

How 'dark underbelly' and forced labour is helping to fuel Australia's love affair with cheap solar

By energy reporter [Daniel Mercer](#)
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Roughly one in every three Australian homes now has solar panels. (Supplied: Project Symphony)

Take a walk down any typical suburban Australian street, and chances are you'll see solar panels on someone's roof, probably on many roofs.

Over the past 15 years, Australia's love affair with solar has known few bounds.

There are now more than three million installations on household rooftops across the country, enabling ever greater numbers of Australians to supply their own clean, sustainable power.

But when Ramila Chanisheff looks up, she doesn't necessarily see a symbol of renewable energy.

She sees the oppression of her people.

"It is a bitter feeling ... when you see them," Ms Chanisheff said.

"I absolutely see the separation, the tears ... the human rights abuses when I look at solar panels."



Ramila Chanisheff from the Australian Uyghur Tangritagh Women's Association. (ABC News: Gabriella Marchant)

Ms Chanisheff is an ethnic Uyghur hailing from the north-western Chinese province of Xinjiang, or East Turkistan as she calls it.

Xinjiang is one of the world's biggest producers of polysilicon, a crucial ingredient in modern-day solar panels.

About 45 per cent of the world's supply comes from the province, where metallurgical grade silicon is crushed and purified in huge factories.

But researchers and human rights activists claim those factories are also home to the widespread use of forced Uyghur labour.

Ms Chanisheff says getting direct accounts from affected workers is hard because of what she says is a vast orchestrated crackdown on Uyghurs by Beijing.

Clouds gather over sunny story

But she says many people in the Uyghur diaspora in Australia and elsewhere in the world know of family members or friends caught up in the industry.



Estimates suggest more than one million Uyghurs have been detained in camps across Xinjiang. (Reuters: Ben Blanchard)

"The Uyghurs that live in Australia, they know their families are in these labour camps working for the solar panel industry," she said.

"But they're unwilling to speak up due to further persecution of their family members." From an almost non-existent base 20 years ago, China's solar industry has grown to become the world's dominant supplier of panels.

In polysilicon, China accounts for almost 90 per cent of production, having crushed competitors including the US during its rise.

China's success has been a boon for consumers, who have benefited from sharp falls in the price of solar panels.

But ethical questions about parts of the industry in China appear to be growing.

Despite insistences by Beijing that its policies in Xinjiang are aimed at countering terrorism and alleviating poverty, many remain unconvinced.



Chinese President Xi Jinping on a visit to Xinjiang last year. (AP: Xie Huanchi/Xinhua)

Nicholas Aberle, the director of energy generation and storage at the Clean Energy Council, says the reports of human rights abuses in the solar supply chain are a worry.

Dr Aberle said while "this is not an issue peculiar to solar", consumers and governments could not afford to turn a blind eye.

"We condemn modern slavery and forced labour," Dr Aberle said.

"It's not something that anyone wants to see anywhere in the world or involved in any of the products that they're purchasing.

"Unfortunately, there is some quite good evidence that this is occurring in Xinjiang in Western China."

Claims labour coercion rife

Strategic Analysis Australia director Michael Shoebridge said defining the use of Uyghur labour in the solar industry was difficult because workers, at least notionally, had a choice about whether to participate in it.

But Mr Shoebridge said the choice often seemed to involve working in the factories "for long hours and low rates of pay" or drawing the ire of authorities.



Chinese authorities have established a network of detention centres and education camps across Xinjiang. (AP: Mark Schiefelbein)

As a result, he said many workers were effectively "coerced contractors".

"Really, the Xinjiang economy is propped up by cheap Uyghur labour," Mr Shoebridge said.

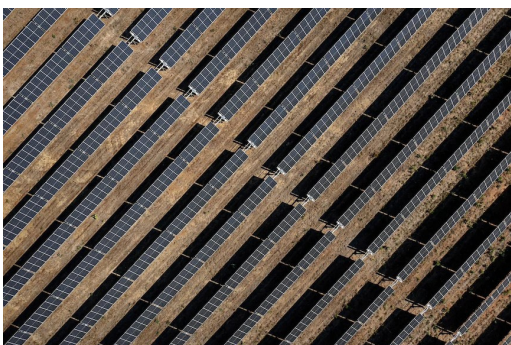
On top of this, Mr Shoebridge noted Xinjiang's polysilicon producers also relied on cheap, heavily subsidised coal power to maintain their cost advantage.

