



Liverpool John Lennon Airport Solar PV Farm



Overview

Liverpool John Lennon Airport (LJLA) has advanced its sustainability agenda by developing a 3 MW on-site solar PV farm. Delivered by **Activ8 Energies** in partnership with **SSE Airtricity**, the £3 million project is located within the airport perimeter to the east of the runway. Once fully operational (Q3 2025), the installation is expected to provide up to 25% of the airport's electricity requirements, with surplus energy exported to the local grid under favourable conditions. **Kyte Powertech** contributed to the success of this initiative by supplying a high-efficiency, multi-voltage distribution transformer designed to accommodate both solar generation and future potential expansion. This project demonstrates the practical application of renewable energy infrastructure in the aviation sector, delivering measurable reductions in operating costs and carbon emissions while enhancing long-term energy resilience.



Transformer Spotlight

This transformer plays a central role in the project's success. Its flexible loading capability ensures it can continuously support solar generation. The use of ester fluid not only enhances fire safety but also aligns with the project's sustainability goals. With low losses, the transformer maximises the delivery of renewable energy to the grid. It features dual LV outputs; the system is designed with future growth in mind, making storage integration and expansion straightforward.

Rating: 4000 kVA (solar + future expansion)

Primary Voltage: 11 kV

Secondary Voltages: 800 V + 800 V (solar + future expansion)

Cooling: KNAN (natural ester FR3 fluid)

Vector Group: Dyn11yn11

Efficiency: No-load losses 2.2 kW; Load losses ~23.5 kW at 3000 kVA

Impedance: 6.5–7.3% depending on loading

Compliance: Tier 2 Eco Design

Features: Dual LV outputs, DGPT2 protection, Elastimold HV bushings, C5M corrosion protection, compact footprint (2640×2000×2550mm), 9.2 tonnes total weight

Project Snapshot

£3m
Investment

4,312
Panels Installed

3MW
Capacity

22 Ac
Site Footprint

Powering LJA

Up To

25%

LJA Electricity Supply

2.6—3.0 GWh

Renewable Generation Per Year

Sustainability Impact

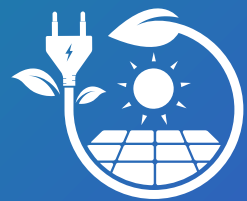
**500 tonnes CO₂
saved annually**

Equivalent to taking ~110 cars off the
road each year

Strategic Significance



Decarbonisation of aviation infrastructure



On-site generation = energy security



Supports net-zero commitments



Grid resilience & potential export



Regional economic benefits

Project Timeline



Sept '23

Planning permission granted



Q2 '25

Installation of 4,312 panels

Q3 '25

Expected go-live

Powering The Future

The John Lennon Airport Solar Farm is a landmark project demonstrating the role of on-site renewables in decarbonising aviation infrastructure. With the installation of a state-of-the-art transformer from **Kyte Powertech**, the project not only supplies clean energy but also prepares the site for future expansion, ensuring resilience, flexibility, and sustainability for years to come.