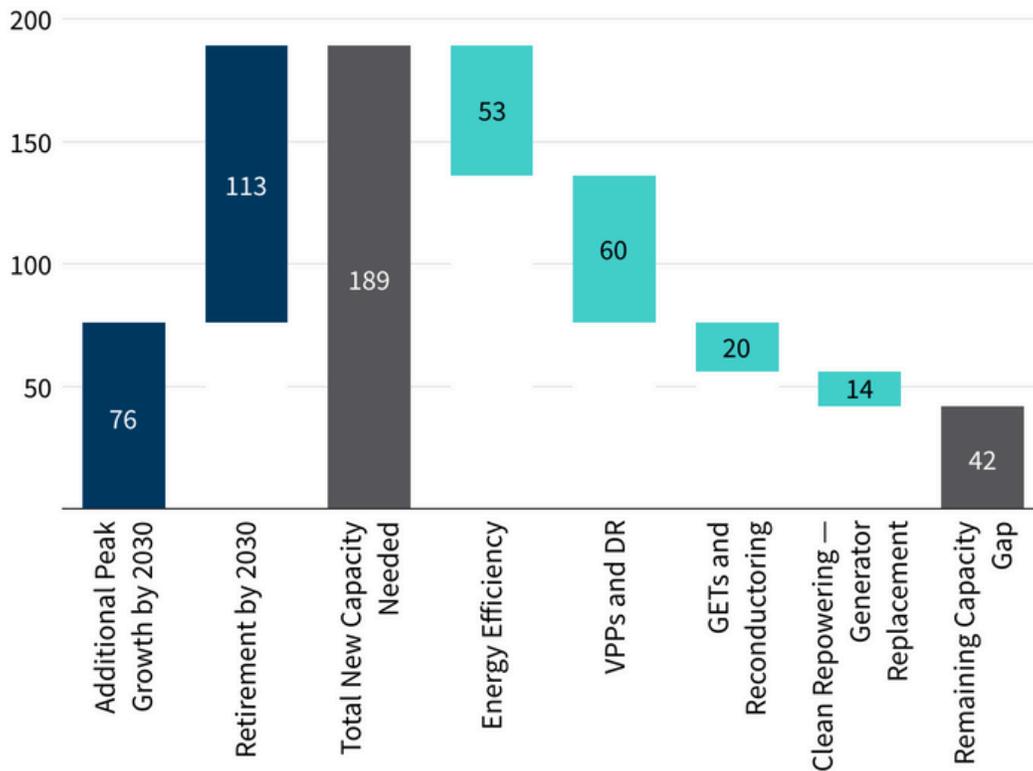


Meeting electricity demand growth with clean energy

Potential for clean energy to meet rising US electricity demand in 2030 [GW]



Growing load is a feature, not a bug, of the energy transition.

- To meet climate goals, we need to be shifting vehicles, buildings, and industrial processes from fossil fuels to electricity.
- We also need the manufacturing capacity to produce this advanced technology.
- The electricity system will grow while we reduce reliance on fossil fuels and increase efficiency to meet total US energy needs.

We need solutions that are fast, affordable, and flexible.

Priority solutions should be uniquely suited to the urgency and uncertainty of this challenge and must be:

- **Fast** – rapidly deployable, to help interconnect new loads in the next 1–3 years
- **Affordable** – result in net system or customer savings
- **Flexible** – provide different benefits or services over time, and be deployed modularly to adjust to need over time

We have the solutions we need to power economic growth with clean energy.

| Solution | Potential to meet peak load in 2030 |
|--|---|
| Energy Efficiency | Reduction in energy use while producing the same or better economic value can reduce 53 GW of peak demand in 2030. (Source: DOE) |
| Grid enhancing technologies and reconductoring | Deployment of advanced grid solutions (dynamic line rating, advanced conductors, etc.) on the existing T&D network could unlock at least 20 GW of peak capacity. (Source: DOE) |
| Virtual power plants | Collections of small-scale energy resources like electric vehicles, smart thermostats, home batteries, and more, aggregated together, can provide at least 60 GW of on-peak capacity by 2030, deploying much faster than traditional infrastructure. (Source: RMI) |
| Clean repowering | Adding new renewables and storage at existing interconnection points where fossil generation is planned to retire can expedite new project interconnection approval to a year or two. Across the United States, this can effectively add 14 GW of peak capacity to the grid by replacing generators that are planned to retire. (Source: RMI) |

It's not demand growth that threatens climate goals — it's how we choose to meet that growth.

- Together, the solutions named above can cost-effectively address most of the projected demand growth in the United States through 2030.
- Other solutions — commercially available today, or nearing readiness — are also available to support further demand growth with clean energy.
- These technological solutions, with policy support, can help power US economic growth with clean energy.

Learn more about RMI's work on carbon-free solutions to energy demand growth:

