LOCAL GREEN MANUFACTURING

A FUTURE
FOR ALL OF US

THE GREENS

LOCAL GREEN MANUFACTURING.

Clean, green jobs for Western Australia

Employment in Australian manufacturing has fallen to just 7% of all jobs over recent decades. In Western Australia, the situation is even worse due to our reliance on mining and exporting raw materials for manufacturing overseas. The good news is that we have the resources and opportunity to become world leaders in clean, green manufacturing – from green steel to green hydrogen and large-scale battery production.

It's time for Western Australia to make things again. We can rebuild the manufacturing industry in Western Australia in a way that creates meaningful jobs and helps transition us towards a zero-carbon future.

The Greens will:

- **Create 55,000 new jobs for Western Australians in local green industries**
- **Build new manufacturing facilities for green steel and sustainability produced iron**
- **Transition local green hydrogen production into a major WA industry**
- **Establish a battery production facility in WA**
- **Replace LNG exports with green hydrogen, helping WA to achieve net-zero emissions by 2035**
- **Create a WA Sustainable Industry Investment Fund worth $2.5 billion over ten years**

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DEVELOPING THE GREEN STEEL INDUSTRY

As the world moves toward renewables, WA coal and gas workers are being left behind.

The time has come to build our way out of the economic and climate crises we find ourselves in and invest in the green infrastructure needed to move us to a clean economy.

We have an exciting opportunity to kickstart the local manufacturing of green steel in WA but we need bold Government leadership that invests in the jobs and the industries of the future.

It's clear that Western Australia needs new jobs to replace those lost in Collie and the Pilbara, where most coal and gas industry workers are based. New jobs can be created in these regions by locally producing both green steel, and the renewable energy required for the manufacturing processes.

Around 7% of global emissions come from burning coal in the steel manufacturing process. Green steel production stops these emissions by using hydrogen in the industrial heating process instead of coal.

The Greens will invest in the infrastructure that would enable us to process 20% of our iron ore locally and almost double our iron ore revenue to $160 billion.

This would create 8,700 permanent jobs in ironmaking and a further 40,000 permanent jobs could be created with the development of green steel plants[1].

In the coming years, it will become cheaper to manufacture steel in Australia than elsewhere in the world due to our ability to locally source both hydrogen and iron ore[2]. **We will use our abundant iron ore supplies to sustainably produce iron for export or to manufacture green steel in WA[3].**

We can manufacture steel from the iron we produce, using our state's natural abundance of wind and solar to produce green hydrogen to power our steel plants with cost-effective renewable energy.

The green steel that WA produces will be used in the construction of wind turbines and other renewable energy infrastructure as the world transitions away from fossil fuels.

We will revive local manufacturing with a green metals industry and reduce emissions at the same time.

The Greens will:

- **Generate over 48,000 permanent jobs in green iron and steel**
- **Transition jobs from the fossil fuel sector** into local manufacturing of green iron and steel
- **Reduce emissions from the processes used to manufacture metals**
- **Generate $80 billion in extra iron ore revenue for WA**

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INVESTING IN GREEN HYDROGEN

The extraction, burning and exporting of Liquified Natural Gas (LNG) has been the main driver behind Australia's growing emissions.

However, there is an alternative. WA can transition from LNG to green hydrogen as the state's major export. This would slash WA's overall carbon emissions by 25% and contribute towards the transition to net-zero emissions by 2035.

Hydrogen as a fuel source does not have to be produced from natural gas. It can be manufactured using renewable energy through the process of electrolysis.

WA green hydrogen exports could generate up to $2.2 billion in revenue by 2030 and $5.7 billion by 2040, offering a massive boost to the WA economy and generating a significant number of long-term jobs.

A single local green hydrogen project has the potential to generate up to 3,000 jobs in its construction phase and up to 300 jobs in production and operation[4].

Green hydrogen will also reduce the emissions caused by the state's most carbon-intensive industrial processes, including ammonia production, cement manufacturing and alumina refining.

It will also be used to manufacture green iron[5] and steel[6], and will eventually be used in fuel cells to power heavy haulage vehicles.

The Greens will:

- **Roll out the large-scale production of green hydrogen connected to solar and wind facilities**
- **Create over 3,000 jobs in the industries of the future**
- **Replace LNG exports with green hydrogen, helping WA to achieve net-zero emissions by 2035**
- **Reduce emissions even further by using hydrogen for industrial processes**

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LOCALLY PRODUCED RECHARGEABLE BATTERIES

Western Australia is the world's largest producer of lithium and a leading producer and supplier of other battery metals, rare earths and other key components of rechargeable batteries and electric vehicles.

Rather than just export these raw materials, Western Australia has an opportunity to establish a rechargeable batteries manufacturing facility assisting in the transition to a clean energy economy[7].

