

The background of the entire image is a deep blue space scene. In the lower-left corner, the curved horizon of the Earth is visible, showing a thin layer of white atmosphere and a dark, textured surface. The rest of the background is filled with a dense field of small, bright white stars of varying sizes, creating a starry night sky effect.

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Bridging the Gap to a Clean Energy Future



Mike Brady
IMG Energy Solutions

Mike Brady is the Chief Executive Officer of IMG Energy Solutions and is responsible for leading an aggressive distributed generation growth strategy from project development through long-term power plant operations. He brings to the company over 25 years of industry experience. Brady has led power asset development efforts on a worldwide basis, establishing growth-enabling business processes and project standardization as well as a strong network of project development and operations professionals. The IMG team is working diligently to develop clean, resilient and cost-effective energy solutions.

About a year ago someone asked me why a fossil fuel company was building solar arrays. That comment stung. We are energy professionals working to provide resilient and cost-effective energy solutions for our clients. While IMG Energy Solutions got its start and established itself as an industry leader by taking a novel approach to natural gas-fueled power plants, we are, at our core, an energy solutions provider. Solar energy is a natural segue to bridging the gap to a carbon-neutral energy future while leveraging what we do best: develop, construct, operate and manage energy assets.

Initially, we too were skeptical of solar energy generation in the northeast. Western Pennsylvania is not known for its long sunny days or flat expansive acreage, both of which make solar development an obvious choice for states such as California, Arizona, and Texas.



Fact: Solar requires significant land

IMG owns and operates six 20-MW natural gas-fueled power plants, each requiring approximately 5 percent of the acreage necessary for a similarly sized solar array. Solar efficiency continues to improve, however. Today, 540-watt bi-facial panels are common where, two years ago, 390-watt panels were more common. This is almost a 40 percent improvement in panel output. While it's true that solar requires significant land, there are plenty of prime solar locations in the northeast with little to no long-term alternative economic or environmental utility.

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While solar energy is plagued by a myriad of myths and mischaracterized truths, one fact stands true: No one energy source is perfect. IMG is actively developing over 100 megawatts (“MW”) of solar projects in the northeast, and we are passionate that the benefits of these projects far outweigh the challenges.

Myth: Solar panels are bad for the environment

This myth fomented fear of landfills teeming with radioactive and toxic metals. Commercial solar panels are made of mostly glass, aluminum and silicon, with an expected economic life of more than 40 years. There are trace amounts of lead but no significant



Taking flight over IMG's solar system on the southside of the Pittsburgh International Airport. The array is owned and operated by IMG and provides power to 23 separately metered airport facilities.

and cost-prohibitive exotic materials used only by organizations such as NASA. As the solar industry grows, we anticipate the emergence of recycling companies focused on repurposing panels, steel racking, copper and aluminum wire, along with highly valuable materials in inverters and other electrical gear.

Fact: A solar array requires sunlight to provide energy

When the sun isn't shining, a solar array is not producing power. Accordingly, some portion of the energy generated during the day must be stored for later use or come from flexible energy solutions such as clean-burning natural gas-fueled engines. Longer term, innovative energy storage technologies will further strengthen solar energy solutions.

Myth: Solar requires extensive new transmission

While new transmission may be required to support the growth of smaller, distributed energy resources, many solar projects leverage existing transmission. We have an aging transmission system that moves significant amounts of power from large generation resources to a highly distributed network of energy users. When a single location fails to deliver power, the grid redirects power from other large suppliers, incurring significant transmission efficiency losses and the potential for power supply reductions. The natural transition as we upgrade energy infrastructure are distributed energy resources that lower the risk of a major outage while improving efficiency and resiliency.

Fact: Government incentives help solar project economics

This is also true of incentives reserved for the fossil fuel industry. Proper incentives should stimulate innovation. Solar installation cost reductions (67 percent in the past 10 years) and energy efficiency gains are a testament to incentives creating sustainable value. Clean energy competes well with fossil fuel resources, and new innovations continue to emerge as demand for clean energy grows.

Our energy future needs resilient, low-maintenance clean energy that does not



require the continuous mining of fuel, consumption of precious water resources, or creation of long-term, harmful emissions. While the manufacturing of solar panels requires significant energy, this is no more true than other energy resources requiring high-intensity manufacturing processes and, in many cases, exotic materials that perform well in high temperature combustion processes.

The nature of no-fuel, low-maintenance, clean energy allows IMG to commit to a cost-competitive, fixed-price energy solution for terms of 20 years or more. We provide surety to our clients in their long-term energy spend, a gap existing with fossil fuel-based solutions beholden to variable operating cost volatility. A near-term example of this volatility is the 275 percent increase in Appalachian gas prices we have seen in the past 12 months. Fuel cost variability is a significant risk to predictable energy costs, near and long-term.

Solar will be a major contributor to long-term, global energy supply and IMG is poised to be a significant provider of this clean, abundant and cost-effective energy solution. To learn more about how IMG Energy Solutions can help your organization meet its clean energy goals, visit us at:

www.imgenergysolutions.com. 