

# Clean exports: jobs boom and a safe climate

Jobs and Skills Summit  
August 2022



AUSTRALIAN  
CONSERVATION  
FOUNDATION

“Climate change and the **necessary transition to a net zero economy** presents our country with possibly one of its **greatest ever challenges**, but also an abundance of **new employment opportunities**.”

**Kelly O'Shanassy**

Chief Executive Officer

The Australian Conservation Foundation is pleased to participate in the Albanese Government's Jobs and Skills Summit. ACF Chief Executive Kelly O'Shanassy will attend and will speak at the Workforce Opportunities from Clean Energy and Tackling Climate Change session.



# Clean exports a jobs growth opportunity

Transforming our industries and exports at the scale and speed necessary is essential to the task of creating a safe climate and healthy, fulfilling jobs for future generations of Australians.

At present, around half of Australia's exports value (\$250bn) is exposed to international shifts to decarbonise. This primarily affects exports of Australian coal and gas, but it also affects products that presently emit a lot of climate pollution in production, like aluminium, iron ore and beef.

Eight of Australia's ten largest exports are exposed: iron ore, gas, metallurgical and thermal coal, gold, aluminium, beef, crude petroleum and copper.

Demand for thermal coal (6% of Australia's exports) is expected to decline 80% globally by 2050 under the International Energy Agency's net zero by 2050 scenario. The sooner we achieve net zero, the safer our climate will be – so the decline could and should be even faster.

Around 65% of our export market destinations have committed to net zero. This includes the massive markets of China, Japan and South Korea.

Carbon-intensive import tariffs are increasingly likely as the world moves closer to 2030. The European Union's carbon border adjustment mechanism is just one example.

Coal, gas and other emissions intensive exports will not be part of a net zero world. What Australia builds, grows and exports will inevitably change.

The good news is Australia's abundant renewable energy resources, minerals and metals leave us in a strong position to thrive in the global energy transition – but only if we act now.

Analysis by Accenture in 2021 shows Australia could create 395,000 new jobs and add \$89 billion to the national economy by 2040 through clean exports.

The analysis, which was commissioned by ACF, the ACTU, the BCA and WWF, shows the global shift towards renewable power and clean energy goods and services is already well underway and early action can make Australia a leader in a range of industries.

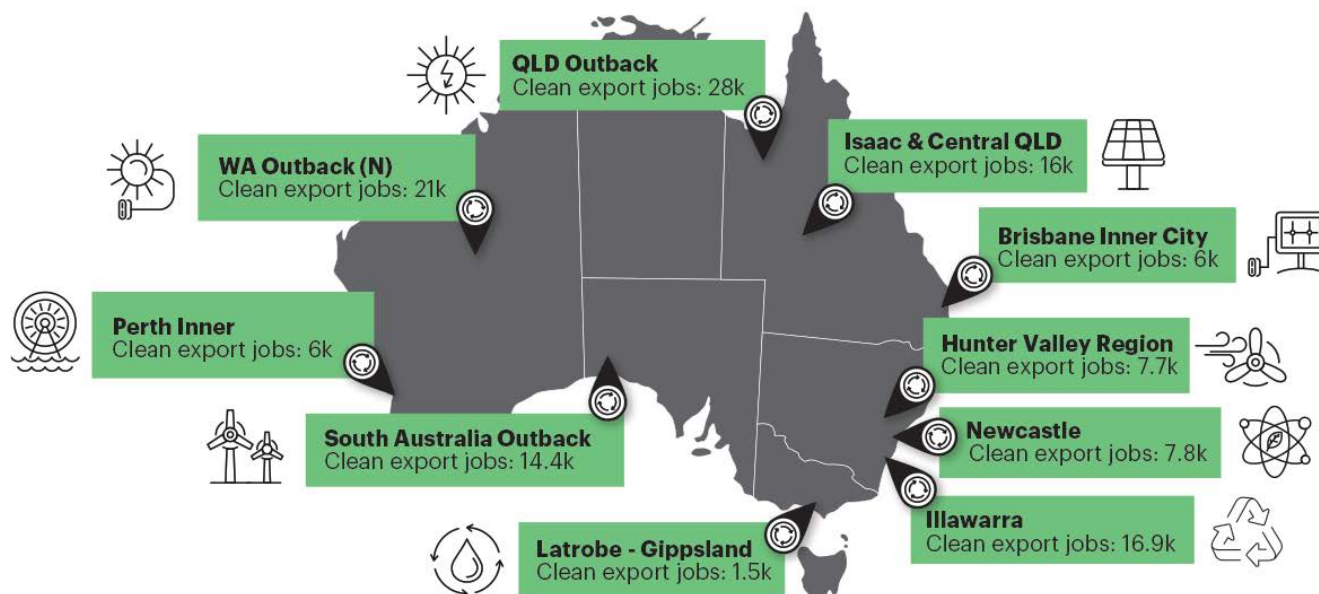
It finds Australia has significant opportunities to:

