

Chelson Meadow Community Solar Farm Frequently Asked Questions

Who are Plymouth Energy Community (PEC)?

[Plymouth Energy Community \(PEC\)](#) are a multi award-winning charity and a social enterprise, with a cooperative ethos. PEC's mission is to empower our community to create a fair, affordable, zero carbon energy system with local people at its heart.

We are a family of community led organisations offering a range of projects that:

- Bring local people and organisations together to tackle fuel poverty and the climate crisis,
- Increase local ownership and influence over local energy solutions,
- Improve community confidence to engage in the zero-carbon transition, and,
- Enable people to heat and power their homes affordably.

[PEC Renewables](#) is the community organisation set up by PEC to fund, install and manage community-owned renewable energy installations.

Location

Where is Chelson Meadow?

Chelson Meadow is an old landfill site located to the east of Plymouth, on land adjacent to the River Plym.

Why is Chelson Meadow a good place for a solar farm?

- The landfill will continue to emit gas and subside for many years making it unsuitable for other forms of development and restricts public access.
- The site is suitable for solar as it does not need deep foundations and the site faces in the correct direction to get lots of sun!
- The area around Saltram gets 920,000 visits per year and so a community-owned solar farm in this location provides an incredible opportunity to talk to people about the need for action on the climate and ecological emergency.

Why is this one of the only major opportunities for renewable energy generation in the city?

Plymouth is predominantly an urban area, so this is likely to be the only viable site to build a solar farm that can generate as much energy as this one. Solar PV can be built relatively easily and is one of the most cost effective and technically advanced forms of renewable energy.

Are you going to put solar panels all over Chelson Meadow?

No. We are designing the scheme so that the panels will only be installed across the low-lying northern part of Chelson Meadow, which represents less than a quarter of the total area of the old landfill site. This location and layout mean that despite it being a

very large solar farm, it will only be visible from a few restricted viewpoints. The rest of the old landfill site is not suitable for solar panels.

Where will the solar farm be visible from?

We have already completed a Landscape and Visual Impact Assessment. The initial results of this work are shown on our [website](#). The solar farm has been designed to occupy the low-lying northern sector of Chelson Meadow, so will only be visible from a few restricted locations. Vegetation planting in the area will help to screen it.

Technical considerations

What is a solar farm?

Solar farms are large scale solar installations where photovoltaic (PV) panels, referred to as solar panels, capture the energy from the sun. Solar farms are also known as solar parks and solar power stations. Unlike solar on roofs, solar farms usually consist of ground-mounted solar panels installed across large areas. In most cases instead of providing power direct to a local customer, like a home or a business, solar farms provide power to the national electricity grid (the system that transports energy into homes and businesses across the country).

How big is the solar farm going to be?

- The proposal is for a 13.2 megawatt solar farm (33,000 panels) covering approximately 15 hectares, or 24 football pitches.
- Annually, the energy produced from the solar farm would be able to power around 3,860 homes.

Why is it important to add more renewable energy to the grid?

The more energy that we can generate from renewable sources (ones that don't run out), the less we will rely on fossil fuels for energy. The electricity we currently use from the grid is produced by a mixture of burning fossil fuels as well as from renewable sources e.g. solar PV. By increasing the proportion of renewable energy that supplies the grid, we can reduce the amount of greenhouse gas emissions released into the atmosphere for every unit of electricity we use and help to mitigate against the worst impacts of climate change.

Will the solar farm need Planning Permission?

Yes. PEC is working with Plymouth City Council to submit a planning application by the end of the year. In the coming months, we will be talking to residents and businesses across the city to build understanding about the need for community-owned renewable energy, and to seek their support for our application.

When is the solar farm likely to be built?

We will aim to build in late summer 2022. The building phase should take about 3-4 months.

How will it help tackle the climate emergency?

The solar array will produce 14,284 MWh of renewable energy each year and reduce carbon emissions by 3,330 tonnes of CO₂ per year.

What does net zero mean?

Net zero means achieving a balance between the greenhouse gases put into the atmosphere and those taken out. Councils, organisations and governments who have committed to net zero want to ensure they take as much carbon out of the atmosphere as they put in. One of the simplest ways to do this is to reduce the amount we put in.

