

# Debunking Myths About Solar PV



## MYTH #1: PV ENERGY IS TOO EXPENSIVE

**FACT:** First Solar's utility-scale PV solutions deliver solar electricity that is already competitive with peaking generation sources, LNG, and liquid fuels such as diesel. First Solar provides a levelized cost of electricity ranging from \$.07-\$0.15/kWh, depending on the region and other factors. With fixed pricing and extremely low operating costs, First Solar power plants reduce the risk of fuel price volatility, while providing reliable and cost competitive solar energy for 25+ years.



## MYTH #2: PV IS NOT A MAINSTREAM ENERGY SOURCE

**FACT:** With over 7 GW installed worldwide, First Solar's utility-scale PV power plants are proving that solar energy is a mainstream energy source. By enabling affordable, high-volume manufacturing, CdTe PV enables the rapid expansion of solar PV. The International Energy Agency (IEA) predicts that solar PV could provide 4,500 TWh per year or 11% of the world's total electricity generation by 2050.



## MYTH #3: PV ISN'T EFFICIENT AND REQUIRES MORE ENERGY THAN IT PRODUCES IN ITS LIFETIME

**FACT:** First Solar PV power plants "payback" the amount of energy that was needed to produce them in less than 1 year and continue to generate electricity for 25+ years.

## MYTH #4: SOLAR PV IS NOT RELIABLE

**FACT:** First Solar's utility-scale PV power plants incorporate advanced capabilities such as voltage regulation, active power controls, ramp-rate and frequency controls to actively stabilize the grid and enhance its reliability<sup>1</sup>.



## MYTH #5: PV DOESN'T CREATE AS MANY JOBS AS THE FOSSIL FUEL INDUSTRY

**FACT:** Solar PV creates the most jobs per unit of electricity output. According to a U.S. study by the University of California, solar PV creates approximately 2.5 jobs per MWp, compared to 0.8 jobs per MWp for coal and natural gas<sup>2</sup>. First Solar is creating approximately 40,000 global jobs across its value chain. These include construction and long-term jobs for the maintenance and monitoring of PV power plants.



## MYTH #6: GROUND-MOUNT PV USES TOO MUCH LAND

**FACT:** Solar PV uses less land than conventional energy sources on a lifecycle basis. PV power plants require ~15% less land than coal plants (including surface mining).



## MYTH #7: SOLAR ENERGY REQUIRES A LOT OF WATER

**FACT:** CdTe PV provides a sustainable solution to water scarcity by using little to no water when in operation. CdTe PV has the lowest water use of all solar technologies on a life cycle basis.



## MYTH #8: PV CANNOT SIGNIFICANTLY REDUCE ENVIRONMENTAL EMISSIONS

**FACT:** CdTe PV has the smallest carbon footprint of all solar technologies on a life cycle basis. By replacing conventional grid electricity, CdTe PV can result in 89-98% reductions of global greenhouse gas emissions, pollutants, heavy metals, and radioactive species.

<sup>1</sup>M. Morjaria and D. Anichkov, "Grid friendly" Utility Scale PV Plants, First Solar, 2013.

<sup>2</sup>M. Wei, S. Patadia, D. Kammen, 2010, Putting renewables and energy efficiency to work: How many jobs can the clean energy industry generate in the US, University of California, Energy Policy, 38, pg.919 - 931.