An 88% cut to heavy industry emissions is possible and would set up key regions for the net zero transition, says research backed by 18 of Australia’s largest companies

Major industrial regions – including the Pilbara, Kwinana, Hunter, Illawarra and Gladstone – have the natural resources, workforce and baseline infrastructure that can be expanded to support Australia’s net zero transition, according to a report released today.

The report shows it is possible for these five regions to achieve an 88 percent reduction in their current emissions, which together account for about one-eighth of Australia’s total emissions. This is the equivalent to 70 MtCO2e of abatement, or to removing all emissions from cars and light commercial vehicles across Australia.

The ‘Setting up industrial regions for net zero’ report is the result of a two-year collaboration between some of Australia’s largest companies, as part of the Australian Industry Energy Transitions Initiative (Australian Industry ETI), which is entering its final phase. It was prepared for the Australian Industry ETI by not-for-profits Climateworks Centre, based at Monash University, and Climate-KIC Australia, which are co-conveners of the initiative.

The report shows that industrial regions can contribute to reaching state and national net zero emissions targets by 2050, while driving employment growth and building Australia’s climate resilience.

The Australian Industry ETI brings together key industry and finance participants to accelerate action towards achieving net-zero emissions in supply chains by 2050, across critical sectors known as ‘hard-to-abate’ given their high emissions and relatively higher abatement costs.

The 18 initiative participants represent approximately 30 percent of the ASX100 market value. They include Australian Gas Infrastructure Group, APA Group, Aurecon, AustralianSuper, BHP, BlueScope Steel, bp Australia, Cbus, the Clean Energy Finance Corporation, Fortescue Metals Group, HSBC, Orica, National Australia Bank, Rio Tinto, Schneider Electric, Wesfarmers Chemicals, Energy & Fertilisers, Westpac and Woodside Energy.

The Australian Industry ETI focuses on reducing supply chain emissions across five sectors: iron and steel; aluminium; LNG; other metals, including copper, nickel, lithium; and chemicals, such as fertilisers and explosives.

‘Through this analysis of the decarbonisation potential of five important industrial regions where Australian Industry ETI participants are active, we have gained invaluable insights into the opportunities and on-the-ground challenges in the net zero transition,’ said Australian Industry ETI Chair, Simon McKeon AO, Chancellor of Monash University, former CSIRO Chairman and former Australian of the Year.

‘Australia can remain competitive in a decarbonising global economy. But this will require coordinated efforts across industry, governments and communities and also the finance and energy sectors. It will also need the alignment of policy, regulations and programs to create clear goals and investment confidence.’
The report finds Australia’s industrial regions can capitalise on global demand for low-carbon products and energy exports.

‘This is achievable if we rapidly deploy existing technology solutions, and support the development and demonstration of emerging opportunities through more proactive regional coordination and collaboration,’ said Climateworks CEO Anna Skarbek.

The report reveals the scale of renewable energy required to decarbonise five industry supply chains in the Pilbara, Kwinana, Hunter, Illawarra and Gladstone would be an additional 25-47 percent of Australia’s total electricity generation, or 68.3 to 125.9 TWh of energy.

‘This will require an unprecedented transformation of the energy system,’ said Ms Skarbek. ‘Governments will have a significant role to play in achieving this, with supportive policy, programs and support for regional leadership efforts, especially in infrastructure which is an enabler of decarbonisation.’

The required renewable energy infrastructure, green hydrogen and energy storage has the potential to create job opportunities for 178,000 to 372,000 Australians. The investment in these regions and enabling infrastructure will be in the order of $50 to $100 billion, the report finds.

Targets for industrial regions can facilitate planning and action, and guide decision making for the long-term transition. This, as well as coordinated planning and development of multi-user infrastructure and the co-development of regional decarbonisation roadmaps, are among the report’s recommended actions.

The formation of clustered industrial precincts is a key opportunity for Australian industry and in regions where hard-to-abate sectors are concentrated.

‘Australia’s industrial regions make an enormous contribution to the economy and are hugely significant in terms of jobs and identity. The regions we studied already have the industries, concentration of energy demand, investment, ports, industry knowledge and skills we need for Australia to thrive through the transition,’ said Chris Lee, Climate-KIC CEO.

‘This is because precinct-scale responses present opportunities to leverage multi-user infrastructure and existing workforce skills, and more effective use of transmission, distribution and storage infrastructure, which drives emissions down.’

