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Benefits of Solar in Your Community



Illinois' passage of a new clean energy law (the Future Energy Jobs Act) will spur solar development across the State.

The Future Energy Jobs Act (FEJA) – otherwise known as the Clean Jobs Bill – is one of the most significant pieces of clean energy legislation to ever pass the Illinois General Assembly. It resulted from years of negotiations between utilities, consumer advocates, clean energy businesses, and environmental and environmental justice groups. It was signed into law by Governor Rauner in December 2016 and went into effect on June 1, 2017. Some programs have recently started to roll out, and we will see more programs, including the programs incentivizing solar development, opening up later in 2018.

The law requires at least 3,000 megawatts of new solar power – enough electricity to power millions of homes – to be built *in Illinois* by 2030. Right now, Illinois has only around 100 megawatts of solar installed in the State, most of which are rooftop/on-site systems. Due to FEJA, Illinois can expect about a 4000% increase in the development of solar across the State, bringing cleaner air, lower utility bills, economic development, job opportunities, tax base growth, and other benefits to communities all over the State.

FEJA will provide different levels of incentives to ensure that diverse types of solar projects are built, including small rooftop/on-site solar, community solar, and larger utility-scale projects, along with projects that benefit economically disadvantaged and environmental justice communities. *Ensure that your community is poised to participate in solar development and doesn't get left behind from a rapidly growing economic sector and clean energy future.*

What is Rooftop Solar vs. Community Solar vs. Utility-Scale Solar?

Solar energy can offer substantial cost savings and benefits across all types of projects. Rooftop (or on-site) systems are typically under 10 kW in size for a residential homeowner but can be larger in size for commercial and industrial customers.

Community solar projects are up to 2 MW in size and offer customers the ability to participate in and benefit from solar system who can't or don't want to install solar on their roof or property, perhaps due to roof condition, too much shading on property, living in a multi-family building, or the capital expense required for installation and/or roof repairs. Community solar participants, called "subscribers," lease or buy *a portion* of a solar project, which can be located anywhere in the same utility service territory of the subscribers and typically require around 10 to 15 acres of land. Subscribers can be homes, businesses, hospitals, schools, nursing homes, municipal buildings, or anyone with an electric bill. The electricity produced by a subscriber's share of the system is used as a credit to lower their electric bill, saving them money and allowing them to participate in the benefits of clean, renewable energy.

Larger, utility-scale projects are over 2 MW in size and produce larger outputs of solar energy, which can help maximize the achievement of environmental, energy production, local air quality, and climate protection goals, along with offering more opportunities for economic development, tax base growth, and construction and maintenance jobs.

As communities consider land use planning, permitting, and zoning requirements for solar projects, it is important to acknowledge the different types of solar projects and the different land use forms that rooftop, community, and utility-scale solar development can take, while also recognizing the multiple benefits of solar development. A one size fits all approach may not always work and may have unintended consequences of chilling community solar and other larger projects besides rooftop solar. Identifying how solar development can benefit the community will help decisionmakers determine how solar resources and projects are integrated into the community in a way that balances and protects competing development or land use forms, while not unduly or unreasonably creating barriers to solar entry.

How does solar benefit my community?

Solar development can bring a variety of benefits to the local community. These include:

- **Tax revenue for the local community:** While it depends on project size and the local tax rate, over the 30-year expected life of, for example, a community solar project, total tax revenue could be hundreds of thousands of dollars for a local community.
- **Electric bill savings:** Anyone in the same electric service territory of a community solar project will be eligible to become a subscriber. This provides the opportunity for meaningful long-term bill savings and an ability to participate in clean energy benefits. Rooftop solar customers also benefit from "net metering," a billing mechanism that credits system owners for the electricity they add to the grid, along with the energy savings that results from their system's own electricity production.
- **Local economic activity:** Solar projects involve a variety of trades and service providers, many of which may be sourced from the local community. This can include on-going landscape management, fence installation, electrical engineering, construction labor, consulting relevant to permitting, and operations and maintenance.

Solar systems do not impact property values or quality of life.

