Introducing Bristol City Leap

Bristol City Leap is a world-first approach towards decarbonisation at city scale. We are a 20-year joint venture partnership between Bristol City Council and Ameresco, which will enable the delivery of over £1 billion of investment into Bristol's energy system.

Ameresco is an energy solutions provider dedicated to helping reduce costs, enhance resilience, and decarbonise in the global energy transition. Our portfolio includes implementing smart energy efficiency solutions, upgrading ageing infrastructure, and developing, constructing and operating distributed energy resources.

This means a transformative boost in the amount of renewable energy and decarbonised heat powering our city, meaning a cleaner, better and healthier place to live, learn, work and play.

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Why are we Developing Renewables?

In 2018, Bristol City Council became the first local authority in England to declare a climate emergency. Including an ambitious target for Bristol to achieve net-zero carbon emissions by 2030. To reach this goal, it is essential to significantly increase the production of renewable energy within Bristol. By ramping up our renewable energy generation, we can reduce our reliance on fossil fuels, thereby mitigating the impacts of climate change and fostering a more sustainable future for our city.

The process for selecting sites involved reviewing all available land owned by Bristol City Council. A shortlist was created based on a thorough set of criteria, including connectivity to the local grid and potential for energy generation. Sites were chosen based on their appropriate size, ensuring that the projects could be effectively implemented without attempting to create excessively large installations.

Hersey Gardens Solar Farm

The proposal is to create a solar farm on a single field owned by Bristol City Council, located near Hersey Gardens in Withywood (BS13 8RR).

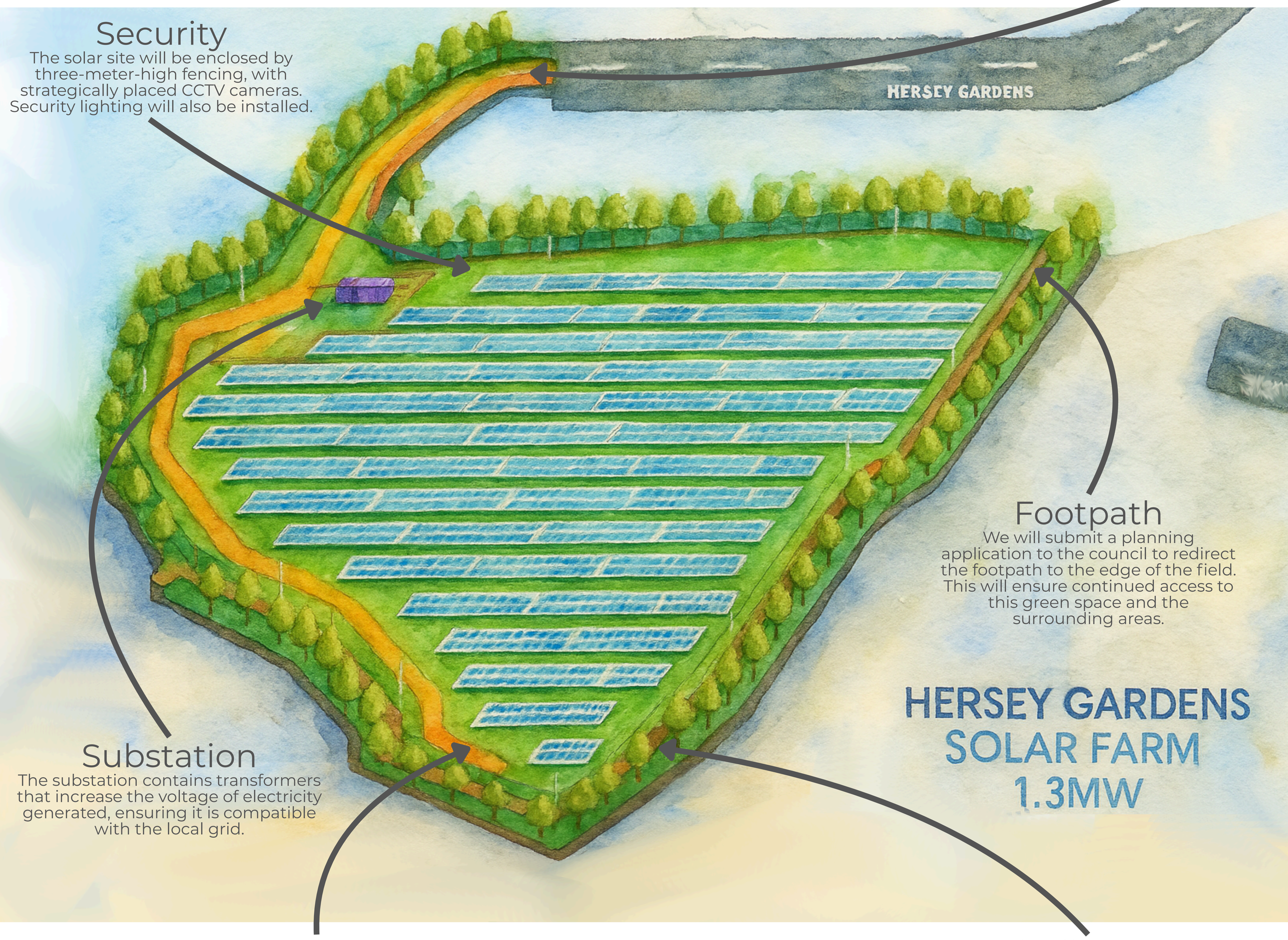
The 3.9-acre site would have an installed capacity of 1.3 MegaWatts and would power the equivalent of 506 homes per year. The site would be sown with a wildflower mix, which would serve as an important habitat for a variety of species.

