# TfL secures 15-year solar deal to fully power London Underground and cut 28,000 tonnes of carbon



Transport for London (TfL) has taken a significant step in its longstanding commitment to decarbonise the capital’s public transport system by signing a 15-year Power Purchase Agreement (PPA) with EDF Renewables UK. This agreement will secure up to 80 GWh annually from a new solar farm to be built in Longfield, Essex, starting construction in 2026. The volume of electricity generated will be sufficient to power the entire London Underground network for a year, marking a milestone towards TfL's target of sourcing 100% renewable electricity by 2030.

As the largest single electricity consumer in London, using around 1.6 terawatt hours annually, TfL aims to obtain up to 70% of its electricity through PPAs. This approach not only provides price stability by fixing costs over the contract duration, protecting TfL from fluctuating energy markets, but also accelerates the development of renewable energy infrastructure in the UK. Rachel Cary, Head of Industrial Strategy at Energy UK, highlighted how PPAs serve as critical tools in stimulating investment in renewables while supporting cleaner air and a more secure energy system.

The Longfield solar farm, sprawling over approximately 400 hectares of former farmland, promises to generate around 400 GWh of electricity annually by the end of the decade. Beyond energy generation, the project is incorporating substantial environmental measures, including substantial tree and hedgerow planting and habitat regeneration aimed at delivering a biodiversity net gain of 87.1%—far exceeding the 10% legal requirement. This element aligns with the Environment Act 2021, reinforcing commitments to safeguard local ecosystems alongside renewable energy expansion.

TfL estimates that this partnership with EDF Renewables will cut carbon emissions by over 28,000 tonnes during the contract period, the equivalent of removing roughly 33,300 flights between London and New York. This initiative fits within TfL's broader strategy to reduce its carbon footprint and support the Mayor's ambition for London to be net zero carbon by 2030. The organisation's science-based targets, validated by the Science Based Targets initiative, include a 90% reduction in direct and indirect emissions by 2030 and achieving net zero by 2040.

The solar farm deal is part of a wider drive to transform TfL’s energy supply and infrastructure. In parallel, TfL has launched a climate finance taskforce aimed at mobilising an estimated £75 billion towards climate-related infrastructure investments in London. Additionally, TfL is seeking delivery partners for future private wire solar projects that could directly power the Tube, potentially providing up to 64 MW, or 5% of its electricity demand.

Alongside renewable electricity procurement, TfL has secured over £16 million in government grants to reduce carbon emissions at its sites through energy-efficient upgrades such as heat pumps, solar panels, LED lighting, and building insulation. These combined efforts underscore TfL’s comprehensive approach to cutting emissions across operations and supply chains.

While this ambitious renewable energy strategy makes considerable progress, broader UK challenges remain. A recent report by DNV forecasts that the UK is unlikely to meet its 2030 carbon reduction target of a 68% cut from 1990 levels, projecting only a 55% decrease. Transport and buildings remain significant sources of emissions, underscoring the importance of initiatives like TfL’s that push forward the decarbonisation of urban infrastructure.

Lilli Matson, TfL’s Chief Safety, Health and Environment Officer, described the PPA as a landmark in driving a green transformation for London’s transport system. She emphasised that by leveraging its purchasing power to stimulate investment in new renewable energy sources in the UK, TfL is not only cutting emissions but also fostering green jobs, enhancing biodiversity, and stimulating the national economy. This approach is expected to pave the way for more public-private collaborations that accelerate the decarbonisation of the UK's electricity grid more broadly.

In summary, TfL’s new solar PPA represents a major investment in renewable energy, environmental enhancement, and climate leadership in public transport. As part of a cohesive strategy integrating renewable procurement, infrastructure efficiency, and financial innovation, TfL is working to position London’s public transport as a beacon of sustainability in the UK and beyond.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/), [[5]](https://www.powersystems.technology/news-pst/tfl-signs-deal-for-new-solar-farm-to-power-london-underground-power-systems-technology-news.html)
* Paragraph 2 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/), [[7]](https://www.energy-uk.org.uk/publications/tfl-aims-to-decarbonise-london-through-clean-renewable-energy-by-2030/)
* Paragraph 3 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/)
* Paragraph 4 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/), [[2]](https://tfl.gov.uk/corporate/about-tfl/reducing-carbon-emissions), [[4]](https://tfl.gov.uk/info-for/media/press-releases/2025/april/tfl-s-greenhouse-gas-emission-reduction-targets-and-net-zero-targets-validated)
* Paragraph 5 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/)
* Paragraph 6 – [[6]](https://tfl-newsroom.prgloo.com/news/transport-for-london-to-push-ahead-with-green-heating-and-energy-efficiency-in-head-offices-and-depots-through-gbp-16m-grants), [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/)
* Paragraph 7 – [[3]](https://www.reuters.com/world/uk/uk-set-miss-near-long-term-emissions-targets-dnv-predicts-2024-02-22/)
* Paragraph 8 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/)
* Paragraph 9 – [[1]](https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/), [[2]](https://tfl.gov.uk/corporate/about-tfl/reducing-carbon-emissions), [[4]](https://tfl.gov.uk/info-for/media/press-releases/2025/april/tfl-s-greenhouse-gas-emission-reduction-targets-and-net-zero-targets-validated), [[7]](https://www.energy-uk.org.uk/publications/tfl-aims-to-decarbonise-london-through-clean-renewable-energy-by-2030/)