A community solar garden is a managed landscape with grass and/or wild flowers. According to the U.S. Department of Energy's National Renewable Energy Lab:

While the impacts of a solar farm on neighboring property values have not been studied in-depth, numerous studies found the impact of wind energy generation on neighboring property values to be negligible. As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a shadow on neighboring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms. Some communities have opted for mitigation measures to reduce visual impacts of solar farms through the use of vegetative screening or decorative fencing, since PV modules are usually mounted close to the ground (less than seven feet high).¹

Additionally, photovoltaic (PV) solar panels are coated with non-reflective materials designed to maximize light absorption and, as a result, minimize glare. According to a 2014 study, solar panels produce less glare and reflection than does standard window glass.² Regarding noise, a study conducted by Tech Environmental, Inc., for the Massachusetts Clean Energy Center, that investigated two utility-scale solar projects concludes: *Any sound from the PV array and equipment was inaudible at set back distances of 50 to 150 feet from the (project) boundary.*³ **In fact, solar is a quiet and, typically, visually appealing neighbor that can block the path of undesirable development for decades to come.**

The same study also concludes that the electrical and magnetic fields generated by solar panels and their inverters are lower than background electrical and magnetic fields created by other devices that surround our daily lives, such as computers and cell phones, and emit fields that are several hundred times less than recommended exposure limits.



¹ National Renewable Energy Laboratory, TOP FIVE LARGE-SCALE SOLAR MYTHS (Feb. 3, 2016), at <https://www.nrel.gov/technical-assistance/blog/posts/top-five-large-scale-solar-myths.html>.

² Roger Colton, ASSESSING ROOFTOP SOLAR PV GLARE IN DENSE URBAN RESIDENTIAL NEIGHBORHOODS (Nov. 16, 2014), at http://www.fsconline.com/downloads/Papers/2014%202011%20Solar_Glare.pdf.

³ Tech Environmental, Inc., STUDY OF ACOUSTIC AND EMF LEVELS FROM SOLAR PHOTOVOLTAIC PROJECTS (Dec. 2012), at <http://files.masscec.com/research/StudyAcousticEMFLevelsSolarPhotovoltaicProjects.pdf>.

Do solar gardens pose risks to wildlife or the surrounding community?

Photovoltaic solar gardens produce no air emissions, do not release toxic materials, and emit no radiation. Further, projects that use photovoltaic technology do not produce excessive heat. In fact, solar gardens are frequently home to nesting birds, and with the right plant and grass mix, can attract butterflies and other species.

What are the health and environmental benefits of solar energy?

Solar energy and other forms of renewable energy can replace the use of fossil fuels, such as coal and natural gas, to generate electricity. This provides significant health and environmental benefits. Burning fossil fuels release a variety of pollutants, including sulfur dioxide, nitrogen oxide, particulate matter, and mercury, which harms the environment, contributes to ozone formation and smog, and causes a variety of chronic respiratory diseases, including asthma and bronchitis, elevated occurrences of premature death, and neurological effects in children. Fossil fuels are also the single largest source of greenhouse gases, which drive man-made climate change and extreme weather events.⁴

How can communities leverage solar development to benefit your community?

As communities and counties work with solar developers to bring the benefits of solar to their residents, community advocates and municipal leaders can explore additional measures to maximize local benefits and mitigate any concerns. For instance, communities can require developers to install vegetative screening or fencing to alleviate aesthetic concerns, along with planting of certain grasses or plants underneath ground-mount solar panels to support wildlife habitat. In addition, communities may want to require local hiring, a diverse workforce, prevailing wages, along with other requirements to ensure that fossil fuel workers, communities, and individuals disproportionately harmed by the fossil fuel economy (including but not limited to communities of color, economically disadvantaged, and environmental justice communities) have equitable access to clean energy-related economic opportunities and affordable clean energy.

⁴ Union of Concerned Scientists, THE HIDDEN COST OF FOSSIL FUELS (Aug. 2016), at <https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/hidden-cost-of-fossils#.Ws03pljwblU>.