



## Ann Arbor & Pittsfield Municipal Landfill Solar Project

# FREQUENTLY ASKED QUESTIONS

### What is this project?

This project, known as the Ann Arbor Landfill Solar Project, is a community solar installation designed adjacent to and on the capped landfill and on portions of the Planned Unit Development held between the Township of Pittsfield and the City of Ann Arbor (collectively known as the landfill). The project will produce up to 20MW of renewable energy, which is roughly the equivalent annual energy usage for approximately 4,000 homes.

### Why was the landfill selected as a location for the solar installation?

This landfill site was chosen as it has high solar potential, is directly abutting a 40 kV DTE-owned power line as well as a 120 kV Midcontinent Independent System Operator-owned power line, is surrounded by few neighbors, and can significantly help the City of Ann Arbor and Pittsfield Township achieve their clean energy goals with local energy.

### What is the value proposition of the project?

This project will bring a large-scale renewable energy installation to the area. This adds renewable energy to our local grid, which, based on 2020 generation, is currently only at 11%<sup>[1]</sup>. The project also supports the City of Ann Arbor and Pittsfield Township's goals of powering the local grid with 100% clean and renewable energy while simultaneously reducing greenhouse gas emissions associated with fossil fuel energy use. The solar project will also have low maintenance costs, reduce dependence on foreign sources of fuel, support energy independence, reduce air and water pollution associated with fossil fuel energy sources, and help provide electricity during peak hours of demand.

<sup>[1]</sup>DTE Fuel Mix (2020)

### Are solar panels a viable option in Michigan?

Yes! While Ann Arbor's solar potential is not at the same level as the Southwest United States, it is only marginally less than some cities in Texas and Florida, and higher than cities in the Northeast and Northwest. Ann Arbor's solar potential is also significantly better than Germany's, where there is more installed solar per capita than anywhere in the world.

### Do the panels produce energy in winter?

Yes! Solar panels actually operate more efficiently in colder weather meaning that, even though there may be less hours of the day with direct sunlight, the panels are able to more efficiently turn that sunlight into direct energy. In general, winter production is a little less than half of that in the summer.

### Why is wind energy not being installed at this site?

A commercially viable wind project requires an average annual wind speed of 14.3 miles per hour at 50 meters, also known as Class 3 wind.<sup>[2]</sup> NREL has rated the Ann Arbor region as having slower, Class 1 or 2 wind. The landfill site is also a nesting area for birds, which wind turbines may disrupt. In contrast, solar panels have no moving parts and space underneath the panels that is often used as nesting bird as well as pollinator habitat.

<sup>[2]</sup> U.S. DOE, NREL (2019) "Wind Data Details."

### Can individuals buy into the project to receive renewable energy?

This project will be listed and available for subscriptions through the MI GreenPower program. Subscribers will pay a premium to participate but will also get a credit back on their utility bill based on the value solar sells for in the market (which will vary month to month).





## How much of the City and Township's electrical use would this offset?

This installation was originally sized to help Ann Arbor and Pittsfield Township reach their goals of powering municipal operations with 100% renewable energy. However, after an exciting development, we are delighted to share that this project will now be listed as a special offering through the MIGreenPower program, meaning any resident can subscribe and offset their energy use with local, renewable energy. Pittsfield Township will still be subscribing to offset all their electricity usage with renewable energy, but the City of Ann Arbor will be the subscriber of last resort, meaning the city will purchase any power not subscribed to by residents.

## How does this project align with the City of Ann Arbor and Pittsfield Township's clean energy goals?

Ann Arbor has a goal of powering our electrical grid with 100% clean and renewable energy by 2030. To achieve this for municipal operations, the city is looking to convert all viable municipally owned natural gas-powered infrastructure to electric, implementing energy efficiency improvements at City facilities, installing rooftop solar systems on viable municipal roofs, and advancing the 20 MW solar facility on the landfill. To achieve this community-wide, the city is pursuing other ideas, including our [Solarize](#) program and other initiatives within our [A<sup>2</sup>ZERO Carbon Neutrality Plan](#). Pittsfield Township recently passed a Township Preservation Plan, which is an addendum to the Townships 2020 Sustainable Vision Master Plan. The Preservation Plan advances the Township's role in supporting and providing renewable energy options. Powering Township operations with clean and renewable energy is an essential step in reducing dependence on non-renewable energy sources.