- Export hydrogen or ammonia produced with renewable energy
- Process and export higher value metals like steel and aluminium using renewable energy
- Export minerals critical for production of clean energy technology
- Export batteries manufactured in Australia
- Export education and training services built on our strong clean energy economy

There exists an opportunity to create tens of thousands of well-paid jobs, many in regional areas and accessible to workers across all levels of skill and education.



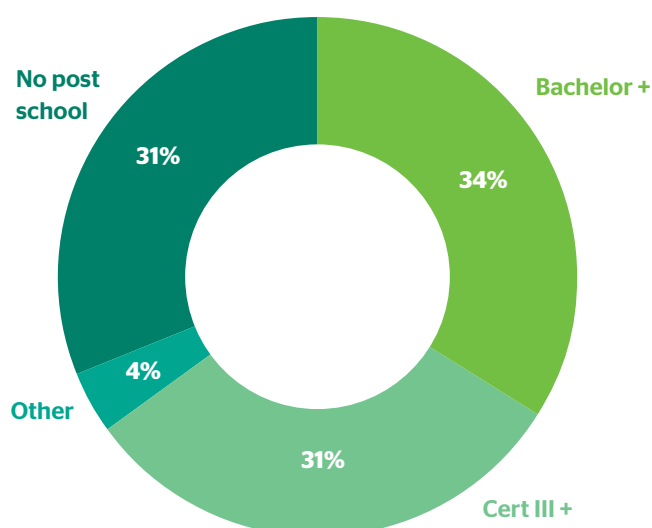
## Potential clean energy export jobs in carbon-exposed regions



The Accenture analysis finds investment in clean exports could contribute \$89bn of gross value added (GVA) to Australia's economy by 2040. The GVA of clean exports outstrips the GVA of the fossil fuel export sector and renewable exports create 80,000 more jobs than fossil fuel exports.

## Breakdown of jobs by qualification required

% of total direct and indirect jobs



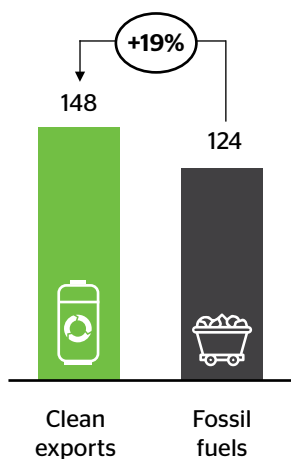
Clean exports will create equal opportunities for workers across qualification levels, with approximately an equal division of jobs requiring bachelor and above, certification III and above and no post school qualifications.



## These new export opportunities are greater in scale than current fossil fuels exports and could be an important avenue of diversification for regional economies

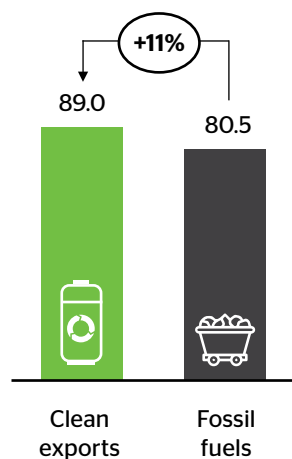
**Revenue of clean energy exports (2040) and fossil fuel exports (2020)**

2020 \$ billion



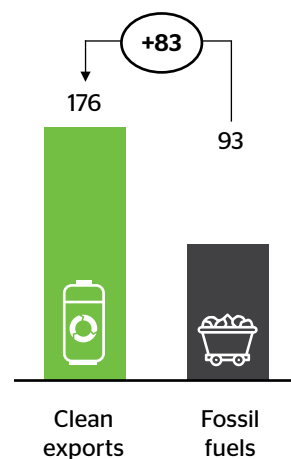
**GVA of clean energy exports (2040) and fossil fuel exports (2020)**

2020 \$ billion



**Direct jobs from clean energy exports (2040) and fossil fuel industry (2020)**

Direct jobs, '000



Clean exports include industries that employ more people per dollar of revenue than the current fossil fuel industry.

