Autocase

Quantifying Lifetime Carbon from Electrification + Timber



Project Description

Woods Bagot & Buro Happold are designing an all-electric midfield satellite concourse (MSC) at LAX as part of LAWA's aim to have carbon neutral operations by 2045.

The building features numerous sustainability elements including: modular design for material reuse, high energy efficiency + on-site PV, the use of reclaimed water and water reduction, as well as lower embodied carbon by using timber.

Strategies Assessed





Financial

Electricity savings Renewable Energy Water savings

Environmental

Operational CO₂ Air pollution Embodied CO₂ Water scarcity PARTNERS LAX, Buro Happold, Woods Bagot

DESIGN PHASE 100% SD

BUILDING TYPE Airport Concourse

SIZE 100,000 sqft

LOCATION Los Angeles, CA

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How Autocase was Used

Autocase quantified lifetime carbon for the following elements:

- Energy: Cumulative operational Carbon from seven energy efficiency measures.
- Renewable energy: On-site PV using local grid emission factors.
- Materials: Reduction in embodied CO2 from 693 kg/m2 to 591 kg/m2 using our OneClick LCA integration.
- Water: 40% reduction in potable water use.



The Outcome

Autocase was able to instantly quantify the carbon of each strategy for the design as compared to the baseline. The team were able to see how much carbon they had reduced in total, and what elements were contributing the most to that. Although embodied carbon reduced by 2,000 tonnes in year 1, the largest lifetime impacts came from energy efficiencies and on-site PV - enabling the project to save 32,500 tonnes in total.

Want to learn more?

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