

Modern slavery: The grim problem facing Australia wind, solar and battery supply chains

[Rachel Williamson](#) 29 November 2022



Child and forced labour in China's Xinjiang province, exploitation of workers in the Amazon region of Ecuador, and conditions that count as modern slavery in the raw materials and particularly cobalt supply chain are real problems for the Australian renewable energy industry.

As Australia ramps up decarbonisation efforts it'll also need to watch out for modern slavery practices in supply chains, according to a new report from the Clean Energy Council and Norton Rose Fulbright titled *"Addressing Modern Slavery in the Clean Energy Sector"*.

The best way it can do that is to set up its own internal supply chains, using its rich mineral resources and re-establishing its own manufacturing capacities.

"Urgent action is needed to address the severe modern slavery risks in Australian renewable energy supply chains and investments," says NSW anti-slavery commissioner Dr James Cockayne.

"In NSW, government entities and local councils are legally required to take reasonable steps not to procure products of modern slavery. This may include some solar panels, lithium-ion batteries, wind turbines and renewable energy.

"We need to see industry, government, the financial sector and civil society working together to provide access to competitively costed, slavery-free renewable energy. If we don't, modern slavery risks significantly complicating the just transition to a decarbonised economy."

Not-so-clean supply chains

The report identified critical points in Australia's solar, wind and storage supply chains where slavery conditions are already occurring.

The Xinjiang Uyghur Autonomous Region (Xinjiang) of China supplies about 40-45 per cent of the world's solar-grade polysilicon, which is a key component of 95 per cent of the world's solar modules.

The report notes that some 2.6 million Uyghur and Kazakh citizens are alleged to be subjected to "surplus labour" programs and face coercion, re-education programs and internment.

The United Nations Office of the High Commissioner (OHCHR) for Human Rights found in August that "serious human rights violations" and "severe and undue restrictions on a wide range of human rights" have been committed in Xinjiang as part of a Chinese government program of counter-terrorism and counter-"extremism" strategies.

China denies allegations of slave labour in Xinjiang province, but detailed media reports and zero independent audits mean there is a high risk that solar cells made in Xinjiang, or those using polysilicon from the region, is made by forced labour.

The wind industry must contend with the rapid growth in demand for balsa wood for use within wind turbine blades.

The balsa supply chain has led to increased deforestation of the Amazon, Ecuadorean workers subjected to labour conditions that include being paid with alcohol or drugs, and land rights deprivations on indigenous populations in Peru.

The wind industry is beginning to shift away from balsa to other light-weight materials such as polyethylene terephthalate (PET), or towards balsa suppliers with Forest Stewardship Council certifications.

Minerals and metals used in the solar, wind and battery industries are a high cause for alarm around modern slavery practices.

"The World Bank estimates a 250 per cent rise in demand for key minerals used in wind turbines under climate action scenarios in which global temperatures are kept to within 2°C of warming. A single 3 MW wind turbine alone contains approximately 4.7 tons of copper," the report said.

Key elements of concern are manganese, cobalt from Zambia and the Democratic Republic of the Congo (DRC) where child labour is used in small-scale mining, and nickel produced in Philippines by one of the world's largest nickel producers where it was recently reported that labour hire companies were employing workers without contracts, delaying the payment of wages and not paying compulsory employee benefits.

Although lithium-ion batteries account for more than half of global cobalt consumption, electric vehicle sales are predicted to surge from 6.5 million in 2021 to 66 million by 2040 to this figure is set to increase.

Australia must lead by example

Australia is rapidly ramping up its renewable energy capacity, with 32 per cent of total power in the National Energy Market coming from renewable sources in 2021, and supported by lithium-ion batteries.

More than 3.3 gigawatts (GW) of rooftop solar was added last year, and by the end of 2021 there were 68 large-scale wind and solar projects under construction or financially committed, representing more than 9 GW of new capacity.

The Australian Energy Market Operator's (AEMO) 2022 Integrated System Plan is forecasting around 83 per cent of Australia's electricity to come from renewable energy by 2030.

And yet Australia is still a minor player in the global industry: it has around 2 per cent of installed global solar power capacity and just 1 per cent of solar panels installed in 2021 were in Australia.

“Our purchasing patterns alone will not influence global supply chains, but we still have a responsibility to play our role to eliminate modern slavery from our own supply chains and to contribute to global efforts,” the report says.

A key strategy should be looking to develop domestic supply chains to remove the risk of problematic materials being used in the industry here, says Clean Energy Council policy director of energy generation and storage Dr Nicholas Aberle.

“The points of exposure most in need of attention are the manufacture of various key components and the extraction of raw minerals where renewables are expected to become a growing share of the market,” he said.

“Australia has significant expertise in mineral extraction, so as a nation, we can be looking at developing our capacity to extract, process and manufacture materials and components for solar panels, batteries and wind turbines.”

In the early 2000s, Australia had the largest solar panel factory in the Southern Hemisphere, but it closed in 2009 due to cost pressures from Chinese manufacturing.

The government could implement a global certification system to support sanctions, like the US Uyghur Forced Labor Prevention Act this year which created a presumption that any products made in Xinjiang are linked to modern slavery and therefore cannot be imported into the US.

The government passed the Modern Slavery Act in 2018, but despite creating a mandatory reporting regime on large companies the report says it has led to a box ticking approach to compliance.

This is due to its failure to identify or disclose obvious modern slavery risks and or demonstrate effective actions to address those risks. The Act is currently under review.

Norton Rose Fulbright partner Abigail McGregor says business must also do its part, by implementing their own supply chain due diligence.

[Rachel Williamson](#)

Rachel Williamson is a science and business journalist, who focuses on climate change-related health and environmental issues.