



Solar panels on the roof of the Baltimore, MD, IKEA.

Solar panels on a Walmart in Caguas, Puerto Rico.

Solar on Superstores

Big Roofs, Big Potential for Renewable Energy

Solar energy is the fastest growing form of electricity generation in the U.S., and could produce 78 times as much electricity as the nation used in 2020. The wide, flat roofs of superstores are perfect locations for solar panels. Big box stores should go big on solar.

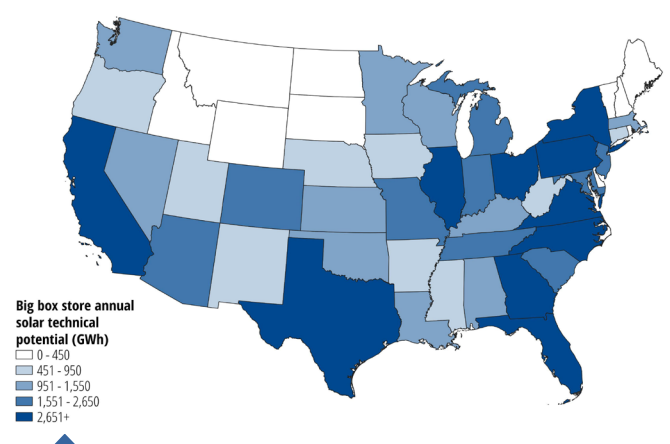
Big box stores have big solar potential

America has over 100,000 “big box stores” (large retail stores, grocery stores and malls), which collectively have nearly 7.2 billion square feet of rooftop area – lots of space to install solar panels.

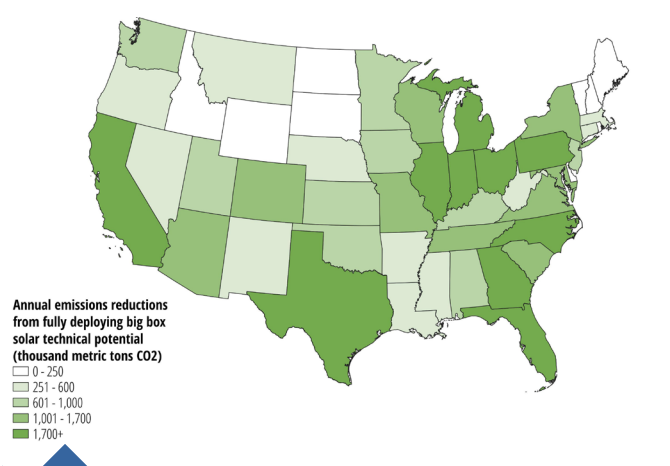
- Big box stores have the **potential to generate 84.4 terawatt-hours (TWh) of solar electricity annually.**
- That much electricity could power almost **8 million average U.S. homes**, or more than **30,400 typical Walmart stores.**

Going solar has big climate benefits

- Generating the full 84.4 TWh of solar electricity on big box stores would **eliminate over 52 million metric tons of CO₂ emissions annually, equivalent to taking over 11.3 million cars off the road.**
- Big box stores could replace **half of their annual electricity use** by fully building out their solar generation potential.



Big box store solar photovoltaic technical generation potential, by state.



Annual greenhouse gas emissions averted by building out big box rooftop solar, by state.

Big box solar delivers important benefits

Installing solar on the roofs of big box stores is good for the communities they serve, and often for the businesses themselves. Among many benefits, installing solar can:

- Reduce big box stores' electricity use – which accounts for 4.5% of all electricity use in the U.S. – by half.
- Make the electricity grid more resilient by powering microgrids, and also reduce the need for expensive new electricity infrastructure, saving consumers money.
- Replace fossil fuel-generated electricity, reducing air pollution that puts our health at risk. Air pollution causes 100,000 premature deaths each year in the U.S.

Out-of-the-box solar opportunities

While the wide-open roofs of big box stores provide a unique opportunity for solar power, there's much more that big box chains can do to produce clean electricity:

- *Warehouses and distribution centers:* Big box chains own or operate warehouses and distribution centers that also have wide, flat rooftops ideal for solar power.
- *Parking lots:* Many big box stores have vast parking lots that could be covered by solar canopies. The IKEA store in Baltimore, MD, for example, uses solar canopies to generate clean electricity while providing shade that keeps customers and cars cool and dry.



Solar parking canopy at IKEA in Baltimore, MD.

Policy recommendations

Businesses should set and meet ambitious goals to install solar power on their facilities. They should, additionally:

- Investigate, catalog and report their climate impact and energy use throughout their businesses.
- Set strong, detailed and comprehensive environmental goals.
- Use their political influence to advocate for positive policy change.

Officials at all levels of government should implement policies that help to accelerate adoption of solar energy by America's businesses. These include:

- Extending and expanding the federal investment tax credit for solar power, as well as other tax incentives and credits.
- Ensuring adequate compensation for businesses that generate solar electricity through programs like net metering, feed-in tariffs and value-of-solar payments.
- Enabling and enacting financing tools like third-party and Commercial Property Assessed Clean Energy (C-PACE) financing of solar installations.
- Supporting community solar power programs to allow businesses to go solar in partnership with their communities.
- Streamlining solar permitting and interconnection processes.

Find more information, methodology and sources:

www.environmentamericacenter.org

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