

PG&E - Marketing & Communications | Innovation

Today, data has become the most valuable commodity in the world. And unlike oil and gold, it isn't hidden in underground mines or wells. Our data is stored in the cloud, which sits within large warehouses called data centers.

With digitization, we are witnessing an exponential surge in data creation. And recent advancements in AI have accelerated this trend. A new data center is built weekly, yet many are far from major cities where most data is produced and used. With distance, data must travel further to reach users who create and use data the most.

Meanwhile, our relentless pursuit of data magnifies the weight of the climate crisis. Data centers generate substantial greenhouse gas emissions. In the AI race, speed can come at the cost of sustainability.

We see an opportunity to redefine data centers as vital urban infrastructure with the same impact as public parks, water treatment plants, or transit systems. Our solution is based on simple physics, the law of conservation of energy. For every unit of energy that goes into our data centers, an equivalent unit of heat energy is generated. Traditionally, this surplus heat is ejected into the atmosphere through cooling towers-- effectively, wasted.

In an innovative collaboration with PG&E, we've developed a system to power our data centers and the city more efficiently by harnessing every unit of energy PG&E supplies and using it twice. We're delivering close to 200 megawatts of hyperscale data center capacity, paired with 4,000 units of rental housing across three development nodes in downtown San Jose. With power delivered in phases over the next four years, these nodes will become critical infrastructure for both AI innovation and clean, cost-effective thermal energy in the Downtown core.

By connecting our district energy system, our data center nodes can provide heating and hot water to neighboring homes and businesses, reducing our overall carbon footprint and creating a revenue source to offset energy costs for end users. This can only be achieved when data centers are placed in high density urban areas. The city of San Jose has been one of the first to recognize this. Together, we're working to help demonstrate that the future of city building can and must be carbon-free.