"It's an underbelly of the solar panel industry," he said.

"People feel very virtuous slapping these solar panels on their roofs.

"But if they understood the industry supply chain and its entanglement in the rather nasty human rights abuses and dirty coal in Xinjiang, they wouldn't feel quite so happy when the sun shone on their solar panels."

Mr Shoebridge said that apart from the ethical questions surrounding Australia's demand for cheap Chinese solar panels, there were big energy security implications.



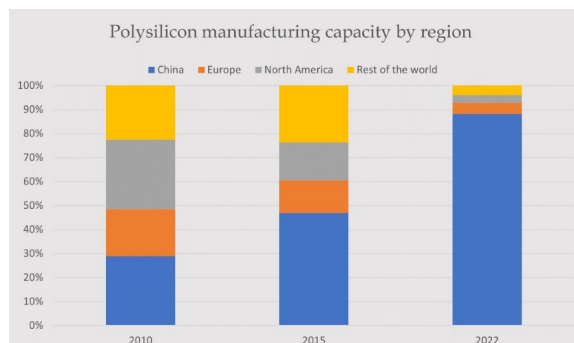
Capacity from large-scale solar farms in Australia is tipped to explode in the decades ahead. (ABC News: Michael Franchi)

"This stranglehold that the Chinese government and companies are building over the renewable energy supply chain will give them a lot more power to coerce countries and populations that are dependent on them than the Russians have been able to exert with their energy supply into Europe," he said.

China the 'Saudi Arabia' of solar

Dr Aberle agreed with Mr Shoebridge's assessment of the situation.

As a first step, Dr Aberle said consumers should be given more information about the origins of their solar panels.



China's stranglehold over the renewable energy supply chain has surged. (Supplied: IEA)

In the longer term, he said Australia should look to diversify its supply, including by bringing some manufacturing onshore.

"Quite aside from the issue of modern slavery, there are just supply chain risks of having so many of your supply chain eggs in one geographic basket," he said.

Llewelyn Hughes, from the Australian National University's Crawford School of Public Policy, said the massive growth forecast for the industry would provide plenty of opportunities for other countries.

Dr Hughes said global solar panel production capacity was currently about 190 gigawatts a year but this was forecast to soar to 630GW a year by 2030 under International Energy Agency modelling.

Despite this, he said Australia could not wean itself off a reliance on China easily, at least in the short term.

"We are going to be completely reliant on China for the supply of solar production in the coming number of years," Dr Hughes said.



Dr Llewelyn Hughes says Australia and others will be reliant on China for solar panels for some time. (Supplied: Australia-Japan Youth Dialogue)

"This is an enormous global industry and moving the needle in terms of the structure of supply chains is not something you can do overnight."

Dr Hughes also warned against measures such as tariffs that would unnecessarily push up the costs of solar panels, undermining efforts to decarbonise the economy.

Diversification, but mind the costs

And he doesn't think Australia can hope to compete with China in mass manufacturing, noting that even powerhouses such as Japan and Germany had come off second best in solar.

"It's all hands to the wheel, not only in China but elsewhere," Dr Hughes said.

"There is space for the diversification of supply chains but the key is you've got to do it in the right way.



China has come from nowhere to become the world's dominant producer of solar panels.
(Reuters: Carlos Barria)

"What we've seen so far is the use of trade restrictions.

"The Europeans have used trade restrictions, the US has used trade restrictions — both under Republican and Democratic presidents.

"And the effect of those is to increase the price of imports relative to domestic production.

"That may increase at the amount of domestic production but it comes at the cost of increasing the modules themselves and that really hurts our ability to decarbonise as quickly as we need to."

For Uyghur leader Ms Chanisheff, a better balance needs to be struck.

"For those who advocate for solar panels for a cleaner environment, or cleaner air, and I also advocate for that, at what cost?"