Investment in clean exports brings with it the added benefit of diversifying global supply chains that are presently concentrated, making the Australian economy more resilient to global shocks and feeding the expansion of the manufacturing sector.



# Recommendations

ACF calls on the Albanese Government to commit to a Renewable Export Strategy that unlocks opportunity and helps workers transition from dirty to clean exports.

A strategy should:

- **Create a new national Energy Transition Authority**

The increasing speed of Australia's energy transition and coal-fired power plant closures is being mirrored around the world. A new national Energy Transition Authority should plan and maximise the benefits from Australia's energy transition and support economic diversification in regions with an initial operating budget of \$1bn per year for five years.

- **Coordinate investment in seven clean export industrial precincts**

By coordinating investment in clean energy and export industries, governments can link Australia's low-cost renewable energy resources to power clean exports at precincts around the country.

- **Co-invest \$10 billion in new industries**

By co-investing using grants, debt, equity or carbon contracts for difference (CCfDs), the government can directly support flagship projects to accelerate the scale up of clean export industries such as hydrogen, green metals and battery manufacturing and bridge the gap between waning and emerging technologies to attract global investment and share risk with investors.

- **Prioritise low-carbon material procurement for major infrastructure projects**

An immediate new program to support the use of low-carbon materials in buildings and major infrastructure projects would boost domestic demand, supporting new manufacturing capacity and laying the foundation for exports.

- **Set a target for renewable hydrogen and green metals production by 2027**

Setting an ambitious target as part of a national strategy will galvanise collaboration between governments, industry, unions and the research and education sector to grow Australia's clean export industry.



# Don't back the wrong horse: gas

Gas is a potent greenhouse gas that will fuel global warming and dangerous floods, droughts, fires and heatwaves.

The International Energy Agency and world leading scientists recommend a rapid phase out of existing coal, oil and gas in favour of renewables.

Here in Australia, it is accepted that coal is on the way out. But there remains a chorus of loud voices within government and industry describing gas as an energy solution, without accepting the evidence that it is highly potent and exacerbates climate change.

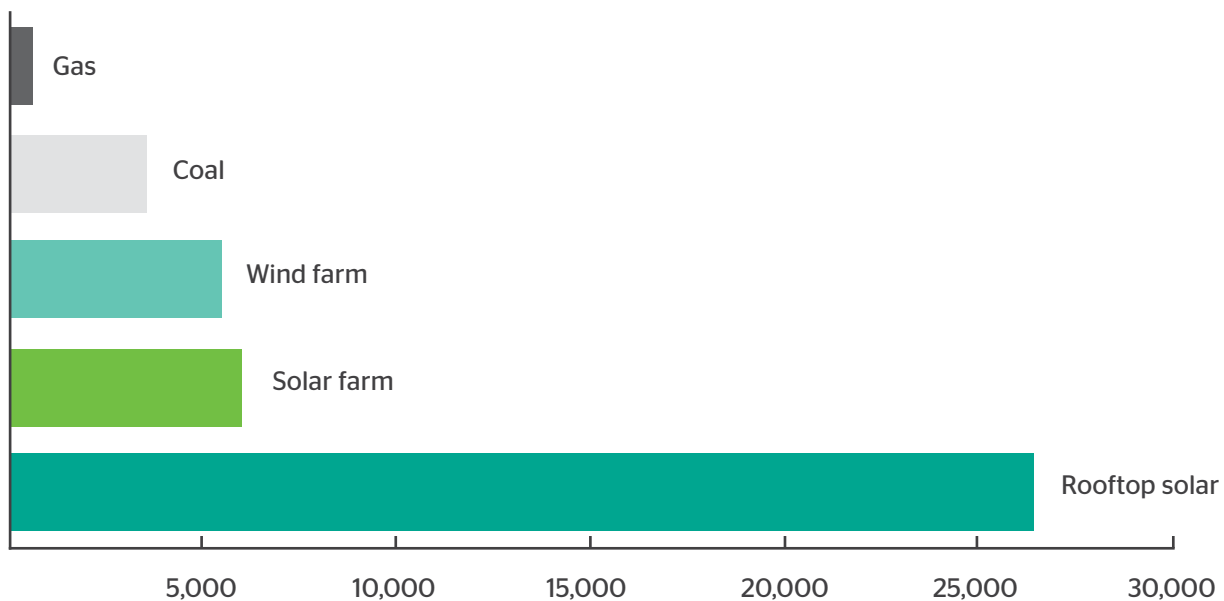
The evidence shows gas is not only bad for the environment but bad for jobs too.