Site Access

Our contractors will need to utilise nearby roads for transporting personnel, materials, and equipment. Construction will take roughly six months to complete.

Security

The solar site will be enclosed by three-meter-high fencing, with strategically placed CCTV cameras. Security lighting will also be installed.



Footpath

We will submit a planning application to the council to redirect the footpath to the edge of the field. This will ensure continued access to this green space and the surrounding areas.

Substation

The substation contains transformers that increase the voltage of electricity generated, ensuring it is compatible with the local grid.

HERSEY GARDENS
SOLAR FARM
1.3MW

Land Use

The field is currently being used by horses. It falls under a Grade 4/Urban Agricultural Land Classification, meaning the lower end of agricultural suitability.

Biodiversity

When managed effectively, solar installations can create diverse habitats for wildlife. The land surrounding and beneath solar panels can be sown with a wildflower mix, which in turn support a variety of pollinators and other species.

Indicative plan to show the layout of the proposed solar farm

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Community Benefit

This project embodies the same values as all Bristol City Leap initiatives, with a focus on benefiting our local communities. A portion of the funds generated will be allocated to support community projects. Building on the success of our existing Bristol City Leap Community Energy Fund, this project will enable us to provide even more targeted support to the community. **This is where you come in!** If you know of a local organisation or project that you feel would benefit from this funding, let us know! We want to hear how you feel this money can best benefit your community.

Separate from this project, our £1.5 million Bristol City Leap Community Energy Fund supports and enables community-led energy projects.

The funding that we are making available is part of our commitment to social value, and this initiative focuses on decarbonisation of Bristol whilst supporting community projects that deliver for local people.

The total amount awarded through the fund is over £460,000 so far. The organisations receiving funding include Bristol North West Foodbank, among many others.

Bristol City Leap will generate at least £61.5 million worth of social value across a range of areas in our first five years.

Our partnership is not just about achieving the transition to a low-carbon economy; it's about achieving a just transition that works for everyone. This ethos is central to our approach and drives our commitment to delivering social value in all our practices.

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How to Build a Solar Farm

1. Initial Feasibility Study: Assess the suitability of the land, considering factors like sunlight exposure, land size, and proximity to the grid.

2. Site Selection and Land Acquisition: A site is chosen with flat terrain or a south-facing slope. The land is secured through purchase or lease agreements.

3. Planning and Permits: Planning permission is obtained from the local authority. This involves submitting detailed plans and conducting environmental impact assessments.

4 . Grid Connection: Secure agreements for grid access and infrastructure. This step ensures that the generated electricity can be fed into the national grid.

5. Design and Engineering: Develop designs for the solar farm, including the layout of solar panels, inverters, and other equipment.

6. Construction: Prepare the land, install mounting systems, and set up the solar panels. This phase also includes installing inverters and transformers.

7 . Testing and Commissioning: Conduct tests to ensure the system operates efficiently and safely. Once everything is in place, the solar farm can be connected to the grid.

8. Operation and Maintenance: This includes cleaning panels, managing the vegetation, and monitoring output.

Building a solar farm is a complex process, but it can provide significant environmental and economic benefits.

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Your Top 5 Questions About Solar

Does solar work well in the UK? Is it sunny enough?
Solar energy is highly effective throughout the UK. Solar panels do not require direct sunlight to function; they generate electricity year-round. Since they rely on light rather than heat, they can produce power even on overcast days. The solar potential in the UK is robust enough to facilitate deployment, particularly with the advancements in modern, efficient photovoltaic technology.

Are solar farms good for the environment/land?
Solar farms can offer a variety of environmental and biodiversity benefits. Ground-mounted solar projects not only provide clean, affordable energy that contributes positively to the planet but can also enhance local biodiversity by supporting both new and existing plant and animal life.

Well-designed and managed solar farms deliver numerous ecosystem services. They promote sustainable agriculture, improve air quality, create new habitats, and reduce carbon emissions. Regular monitoring by ecologists has shown that these solar farms often result in increased abundance and variety of plants, pollinators, birds, and other wildlife over time.

Does solar take up space that should be used to grow food?
Solar farms currently occupy less than 0.1% of the UK's total land area. Overall, solar farms in the UK account for approximately 0.08% of total land use. To achieve the government's decarbonisation targets, the Climate Change Committee estimates that the country will need between 75 and 90 GW of solar power by 2050. Good Energy calculates that at most, solar farms would then account for around 0.4% to 0.6% of UK land, still less than what is currently designated for golf courses.

As of June 2024, the Department for Environment, Food and Rural Affairs reports that around 16.8 million hectares of land in the UK are classified as utilised agricultural area, making up 69% of the total land area.

Are solar panels recyclable?
At the end of the term agreement for the solar site, it will be decommissioned, and the solar panels will be removed. Up to 99% of the materials used in solar panels are recyclable. There are established industrial processes in place to facilitate this recycling.

Will those near these projects benefit?
In addition to local funding, Bristol City Leap is creating over 400 local jobs in its first five years, as well as hundreds of apprenticeships and work placements to support Bristolians to secure future-proof employment in the energy sector.

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