



Solar panels can go twice as far on a building that reduces its energy load by 50%. For an average size home, 16 solar panels might be needed instead of 32. Some reports indicate that future energy demand of the United States can be reduced by 35-40% by energy efficient measures alone across industries.

Constructing new buildings and renovating existing ones above energy codes minimums would reduce demand on the electrical grid with these proven strategies:

- Quality installation of extra insulation (to keep heat in during winter and out during summer)
- Improved air sealing to keep warm winter air in and hot humid summer air (and insects) out
- Higher efficiency heating and cooling systems (replacing older systems with electrical units)
- New exhaust and fresh air systems (such as energy recovery ventilators) for health
- Awareness of building and window orientation (maximize south glass for winter heat gain while providing summer shading, and minimize west glass to reduce summer heat gain)
- Incorporating some high density materials (the building functions as a battery to absorb and release heat to increase interior comfort for longer periods when the electrical grid is down)
- Solar Ready— incorporate solar panels on the roof, porch, carport or yard to use power from the sun as well as energy stored in batteries including those in some electric vehicles.

These strategies can be adapted for specific climates to create healthier buildings that use less energy, stay more comfortable year-round, and are more resilient during natural disasters.

The workforce performing these building-related services will become increasingly important. It is a natural transition for those leaving the fossil fuel related industries to enter the clean energy workforce with the availability of jobs being created in the building science and solar energy fields. There are training programs being created across the nation at state and local levels.

Action Items: What can you do as an individual, building owner, policy maker, and educator?

- Visit www.energy.Maryland.gov for Consumer Guide to Solar, Incentives, Grants, Federal Opportunities, energy finance, EmPower, Federal IRA HOMES rebates and job openings
- Visit www.dsireusa.org—Database of State Incentives for Renewables & Efficiency ® - comprehensive information on incentives & policies that support renewables & energy efficiency
- Visit www.energy.gov/eere/buildings/doe-tour-zero Tour of Zero housing: production & custom, single family & multifamily, affordable housing, examples of renewable energy
- Visit www.building-performance.org for State Energy Office Support. The IRA and IIJA offer energy offices millions of dollars and a historic opportunity to supercharge local clean energy economies while also offering training programs to assist the workforce.

American Solar Energy Society ASES.org info@ases.org **National Solar Tour** NationalSolarTour.org

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