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://airqualitynews.com/fuels/tfl-sign-deal-to-secure-solar-energy-supply-for-15-years/> - Please view link - unable to able to access data
2. <https://tfl.gov.uk/corporate/about-tfl/reducing-carbon-emissions> - Transport for London (TfL) is committed to reducing carbon emissions and supporting the Mayor's ambition for London to be net zero carbon by 2030. TfL aims to decarbonise its operations and supply chain, with plans to move towards 100% renewable electricity purchasing by 2030, primarily through Power Purchase Agreements (PPAs). The organisation is also working to reduce emissions from its infrastructure and global supply chain by designing contracts, managing capital programmes, and engaging suppliers to lower carbon emissions across its operations.
3. <https://www.reuters.com/world/uk/uk-set-miss-near-long-term-emissions-targets-dnv-predicts-2024-02-22/> - A report by Norwegian risk manager DNV forecasts that the UK will miss its carbon reduction targets for both 2030 and 2050. The country pledged under the Paris Agreement to reduce emissions by 68% by 2030 compared to 1990 levels but is expected to achieve only a 55% reduction. The legally binding target to reach net zero emissions by 2050 is also unlikely to be met, with emissions projected to be 125 million metric tons of CO2 equivalent, an 85% reduction rather than the required 100%. Transport and buildings are anticipated to be major contributors to emissions in 2050.
4. <https://tfl.gov.uk/info-for/media/press-releases/2025/april/tfl-s-greenhouse-gas-emission-reduction-targets-and-net-zero-targets-validated> - The Science Based Targets initiative (SBTi) has validated Transport for London's (TfL) near and long-term greenhouse gas emission reduction targets and net-zero targets, aligning with the Paris Agreement to limit global warming to 1.5 degrees Celsius. TfL's validated targets include a commitment to reduce emissions from direct and indirect sources (Scopes 1 and 2) by 90% by 2030, and to reduce third-party emission sources (Scope 3) by 45% by 2030. The organisation also aims to achieve net-zero greenhouse gas emissions by 2040.
5. <https://www.powersystems.technology/news-pst/tfl-signs-deal-for-new-solar-farm-to-power-london-underground-power-systems-technology-news.html> - Transport for London (TfL) has entered into a 15-year Power Purchase Agreement (PPA) with EDF Renewables UK to supply clean solar energy to the London Underground as part of its wider decarbonisation plan. The new solar farm will be built in Longfield, Essex, covering roughly 400 hectares of lower-grade farmland. Construction is scheduled to begin in 2026. The facility is expected to generate around 80 gigawatt hours (GWh) of electricity annually—enough to power over 29,000 homes or run the entire Tube network for a year.
6. <https://tfl-newsroom.prgloo.com/news/transport-for-london-to-push-ahead-with-green-heating-and-energy-efficiency-in-head-offices-and-depots-through-gbp-16m-grants> - Transport for London (TfL) has been awarded two grants totalling more than £16 million from the Public Sector Decarbonisation Scheme (PSDS), delivered by Salix on behalf of the Department of Energy Security and Net Zero. A grant worth £14 million will be used to reduce carbon emissions at six sites on TfL’s London-wide estate. The second grant, worth more than £2 million, will be used for carbon-reducing measures at two London Underground depots. These upgrades include the installation of heat pumps, solar panels, LED lighting, improved glazing, and wall insulation.
7. <https://www.energy-uk.org.uk/publications/tfl-aims-to-decarbonise-london-through-clean-renewable-energy-by-2030/> - Transport for London (TfL) has announced plans to procure up to 10% of its required electricity from new build renewable energy assets through Power Purchase Agreements (PPAs). This initiative is part of TfL's broader goal to source 100% of its electricity from renewable sources by 2030. The move aims to decarbonise London's public transport network and supports the Mayor of London's goal of achieving net zero emissions by 2030. TfL is one of the largest electricity consumers in the UK, with a requirement for up to 1.6 terawatt hours (TWh) per year.