

Slavery links and quality concerns: Why there could be a dark side to your solar panels

Experts have raised concerns about a key material used to produce solar panels, and say the Australian government should do more to stamp out the sale of products with slavery links.

5 min read | Published 23 November 2022 | 5:10pm By Tom Canetti | Source: SBS News



The Australian government needs to do more to prevent products with slavery links, such as solar panels, from being sold in Australia, experts say. Source: AAP / Tracey Nearmy

KEY POINTS

- Solar panel production can have slave labour links, experts say.
- They also say many low quality panels aren't sustainable.
- Human rights lawyers are calling for government reform.

Australia should approach its renewable energy transition with caution, experts say, amid concerns of labour exploitation in the production of solar panels.

Polysilicon is the most common material used to produce solar panels, and around 45 per cent of the world's supply comes from Xinjiang, China.

The [United Nations](#) says China may be committing crimes against humanity in Xinjiang, with experts accusing the Chinese Communist Party (CCP) of exploiting its Uyghur Muslim minority into forced labour to make products including solar panels.

China strongly denies allegations of human rights abuses against its [Uyghur Muslim population](#).

Are solar panels produced by slaves?

Solar panel production is linked to slave labour, according to Martijn Boersma, an associate professor of modern slavery at Western Australia's University of Notre Dame.

"Unfortunately, innovation that is meant to address climate change can be linked to labour exploitation," he said.

"Solar-grade polysilicon producers are connected to Uyghur forced labour – either directly through participation in state-sponsored forced labour schemes, or indirectly through the sourcing of their raw materials."

Mr Boersma said cobalt, a mineral used to make electric cars, is also commonly linked to slave labour.

If the [Paris Climate Agreement](#) goals are to be met, cobalt demand may increase by up to 25 times from current levels in the next two decades.

"This is problematic as about 70 per cent of cobalt comes from the Democratic Republic of Congo, where many workers are victims of labour abuses, including low earnings, unsafe working conditions, and even child labour," he said.

"Both solar-grade polysilicon and cobalt are essential for the green energy transition, but we must not turn away from the abusive labour conditions that taint the sourcing of these materials and the manufacturing of solar panels and batteries."

Freya Dinshaw, a senior lawyer at the Human Rights Law Centre (HRLC), said the Australian government must amend the [Modern Slavery Act](#) to prevent links between slave labour and Australian companies' supply chains.

"The HRLC has released [proposed model amendments](#) to the Modern Slavery Act, and what the amendment would do is introduce a new duty to prevent modern slavery," she said.

Under the current modern slavery legislation in Australia, companies are only required to report on risks in their supply chains, and there is no punishment for non-compliance.

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"Under this proposal, companies would need to undertake due diligence to identify, assess and address modern slavery risks, and could be held accountable where they failed to do so," Ms Dinshaw said.

"Workers subjected to modern slavery could also seek direct remedies from companies unless those companies can demonstrate that they've taken all reasonable steps to prevent the abuses from occurring."

Program Manager at Campaign for Uyghurs in Washington DC, Arslan Hidayat, also said the Australian government needs to do more to prevent products with slavery links, such as solar panels, from being sold in Australia.



Miners working at the Shabara artisanal cobalt mine near Kolwezi, Democratic Republic of the Congo, in October. Source: AFP / Junior Kannah

"There seems to be a battle between what's more important: climate change or human rights," he said.

"Obviously, both of them are very important issues. But you have these heartless, major conglomerate companies, that are using the excuse of climate change as a loophole to try and get in their products."

Mr Hidayat said companies in Australia should "have to prove their products aren't made from slave labour" before allowed in the country.

Clean Energy Council Policy Director of Energy Generation and Storage, Dr Nicholas Aberle, told SBS News the council "condemns the use of forced labour in supply chains".

"It is vital that the clean energy transition is both fair and equitable," he said.

The council established the Risks of Modern Slavery Working Group in 2020.

"The group has been actively exploring ways to understand where the risks lie, grow awareness of them, and manage them in a way that does not increase the vulnerability of workers in developing countries," he said.

What's 'energetic payback', and why is it crucial for a solar panel's carbon footprint?

As well as alleged slave labour links, there are also concerns about the quality of some solar panels and the energy used to produce them.

Energetic payback is the time that a solar panel would take to produce as much energy as it took to make the panel.

Dr Michelle McCann from PV-Lab, an Australian company that focuses on quality assurance for solar panels, said the energetic payback of a panel is crucial for its carbon footprint.



Solar panels at a power plant in Changji, Xinjiang province, China. Source: Getty / Costfoto/Future Publishing

"The longevity of a solar panel is in practice one of the biggest drivers of the real energetic payback time," she said.

"A panel should last for 25 years, any earlier replacement has a significant effect on energetic payback time."

Dr McCann said low-quality solar panels have a shorter life span and in turn, the energy needed to make them isn't paid off.

"Troubles start when, in order to keep costs as low as possible, manufacturers skimp on the relatively cheap plastics that make the panels weather-proof," she said.

Dr McCann said that the "same factory in China" can produce high and low-quality solar panels, and that consumers should be wary of what they're buying.

SBS News has contacted Energy Minister Chris Bowen's office, and China's embassy in Canberra for comment.
