be reduced to less than 450 ppm by 2050¹.

¹ Australia's fair share of this task is to reduce emissions by 25% from 2000 levels by 2020 and by 90% by 2050 – Professor Ross Garnaut, Garnaut Review final paper.

Realistically, the battle against climate change will probably be won or lost in Asia, and Asia presents vast markets for Australian innovation. Australia has a regional leadership role to play by demonstrating that an energy intensive economy can build prosperity by investing in being smarter and more efficient.

Australia's efforts should therefore focus on:

- Building resilience into the domestic economy
- Developing major clean energy projects that stimulate economic activity and job creation
- Transferring/exporting expertise and technology to countries in the region.

Australia, by creating demand for low emission products, can also encourage Asian manufacturers to make low emission products for themselves and the world.

Government and industry resources

Global foresight demands a transformational change in how economies are managed. It is imperative to bring innovation to commercial scale demonstration to meet the challenges that face Australia and the rest of the world. Industry can bring technology, systems and financing to the table and looks to Government to provide a comprehensive package of policy measures where regulation, taxation, market instruments, standards, procurement and investment, education, trade, aid and diplomacy are each focused on driving the necessary outcomes.

Immediate injection of funding to scale up existing solutions and pull through the next generation of technology is required. Soft starts and incremental steps will not serve Australia well. All infrastructure expenditure should be directed to low carbon outcomes.

In Australia funding could be drawn from:

- Revenue from the Carbon Pollution Reduction Scheme (CPRS)
- The Future Fund and Infrastructure Australia
- Reallocation of current Government spend and investment; forward procurement commitments
- Institutional investors such as pension funds
- Private sector project financing
- Reallocation of part of the Defence budget
- Hypothecation of state waste levies to recycling projects
- Extended producer responsibility schemes

The economic upside to reducing emissions

The significant economic upside to taking action on climate change has, paradoxically, been underplayed, with disproportionate attention being given to energy intensive and trade exposed companies seeking compensation. Economic modelling shows that there is potential for most sectors of the economy to benefit from acting on climate change: the businesses that provide infrastructure, goods and services that help cut emissions will grow. Indeed, modelling by both IPCC and Garnaut has shown that driving innovation will reduce the price of emission permits. We also know that capturing economies of scale for emission reducing measures will bring down their costs and enhance their benefits.

Garnaut's analysis also highlights the dilemma: his team was only able to incorporate two of the four types of costs of unmitigated climate change into their modelling. Even so, the adverse impact in the short term was only 0.1% of GDP, followed by significant economic benefits in the future. If the full costs of allowing climate change to occur were considered, and the potential to improve cost-effectiveness of action through innovation and economies of scale, we can be confident of overall benefit from action, not cost.

In recent weeks turmoil on international markets has seen over \$1.5 trillion wiped from Wall Street. Investments in the war in Iraq exceed \$1.5 trillion. But of far greater significance is that the world is losing natural capital at a rate of between \$2-\$5 trillion every year.² The environment as context for commodities, food, shelter, water, wellbeing, and regional and international stability is deserving of far greater intellectual and financial investment than it has received to date.

If decisions about the future of the economy are to be made based on modelling cost impacts of climate action, then the 'foreseeable awfulness' of failing at our task, and the full potential commercial opportunity and public good protection if we are successful, need to be included.

It must be recognised that fossil fuels are not 'cheap' once all costs of energy, including waste and pollution, are accounted for. Full long-term cost recovery pricing will help provide a level playing field for new technology entrants facilitating their access to markets of scope and scale where they can be brought down the technology cost curve.

Throughout history, economies have benefited from each technological leap forward. Pricing carbon will help bring about the next great *sustainable* technology era. By taking strong and effective action now, Australia may benefit more than any other country because of the unique opportunities presented by our vast landscape, our intellectual property and our capacity to reduce our current highly wasteful use of energy and materials. The outcomes will be avoided damage, resilience built into the economy, and new commercial and job opportunities opened up.

The alternative is that Australia becomes an importer of the technology and expertise required for this massive transformation, at the cost of future generations. Or, far worse, resigns to and endorses global inaction.

Next steps

The next 5 years will be crucial if we are to meet the scale of the threat posed by climate change and to grasp the considerable opportunities created by moving to a low climate risk economy.³

ACE² members are ready, willing and able to assist Government tackle climate change and open up new commercial opportunities.

We propose:

- A national climate projects working group with ACE² members working with Government and Infrastructure Australia to review proposed projects for funding and implement the five steps proposed above
- A peer review system for technology/systems verification (with mutual recognition in other countries)
- A national climate change innovation fast-track system for commercial scale demonstration of clean energy infrastructure projects

² Economics of Eco-systems and Biodiversity (TEEB)

³ Corporate Leaders Group on Climate Change, UK

Members of ACE²*Initial list of signatories*

Biological Farmers of Australia (BFA)

Cleantech Australasia

Energetics

Environment Business Australia (EBA)

ICLEI – Local Governments for Sustainability

Insulation Council of Australia and New Zealand (ICANZ)

New Forests

Parsons Brinckerhoff

Responsible Investment Association of Australia (RIAA)

SITA

Supply Chain Consulting

Sustainable Investment Marketplace (SIM)

WWF