The Australian Industry ETI is run by independent not-for-profits Climateworks and Climate-KIC, in collaboration with the global Energy Transitions Commission. Its knowledge partners include CSIRO, Rocky Mountain Institute and BloombergNEF. It is funded by philanthropy, company contributions and the Australian Government through the Australian Renewable Energy Agency’s (ARENA) Advancing Renewables Program.

With momentum building across Australia’s economy to decarbonise, the next phase of the initiative will focus on setting decarbonisation pathways for Australia’s industrial supply chains, in line with the global goal of limiting global warming to 1.5 degrees Celsius.

‘Setting up industrial regions for net zero: A guide to decarbonisation opportunities in regional Australia’ will be published on 20 June 2022 and available online at www.energy transition initiative.org.

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Quotes attributable to Australian Industry ETI participants

William Cox, Chief Executive Officer of Aurecon:
'We know the transition to net zero needs a regional focus in Australia. It is in everyone's best interests for Australia’s industrial regions to decarbonise so they continue to prosper in the long term. Aurecon is seeing first-hand the innovation and momentum already being achieved by heavy industries' collaboration and investment in decarbonisation projects.'

Innes Willox, Chief Executive, Ai Group:
'Industry pathways to net zero emissions are increasingly clear. While their costs and difficulties should not be underestimated, the current energy affordability crisis highlights the unsustainable cost of the status quo. Building a new advantage in clean energy and clean industry will hinge on our success in strengthening supply chains, increasing construction productivity and smartly coordinating energy assets. Federal and State Governments should work together on that agenda, while offering industry both a sustained policy signal for decarbonisation and support for the large-scale investments needed to respond to that signal.'

Andrew Gray, Director ESG & Stewardship, AustralianSuper:
'Collaboration with industry and business partners via the ETI is helping to accelerate transition pathways across the economy. As this report highlights, the key Australian industrial regions where these companies operate have the potential to cut emissions by 88% through the deployment and support of current and emerging technologies. This work is a critical part of transitioning the Australian economy and our investment portfolio to net zero emissions by 2050.'

Fiona Wild, Vice President Sustainability & Climate Change, BHP:
'BHP supports the Australian Industry Energy Transitions Initiative's efforts to help identify opportunities for industrial regional economies to diversify and thrive in a lower emissions future. Collaboration across industry, governments and communities will be key to ensuring Australia can meet its decarbonisation goals and continue to achieve economic development and growth.'

Frederic Baudry, President, bp Australia and SVP fuels and low carbon solutions Asia Pacific bp:
'bp’s purpose is to reimagine energy for people and the planet and has an ambition to be a net zero company by 2050 or sooner and to help the world get to net zero. 'We are already making the investments in the projects, technology and partnerships needed to unlock a low emissions future. We also know we can’t do it alone and that’s why we are working across supply chains and with governments to get projects off the ground. ‘Our plans for an integrated energy hub at Kwinana that will produce and distribute renewable fuel and energy for the future are emblematic of how critical the regions will be in the transition, and how we see hydrogen as critically important to meet the demands of hard-to-abate heavy industries.'

Gretta Stephens, Chief Executive Climate Change & Sustainability, BlueScope Steel
'BlueScope welcomes the release of the Australian Industry ETI Phase 2 Report: A guide to decarbonisation opportunities in regional Australia. Our regions are important contributors to the Australian economy that also present significant opportunities to leverage existing infrastructure and skilled workforces to decarbonise Australia’s key supply chains and remain competitive in a decarbonising global economy. Importantly, the report highlights that achieving net zero emissions is a significant task which will require a high level of ambition and coordination. The findings are consistent with BlueScope’s own views on the size of the challenge and the
importance of the key enablers to decarbonising our industry, being commercial scale low carbon technologies, access to affordable reliable renewable energy and hydrogen, access to appropriate quality raw materials, and supportive policy.’

Kristian Fok, Chief Investment Officer at Cbus:
‘The Australian Industry ETI plays an important role in finding pathways forward to decarbonise hard to abate sectors. Collaboration is key across industry, government and finance to realise the scale required for these decarbonisation projects. The report highlights significant opportunities for Australia to develop renewable resources and technology. Our combined efforts will reduce investment risk, increase employment and investment opportunities within Australia.’