Whether it's in the construction phase, or the operation and maintenance phase, gas is the worst energy option when it comes to jobs.

In April 2022, ACF released work by energy market analyst Tristan Edis looking at how many construction jobs would be created by various types of new energy builds.

The research revealed that if Australia chose to power one million homes with the energy from solar farms it would create 6,006 construction jobs. That much power generated by wind farms would create 5,558 jobs. Whereas the equivalent power from new coal would create just 3,573 jobs and new gas would create only 652 jobs.

**If you power a million homes with these energy sources, how many jobs does it create?**



Source: Green Energy Markets

In new research released ahead of the Jobs and Skills summit, Mr Edis has calculated the number of ongoing operation and maintenance jobs associated with various energy types.

The analysis looks at permanent operations and maintenance jobs for a mixture of coal and gas power stations and calculates the jobs per megawatt of capacity and jobs per unit of generated energy, assuming baseload operation.

The research provides the same calculations for solar and wind farms based on estimates of employment in the renewable energy sector developed by University of Technology Sydney.

The new jobs analysis shows gas is the worst option for ongoing operation and maintenance jobs.

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This research finds:



**Gas plants**

have an average of

**0.069**

operations and  
maintenance  
jobs per MW



**Coal plants**

have an average of

**0.179**

operations and  
maintenance jobs  
jobs per MW

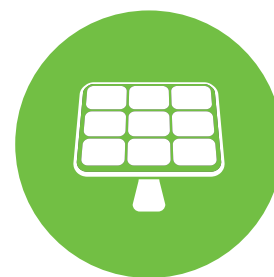


**Wind farms**

have an average of

**0.22**

operations and  
maintenance jobs  
jobs per MW



**Solar farms**

have an average of

**0.11**

operations and  
maintenance jobs  
jobs per MW

*Source: Green Energy Markets*

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It's important to remember that solar and rooftop solar offer an abundance of jobs during the construction phase, as highlighted in the previous research.





“We need to act decisively to secure these industries. Australia is not the only nation in the world with the natural advantages and know-how to become a clean energy superpower.”

**Quotes attributable to Australian Conservation Foundation chief executive Kelly O'Shanassy, who will be speaking at the Jobs and Skills Summit:**

“Australia has a golden opportunity to become a renewable exports superpower, generating 395,000 jobs and \$89 billion in revenue by 2040.

“As the world moves away from coal and gas, Australia can retain our mantle as a reliable exporter with our focus now on critical minerals, renewable energy and green steel, hydrogen and aluminium.

“We need to act decisively to secure these industries. Australia is not the only nation in the world with the natural advantages and know-how to become a clean energy superpower.

“The Jobs and Skills Summit should gaze forward to imagine what we want our country to be and what we want to build, grow and export in a net zero world.

“A transition to net zero emissions industries and jobs is unavoidable. Our choice is in how we transition. Will it be chaotic or planned? Will we help coal and gas workers use their skills in the clean exports industries? Will we act with the speed required to secure a safe climate?

“Climate damage is here now in Australia and it's harming Australians. If we act with speed and certainty through a national clean exports plan, the solutions to climate change will be a jobs bonanza.”

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# We love **our beautiful planet**

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