## Will the electricity generated be directly used by City sites?

The electricity produced at the landfill solar site will be fed into the energy grid and distributed throughout the DTE electrical system. Subscribers will continue to receive electricity from the grid at their home/business. Given this, there is no guarantee that subscribers will receive the physical electrons that are being generated at the solar energy facility. However, subscribers will get credit for the renewable energy being generated at the site, and the renewable energy credits will be retired on their behalf.

## How long is the solar project expected to be in operation and what happens after?

The project will be engineered and financed for a yet to-be-determined period. Traditional operating time frames are 25-35 years. After this time period, the installation will be assessed. If the installation continues to be economical, we will continue to perform upgrades and keep the site in production. If the site proves uneconomical, it will be decommissioned.

## What is community solar?

Community solar is any solar project or purchasing program, within a defined area, in which the benefits of a solar project flow to multiple customers. Customers are directly benefitting from energy generated by solar panels at an off-site array. In the case of the landfill solar project, customers subscribe to DTE's MIGreenPower program and receive credit on their electric bill for electricity generated from their share of the community solar system at the landfill.

## Why should I subscribe?

Community solar allows everyone to benefit from solar energy, even if you can't install solar on your roof. This is an especially viable pathway for renters, those with limited solar potential at their homes or businesses, or those looking to advance their corporate social responsibility goals. By subscribing to community solar you are doing your part to get more renewable energy on our local grid.

## What will this project cost?

A Request for proposals (RFP) was released in October 2021 and the bids from contractors are currently under review. Final figures will be released in early 2022.

## Who will pay for the installation?

Through leveling the cost of energy, everyone who subscribes to this special offering under DTE's MIGreenPower program will be paying for their part of the project.

## What federal tax incentives are applicable to the project?

This project will be eligible for the federal Business Energy Investment Tax Credit (ITC), which is currently 26% for systems commencing construction in 2022. The City will be working with the potential developer to maximize the potential financial benefit from this tax credit as well as any other opportunities.

## Will the project have a fence or buffer? How will you minimize visual impact?

There are three different visual buffers that have been implemented in the design of the site. The first is a pre-existing berm which blocks a large portion of the site from Stone School Road. Additionally, landscaping buffers will be planted to reduce visual disruption and improve the site aesthetics. Finally, a fence will be installed around the transformer and the arrays.

## Will this project be a part of the SEU?

Should the city move forward with an SEU, it is possible that the landfill solar project will become a part of the SEU's solar generation. The goal of the landfill solar project is to get renewable energy onto the grid fast. The way the project was set up gives us flexibility moving forward in terms of ownership and allows us to reduce emissions rapidly.

## Who gets the Renewable Energy Credits generated from the site?

Subscribers will get their equivalent renewable energy credits from their share of the community solar system.

## Can the land be used for agriculture after the lifetime of the solar panels?

Yes. The construction of a solar project is very low-impact. Over 99% of the land will remain permeable to water flow, and the addition of local pollinator species and lack of intensive agricultural activity will improve soil health meaning that the site could be used for agricultural production once the site is decommissioned.

## Will the solar project negatively impact water quality?

Not if designed correctly. Under the Construction Stormwater Control measure, the City of Ann Arbor has a regulatory program in place to control stormwater run-off from construction sites requiring a Soil Erosion and Sedimentation Control Permit. Under the Post Construction Stormwater Management Control Measure, the City of Ann Arbor has a program requiring new and redevelopment projects to implement on-site controls that will reduce pollutant loads in stormwater run-off. The City of Ann Arbor follows the rules of the Washtenaw County Water Resource Commissioner for post construction controls. City staff review site plans for compliance with regulations governing stormwater management. The project will be designed to have a high level of permeability with extremely limited imperviousness.

## Will wildlife be able to co-exist with the solar panels?

Solar panels have no moving parts, and do not get as hot as solar concentrating projects. An area used for nesting birds will be maintained, and pollinator habitat species will be introduced, providing more habitat for wildlife. In addition, rows will remain open that can be used by species traversing the landscape. The construction of a solar project is very low-impact. The holistic design and management of the project provides an opportunity to increase the diversity and abundance of native species of birds, bees, butterflies, and vegetation. In addition, the installation of the project will be timed to minimize impacts to wildlife, especially ground nesting birds.