Are Solar farms noisy?

In short, no, solar farms are not noisy. Solar panels have no moving parts and are essentially silent. The inverters do make some noise when the panels are generating (daytime only) but this is less than the levels of a normal household refrigerator and so unlikely to be heard beyond the boundaries of the site.

We will be refining our design as we put in our planning application, but we intend to use high quality equipment (which be quieter still) and intend to locate the inverters a significant distance from any residential housing.

Natural habitats & wildlife

Why can't we cover Chelson Meadow in trees instead?

The old landfill has a 'cap' over it. This cap protects the wider environment from the pollution that could come from the rubbish buried beneath it. Tree roots would make holes in that cap and therefore creating new woodland on Chelson is not possible at this time. The frames for the solar panels will be designed so as not to go through the cap.

Will the solar farm harm wildlife?

We want to make sure the solar farm benefits wildlife. We have already undertaken ecological surveys and have ongoing work looking at how Chelson Meadow is used by bats and other protected species. Solar farms provide excellent opportunities to improve conditions for wildlife and we are working with Plymouth City Council's Natural Infrastructure Team to look at how the development can deliver a 10% net gain in biodiversity (biodiversity net gain means an overall increase in natural habitat and ecological features). Many options exist for enhancing biodiversity on solar farms, from hedgerows to field margins to wildflower meadows to bird boxes and ponds. You can read more about how existing solar farms in the UK enhance biodiversity [here](#).

Chelson is wonderful place for skylarks, these have been identified as a key ecological consideration in how we design the solar farm. We have carried out surveys to

understand bird use on the site in winter and in the breeding season. Skylarks were found in all areas of the landfill site, with the greatest prevalence on the raised area south of where the solar site is proposed. We are looking at options for how we can use the development to improve conditions for these ground nesting birds. As the results of further surveys become available, we will explore all options and create a detailed Biodiversity Management Plan.

Avoidance and mitigation of impacts on skylarks will focus on managing the potential impacts within the solar array and enhancing the remaining areas for them. It is possible that targeted management actions could not only increase the area and suitability of habitats for skylarks, but there may also be an opportunity to influence breeding success.

Ownership & community benefit

How much will it cost to build?

Early feasibility work suggests that it is likely to cost in the region of £7.4 million.

How is the feasibility stage funded?

The project is being delivered with support from the Rural Community Energy Fund, which is administered by the SW Energy Hub. To find out more, visit <https://www.swenergyhub.org.uk/energy-fund/>.

How does the local community benefit?

A community owned solution will maximise the local economic benefits of this investment and ensure any surpluses are invested into other local projects that respond to climate change and tackle fuel poverty.

- Early feasibility work suggests a surplus of £3.5 million or more could be generated over the next 30 years.
- Local jobs could be created in the construction and operation of the solar farm, and by the community projects it supports financially.
- PEC will provide an opportunity for local residents and businesses to co-own the solar farm by investing in community shares, these members / co-owners are paid a return on their investment.
- The solar farm will give the local community a chance to be part of Plymouth's transition to net zero emissions, including offering school trips to the site.

What are community shares?

Community shares are a way to raise money by offering a community a chance to own shares in an organisation. They work best for people who want to get involved and support a cause that they really care about. PEC have already launched three successful community shares offers, raising over £2.4 million and installing 33 solar schemes across Plymouth, on the roofs of schools and community buildings and on the ground at

Ernesettle. Local people benefit from low-cost renewable energy, investors get a fair return and we generate a community benefit fund to support more projects reducing fuel poverty and carbon emissions. [Read more about our previous solar projects here.](#)

How can I support the project? How can I get involved?

- You can show your support on our [webpage by filling in our short survey](#) and telling us what you think of the proposed solar farm.
- When the opportunity arises, you can invest in community shares so that you co-own the solar farm with other members of the community. Register your interest by filling out the survey or by emailing support@plymouthenergycommunity.com.
- You can [become a supporter](#) of Plymouth Energy Community to keep updated and get involved with other aspects of our work.