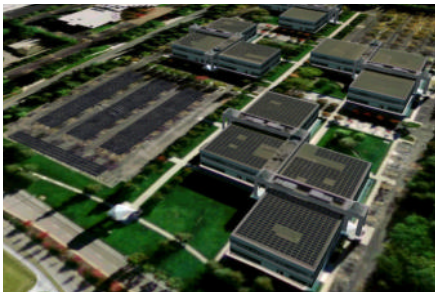
Google

Google Announces 1.6 Megawatt Solar "Campus"



LOCATION
Mountain View, California

SYSTEM SIZE
1.6 MW

ENERGY OUTPUT
2,611,719 kWh per year

SAVINGS
$393,000+ annually

RESULTS

CO_2 EMISSIONS AVOIDED (CA)
3,637,627 lbs/yr

NOx EMISSIONS AVOIDED (CA)
1,123 lbs/yr

EQUIVALENT ACRES OF TREES STORING CARBON
1,375 acres/yr

EQUIVALENT AUTO MILES AVOIDED
4.28 million miles/yr

EQUIVALENT GALLONS OF GASOLINE SAVED
179,247 gallons/yr

Background

As one of the most recognizable brands on the Internet, Google is on a mission to organize the world's information and make it universally accessible and useful. Like many of today's high-tech companies, Google requires an enormous amount of electricity to power the computers and servers it uses to run its business. The company wanted to find a way to reduce energy costs at its Mountain View "Googleplex," as well as make a statement in support of clean energy.

"At Google, we do things a bit differently. We see a bit of ourselves in the way that EI Solutions solves problems, thinks, and invents."

ROBYN BEAVERS, CORPORATE ENVIRONMENTAL PROGRAMS

The Challenge

Unlike the typical "big box" buildings found on most high-tech campuses, Google headquarters features structures with unique configurations, sharp angles, and other architecturally unusual design elements.

The Smart Solution: Intelligent use of available mounting surfaces

Because of the nontraditional design of the Google buildings, the EI Solutions team had to take a nontraditional approach to engineering the company's solar power system. To maximize energy output, the team assessed every available surface on the Google campus for its viability to hold solar photovoltaic (PV) cells. Eventually, more than 197,000 square feet on top of existing buildings and new parking lot shade structures (designed especially for the project) were fitted with cells using customized mounting hardware. To help reduce the cost of such a large installation, plus simplify any future maintenance needs, EI Solutions used one type of PV module in all arrays.

To further optimize the Google system, EI Solutions also closely examined the company's electricity usage patterns, available financial incentives, and the amount of sun received at its Mountain View headquarters.

The Result

By building the largest solar power system ever installed at a single corporate campus, Google will save more than $393,000 annually in energy costs — or close to $15 million over the 30-year lifespan of its solar system. At this rate, the system will pay for itself in approximately 7.5 years.

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