Chart: Solar is driving renewable energy to new heights around the globe

Between 2025 and 2030, the world is expected to build nearly 4,600 gigawatts of renewables — almost double the amount built over the previous five-year period.

By **Dan McCarthy** 24 October 2025

If you thought the world built a lot of renewables in the past few years, just wait for the next half of this decade.

Between 2025 and 2030, the world is expected to build nearly 4,600 gigawatts — or 4.6 terawatts, if you please — of clean power, according to a new report from the International Energy Agency.

That's nearly double the amount built over the previous five-year period, which was in turn more than double the amount built across the five years before that. Put differently, the growth has essentially been exponential.

Solar is the driving force behind this expansion, which is key to transitioning the world away from planet-warming fossil fuels. It accounts for more than three-quarters of the expected increase in renewables between 2025 and 2030 — the result, IEA says, of not only low equipment costs but also solid permitting rules and a broad social acceptance of the tech.

This solar boom will be almost equally split between utility-scale installations and distributed projects, meaning panels atop roofs or shade structures in parking lots, for example. Just over 2 TW of large-scale projects will be built compared to 1.5 TW of the smaller, distributed stuff, IEA predicts. The latter category is increasingly popular both in countries with rising electricity rates and in places with unreliable grids, like Pakistan, where residents are taking refuge in the affordable and stable nature of the tech.

This mysterious DOE 'hit list' has the clean-energy world on edge

Chart: In a first, world gets more power from renewables than coal

China is installing most of the world's solar, but the technology is a global phenomenon at this point. At least 29 countries now get over 10% of their electricity from the clean energy source, per a separate report released by think tank Ember earlier this month.

Other types of clean energy are set to grow, too, just not at anything close to solar's scale.

Installations of onshore wind will leap from 505 GW over the previous five-year period to 732 GW between 2025 and 2030. Offshore wind will more than double from 60 GW to 140 GW. Hydropower will rebound modestly from a down couple of years, but still won't expand at the levels seen in the early to mid-2010s.

Still, renewables are not gaining enough ground to triple clean capacity by the end of this decade compared with 2023 — a goal countries around the world set two years ago at COP28, the annual United Nations climate conference. In just a few weeks, global leaders will reconvene in Brazil for COP30. The IEA figures, while a sure sign of progress, underscore the steep climb ahead.

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