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# Triple win: solar farms in deserts can boost power, incomes and ecosystems

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As land degradation becomes more severe (see [Nature 623, 666; 2023](#)), desert photovoltaics are a triple-win, fostering not only clean-energy generation but also ecosystem recovery and local poverty reduction.

Panels provide shade, cutting surface water evaporation by 20–30%. Water used for cleaning panels adds moisture to the soil and supports vegetation, while crops and grazing animals beneath the panels can enrich the soil and help to boost incomes ([C. Song et al. \*Renew. Sust. Energ. Rev.\* 191, 114146; 2024](#)).

China has many solar projects in its northwestern deserts, including the Tala Shoal plant in Qinghai, which covers an area almost the size of Singapore and has a generating capacity of 22 gigawatts. Besides supplying energy, the project has halved local wind speeds, restored vegetation and boosted sheep herders' incomes by 2 million yuan (US\$280,000). China is looking at projects in the Gobi desert that could generate 450 gigawatts – 20 times the output of the Three Gorges Dam.

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initiative (see [Nature 622, 607–610, 2023](#)), to share technology and seed funding with countries in Central Asia, Africa, the Middle East and Latin America.

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## COMPETING INTERESTS

The authors declare no competing interests.

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