

From Rooftop to ROI

An Engineering-Grade Solar & Battery Storage Feasibility Study Across a Three-Building Industrial Portfolio

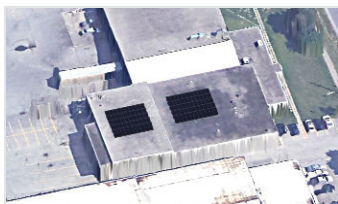
Three owner-occupied industrial properties in Ajax and Scarborough, run by a single industrial recycling operator, had never been assessed for rooftop solar. Quwa modelled PV — with an optional battery storage scenario — across all three roofs, cross-validating irradiance, yield and financial assumptions on a second independent engine, to give the owner a bankable, site-by-site business case for where solar actually pencils out.

THE RESULTS:

759 kWdc Combined PV capacity modelled across 3 rooftops	601,293 kWh Combined Year-1 AC energy production modelled	21 tCO₂e/yr Combined GHG reduction across the three buildings	21% IRR Best site once incentives stack — and it is the smallest of the three
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Site A, Ajax, ON — the largest of the three: 611 kWdc across nine roof sections



Site B, Scarborough — 89 kWdc



Site C, Scarborough — 59 kWdc

01 The Challenge

ENERGY BENCHMARK Baseline EUI ~0.90–0.94 GJ/m ² , above the ~0.72 GJ/m ² market median.	AGING INFRASTRUCTURE 1960s–70s buildings on RTUs and gas furnaces, with limited automation.
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02 Portfolio Results

Payback with the Save on Energy incentive plus the 30% capital-cost tax credit.

Site	PV Size	Yr-1 Energy	Payback
Site A — Ajax	611 kWdc	414,292 kWh	6 yrs
Site B — Scarborough	89 kWdc	107,211 kWh	5 yrs
Site C — Scarborough	59 kWdc	79,790 kWh	5 yrs

Size Did Not Predict Return

LARGEST — SITE A

- 611 kWdc, ten times the smallest array
- 23 years unfunded, 14 on the incentive, 6 once the tax credit stacks

SMALLEST — SITE C

- 59 kWdc, the smallest roof on the portfolio
- 5-year payback and 21% IRR — the best project of the three

An owner ranking three roofs by area would have put Site C last. Economics here depend as much on **incentive eligibility and cost basis** as on system size.