Breaking Free from the Grid: Exploring Affordable Solar Energy Options

All signs point to the positive for the solar industry in the United States and forward-thinking corporations, developers and municipalities aren't looking back.

2016 saw the largest year on record for solar installations in the U.S., re f ecting a trend with heavy momentum. The combination of low costs, expanding f nancing options, and even f exibility of space requirements in some areas all point toward the increasing viability of commercial solar.

There was a time when commercial solar energy could not break through as a viable option. In fact, for much of solar's existence in the marketplace, expensive components and a slow return on investment all but eliminated it as an economically sound opportunity for most businesses and institutions.

Those days are long gone.

While it's tempting to suggest that no one could have predicted the dramatne Î sخ‘ ordable , the truth is, we now bene f t from years of technological advancement, streamlined industry best practices, and market forces that consistently drive solar costs down. As a result, solar energy is a smarter investment today than ever before.

THE SOLAR INDUSTRY HAS ARRIVED

The solar industry bene f ts from a strong trend of cost improvements. The cost curve is falling ¬

How predictable is technological progress? Research Policy, 45(3), 647-665.

Let's put this rapid cost decline in perspective. To implement solar in 1977, a business owner would have had to contend with a rate of $76.67 per watt. Today, 40 years later, while seemingly everything from gas to movie ticket prices have risen, that rate has fallen below $1.50 per watt.[2]

Simultaneously, the pace of solar installation has increased rapidly during the past 10 years. This exponential growth has ushered in a new era of energy freedom, unlocking numerous bene f ts for businesses and communities.

WHY SOLAR?

Solar plays a unique role in the energy landscape. While commodities essentially compete with one another and are bought and sold based on constantly f uctuating rates, solar competes with peak power. Solar does not compete with coal or nuclear base load generation. By providing a lower-cost energy source to reduce the amount of electricity used during peak demand hours, a solar array provides a level of cost control that cannot be replicated.

Furthermore, a key virtue of solar is the ease with which it supports traditional energy. Solar brings a stabilizing e f ect to power grids. Having many diverse forms of generation tied into a power grid lessens dependence on individual suppliers—traditionally large power plants—and lessens the frequency of outages.

As electricity providers, traditional utilities are starting to rely on solar for electrical generation. Utilities are capitalizing on the stabilizing e f ect of solar to enhance their own product o f ering by partnering with solar industry leaders, such as GEM Energy, to fund, build and maintain their arrays.

WHERE SOLAR PROJECTS BEGIN

Solar development projects typic

For operations like installing high voltage tie-ins, having in-house licensed electricians and NABCEP-certified solar installers enables better quality control and avoidance of the trial and error sometimes associated with third-party partnerships. GEM Energy calls on experienced in-house civil/sitework, carpenters, laborers and equipment operators to execute these complex projects, offering a total turnkey construction project.

STREAMLINING ACCESS TO SOLAR SOLUTIONS

As a long-term solution, solar development plays a larger role in reducing operating costs and boosting efficiency in a number of sectors. Historically, developing solar meant a significant investment. Today, solar customers can take advantage of innovatively structured agreements that reduce upfront costs drastically.

Every state approaches solar incentives in a different way. Many states, including Illinois and Massachusetts, act as strong advocates for solar, offering valuable incentive or tax credit programs to boost solar viability for rate payers. New York recently enacted a clean energy standard mandating 50 percent of the state's energy consumption be drawn from renewable sources by 2030. In addition, New York offers solar customers a variety of tax credits and power rebates to support its energy initiatives.

Another popular structure that states use to incentivize solar is direct performance payment. Through this program, solar customers are rewarded, typically with Solar Renewable Energy Certificates (SREC), for the power their solar assets produce. Illinois, New Jersey, and Massachusetts base a large portion of their solar incentive strategies on this method. This structure enables solar customers in these markets to establish a reliable, user-driven supplemental income stream.

In addition, many municipalities across the country now encourage solar with sales tax incentives, property tax exemptions and more.

SOLAR IN SURPRISING PLACES

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