Google’s future data centers will be built next to solar and wind farms

In what it’s calling a “first-of-its-kind partnership,” Google will collaborate with developers to build data centers powered by renewable energy generated on-site.

It’s partnering with energy company Intersect Power and investment firm TPG Rise Climate on a $20 billion initiative to develop an unspecified number of “industrial parks” across the US this decade. The first one is supposed to be partially operational by 2026 and completed by 2027.

If successful, it would be a big change to how data centers are typically built and operated. Google and its competitors are racing to find clean sources of electricity for energy-hungry AI data centers. But the US electricity mix is still dominated by fossil fuels; connecting new data centers to the power grid leads to more pollution as a result. With this new partnership, Google can bypass that problem by connecting directly to solar and wind farms and batteries for renewable energy.

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“To realize AI’s potential, the growth in electricity demand must be met with new, clean power sources. The scale of AI presents an opportunity to completely rethink data center development,” Amanda Peterson Corio, global head of data center energy at Google, said in a press release.

Google and its partners are being coy about details at the moment. The partnership aims to build out “gigawatts” of new capacity, but Google and Intersect declined to say exactly how much. They’re still figuring out how many data centers and renewable energy power plants they plan to build and where they would be located. But tech companies ought to be thinking about bringing data centers to places where renewable energy is plentiful, Intersect Power CEO Sheldon Kimber tells *The Verge*.

“It’s time for the industry to really develop with more of a power-first mentality,” Kimber says. “And when you start with power first, you start with renewables, and you start with the high solar and wind areas of the country.”

Doing so could lead data center development away from where it’s historically been concentrated. Around 70 percent of internet traffic passes through Virginia’s “data center alley,” for instance. Growing power demand from AI has extended the lifespan of aging coal-fired power plants nearby, raising concerns about data centers exacerbating climate change and worsening air quality.

“Data Center Alley and the existing big data center markets, they’re tough for power, right?” Kimber says. Affordable energy costs tend to attract tech companies to Virginia and similar data center hubs. But there’s not enough land available there for renewables, Kimber says. Their proximity to densely populated areas (another reason so many data centers were originally concentrated in these places) also makes it more difficult to build out new energy infrastructure.

Compared to traditional data centers built to shepherd people’s emails and videos, latency isn’t as big of an issue for new facilities used to train AI. That should free Google up a bit to chase the wind and sun with this new partnership.

The other big difference with a deal like this is that Google is essentially telling utilities that it'll take care of its own electricity needs and energy infrastructure for new data centers. Intersect Power would develop, own, and operate the co-located power plant. Google would either build its data center at the same site or rent the data center campus from Intersect Power and purchase the electricity it generates. That should take some pressure off utilities since they wouldn't have to pay for new infrastructure to accommodate the data center, which might otherwise have led to higher utility bills for customers in the region.

Intersect Power also announced $800 million in funding led by Google and TPG Rise Climate. That doesn't mean it's all smooth sailing ahead, of course. Intersect Power will have to raise the rest of the money needed to build out the industrial parks. The facilities will still need to connect to the local power grid — as a backup source of power — which can take years to approve.

But the "bring your own power" strategy is supposed to speed up the transition to renewable energy, one that's sorely needed as greenhouse gas emissions from fossil fuels worsen climate disasters and take tech companies further away from their climate goals. Google's carbon footprint has grown 48 percent since 2019, despite a goal it set for itself of slashing that pollution in half by the end of the decade.

https://www.theverge.com/2024/12/10/24317888/googles-data-center-solar-wind-renewable-energy-intersect-partnership