Ian Learmonth, CEO Clean Energy Finance Corporation:
‘The Australian Industry ETI is demonstrating important leadership in the energy transition, including the critical area of industrial decarbonisation. This recent report brings together valuable insights to help us achieve net zero emissions across significant supply chains. Australia’s regions have long been recognised as significant sources of energy production for the nation, and we’re pleased to support this report in providing a pathway to how regions can undertake large-scale transformation and continue to be energy and decarbonisation powerhouses for the 21st century.’

Dr Michael Battaglia, CSIRO Towards Net Zero Mission Lead:
‘The success of our regions is key to Australian prosperity and there are substantial opportunities available to us as we transition to a low emission economy. There is however a significant challenge to support and coordinate the simultaneous shifts in infrastructure, regulation, skills, technology and finance and investment that is needed for the transition. That’s why CSIRO is deploying mission-driven science to bring together research, industry, government and the community to address these challenges.’

Christopher Davis, Chief Financial Officer at Orica:
‘With our longstanding presence in the Hunter Valley, Gladstone and the Pilbara regions, we understand the potential economic and environmental opportunities presented by regional decarbonisation. Working collaboratively with government, industry and our peers, we have recently announced several decarbonisation initiatives at some of our major manufacturing facilities across regional Australia. These projects are an important foundation for realising low-carbon manufacturing precincts, and we must continue to work collectively to ensure our industry, and Australia, remains competitive in a low carbon economy.’

Pacific Zone President, Schneider Electric, Gareth O’Reilly:
‘The Australian Industry ETI’s report, Setting up industrial regions for net zero, shows that net zero ambition is realistic and worthy of investment. Action on decarbonisation presents an opportunity to be more efficient, create new jobs, and drive greater innovation and digital transformation – across companies, organisations, and even communities and entire regions. A net zero partnership among public and private enterprise would present real social and economic advantages, as well as environmental benefits.’

Tony Cudmore, Senior Vice President Strategy and Climate, Woodside Energy:
‘We welcome this cross-sector research which highlights that delivering regional decarbonisation opportunities, including the options outlined for the Pilbara and Kwinana, will require cooperation from industry, government and community stakeholders.’
Managing Director Ian Hansen, Wesfarmers Chemicals Energy and Fertilisers (WesCEF):
‘WesCEF has a longstanding presence in Kwinana where a strong legacy of collaboration across industries already exists. As an emissions-intensive industrial region, collectively pursuing decarbonisation opportunities is a natural next step and the ETI Phase 2 report will be a crucial enabler in facilitating this collaboration.’

Susie Smith, Chief Executive Officer, Australian Industry Greenhouse Network:
‘This important new report provides further evidence of Australia’s opportunity to drive our transition to net zero emissions through leveraging our vast natural resources and industrial capabilities. Australian industry is committed to this goal and can remain competitive in a decarbonising global economy, but this will require coordinated efforts across industry, governments, and communities.’

Kobad Bhavnagri, Global Head of Strategy, BloombergNEF:
‘This report shows in detail how well placed Australian industry is to decarbonise. Few other countries have Australia’s enviable array of resources and the space to build up the renewable energy needed to power this transformation. Australia has a clear opportunity to become one of the cleanest manufacturers in the world.’

Adair Turner, Chair, Energy Transitions Commission:
‘Australia’s economic future in a net-zero world is hugely positive. Blessed with abundant natural wind and solar resources it can both decarbonize its own economy rapidly and become a major exporter of green hydrogen to countries across the world. Seizing this opportunity will require collaboration from government, industry, finance and communities working together to accelerate the energy transition.’

Paolo Natali, Principal, Supply Chains Initiative in RMI’s Climate Intelligence Program:
‘As support for a net-zero industrial transition gains global momentum, the first companies that adopt decarbonization trajectories will benefit from a first-movers competitive advantage. The Australia ETI initiative’s recent report "Setting up industrial regions for net zero" sets out a sustainable path for corporate leaders in four Australian regions to drive reduction of one-eighth of the nation’s total emissions, with clear recommendations for addressing challenges and cultivating opportunities.
‘Perhaps more importantly, the key commodities covered in the report (iron and steel, aluminum, liquefied natural gas, other metals and chemicals) are mostly destined for export, allowing the direct reduction of these emissions in Australia to translate into downstream supply chain emissions for industries abroad.’