Western Australia has among the largest reserves in the world of all the minerals used in the manufacturing of rechargeable batteries, including lithium, nickel, cobalt, manganese, aluminium and vanadium.

Western Australia also produces non-battery minerals used in the manufacturing of electric vehicles and energy storage systems, such as rare earth elements that are necessary for the production of electric motors.

A rechargeable batteries manufacturing facility will strengthen WA's position as a world leader in future battery minerals, materials, technology and expertise in global battery supply chains. It moves WA from just exporting rare materials to processing. This would support and improve on the Western Australian Future Battery Industry Strategy[8].

WA's economy has through successive state governments become overly dependent on mining and has under-invested in local manufacturing.

Our plan will make WA a hub for the processing, manufacturing and recycling of rechargeable batteries – creating new jobs and helping us transition to a clean economy.

The Greens will:

- **Establish a rechargeable batteries production facility in WA**
- **Set up electric vehicle supply chains in WA**
- **Increase the uptake of batteries for renewable energy storage across WA**

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WASTE AND RESOURCE RECOVERY

Around 7 million tonnes of waste were generated in Western Australia in 2018, of which only 48% was recycled.

As Australians, we pride ourselves on being good recyclers and doing our bit to reduce waste. But we are being let down by corporations and governments who send our recycling overseas or to landfill instead of repurposing it.

Rather than relying on other countries to deal with our waste, we have an opportunity to build a recycling system that creates jobs in WA, establishes new industries, makes the best use of our recycled goods and helps us live more sustainably.

At the moment, much of our waste finds its way into our water, where it pollutes our beaches and destroys the health of everything that lives in our rivers and oceans.

Most of our household recycling is sent offshore because WA currently lacks the infrastructure to process many recyclable waste products including plastics, glass, e-waste and other common materials.

Recycling and re-use industries are jobs-rich and can be developed right here in WA.

For every 10,000 tonnes of waste recycled, 9.2 jobs are generated compared to just 2.8 jobs for landfilled waste[9]. **Recycling 90% of our waste would create approximately 3,000 ongoing resource jobs here in WA[10].**

The Greens will:

- **Create 1,000 full time jobs by recycling 100% of e-waste in WA**
- **Create up to 3000 new jobs by setting a recycling target of 90% of waste and 100% of food and garden organics by 2025**
- **Set minimum requirements for recycled content in infrastructure projects** over the next five years to help drive the supply of new products
- **Allocate 100% of revenue raised from local council waste collection levies to recycling initiatives[11]**

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SUSTAINABLE INDUSTRY INVESTMENT FUND

To drive investment and research in innovative clean, green industries, the Greens will establish a Western Australian Sustainable Industry Investment Fund facilitating $2.5 billion in investments over ten years[12].

As proposed by Beyond Zero Emissions, the Sustainable Industry Investment Fund would operate in a similar manner to the Australian Government's Clean Energy Finance Corporation, funding identified projects and leveraging further private sector investment.

The fund will help drive Western Australia's transition away from fossil fuel dependence, whilst providing new opportunities for regional development in clean and innovative industries.

1. Clean State Jobs Plan at p60. See https://www.cleanstate.org.au/jobs_package_report
2. The Grattan Institute, 2.4.3 at p22. See https://grattan.edu.au/wp-content/uploads/2020/05/2020-06-Start-with-steel.pdf.
3. The Grattan Institute, 2.4.3 at p22. See https://grattan.edu.au/wp-content/uploads/2020/05/2020-06-Start-with-steel.pdf.
4. Factsheet – Hydrogen Renewables Australia – Community Consultation Summary. Available at https://hydrogenrenewablesaustralia.com/wp-content/uploads/2019/12/Factsheet-HRA-community-consultation-QA.pdf
5. The Grattan Institute, Start with steel at p22.
6. The Grattan Institute, Start with steel at p18.
7. Lithium Valley Summary Report - https://www.rdaperth.org/wp-content/uploads/2018/05/Lithium-Valley-Summary-Document-May-2018.pdf
8. For a copy of the strategy, visit https://www.jtsi.wa.gov.au/fbis
9. National Waste Policy Action Plan. 2019. https://www.environment.gov.au/system/files/resources/5b86c9f8-074e-4d66-ab11-08bbc69da240/files/national-waste-policy-action-plan-2019.pdf
10. Based on calculations by Beyond Zero Emissions in The Million Jobs Plan: https://bze.org.au/research_release/million-jobs-plan/
11. Right now, only a quarter of the landfill levy goes into recycling initiatives, the rest going into consolidated revenue.
12. Recommendation taken from Beyond Zero Emissions' "Collie at the Crossroads" report https://bze.org.au/wp-content/uploads/Collie-at-the-Crossroads.pdf

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