



## Solar's Next Sustainability Challenge: Tackling The Panel Waste Problem

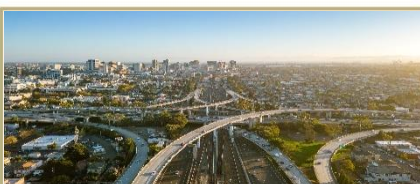
The rapid expansion of solar power is creating a new sustainability challenge: how to manage panels when they are damaged, replaced or reach the end of useful lives.

IRENA projects cumulative global PV-project waste could exceed 200 million tonnes by 2050.

As solar installations continue to grow worldwide, the volume of retired panels is also expected to rise, increasing the need to manage the waste effectively.

Solar panels contain valuable materials that can potentially be recovered and returned to supply chains, creating an opportunity for the industry to adopt a more circular approach. However, turning this into a viable industry remains a great challenge.

Many existing panels were designed primarily for durability and performance rather than easy disassembly or material recovery. Collection, transportation and processing can also add significant costs, particularly where recycling infrastructure remains limited. As more panels reach the end of their operational lives, regulation, product design and investment in recycling capacity are likely to play a larger role in managing the industry's growing waste stream.



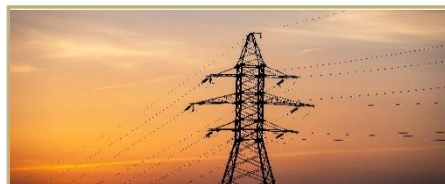
## What Bogotá Can Teach Cities About Climate Resilient Growth

As cities contend with rapid population growth, infrastructure pressures and intensifying climate risks, Bogotá is emerging as an example of how urban development can integrate resilience, lower emissions and social inclusion.

Bogotá's approach brings together sustainable mobility, public transport, and broader climate planning. Bogotá already has 1,575 electric buses, reinforcing its position as a global leader in cleaner urban mobility.

Rather than treating resilience as a separate environmental objective, the city demonstrates how it can be incorporated into decisions about how people move and how urban infrastructure responds to changing environmental conditions.

The lessons extend beyond Bogotá. As urban populations continue to expand, decisions made today about transport networks, housing, infrastructure and land use will shape both emissions and exposure to climate risks for decades. Cities therefore have an opportunity to address mitigation and adaptation together while supporting economic development.



## Germany's Energy Transition Faces A Growing Grid Bottleneck

Germany risks losing momentum in its transition to cleaner energy unless investment in electricity networks keeps pace with renewable power expansion. A KfW report shows that German energy suppliers may need to invest €535 billion in electricity and gas distribution networks by 2045. This highlights a growing challenge. As wind and solar capacity expands, electricity networks must also expand and modernise to connect new projects, manage increasingly decentralised generation and deliver power reliably. Without sufficient grid capacity, network constraints could limit how effectively clean electricity reaches consumers.

### 200+

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### 1,575

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### €535 billion

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