

A decision-ready view of operational emissions

Scope 1 and Scope 2 reconstruction based on public sustainability disclosures and transparent proxy assumptions.

106.0 ktCO₂e

2025 location-based Scope 1 + 2

The 2025 footprint is 106.0 ktCO₂e, down 14% from 2023

2025 location-based footprint

106.0 ktCO₂e

The absolute footprint declined despite a broader warehouse boundary in 2025.

92.4%

of 2025 emissions come from purchased electricity

-19.5%

total energy use versus 2023

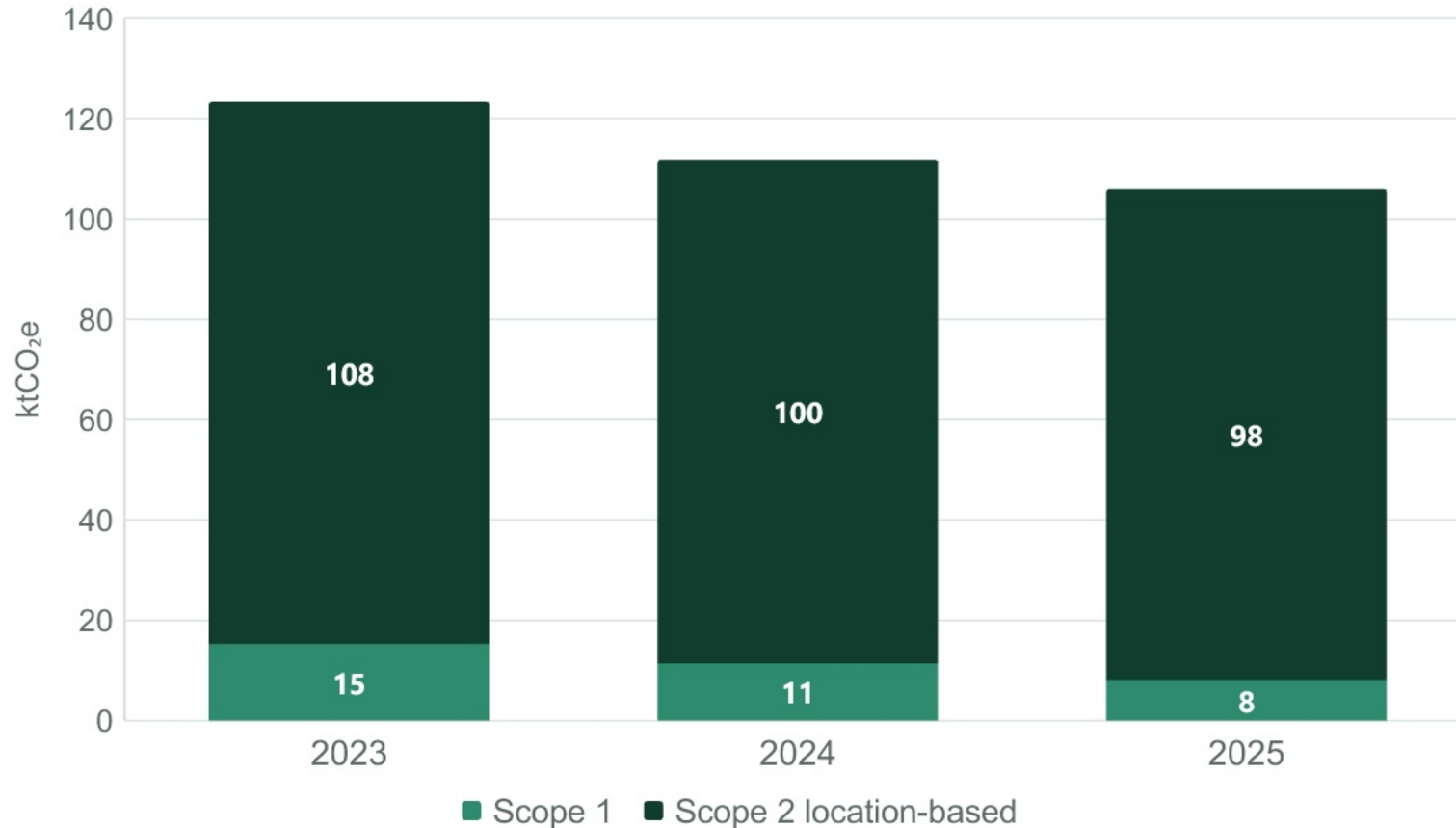
2.9%

Scope 1 model variance versus the reported 2025 total

**Material C
aveat**

The market-based zero remains conditional and Scope 3 is not reconstructed.

Scope 2 accounts for 92% of the 2025 location-based footprint



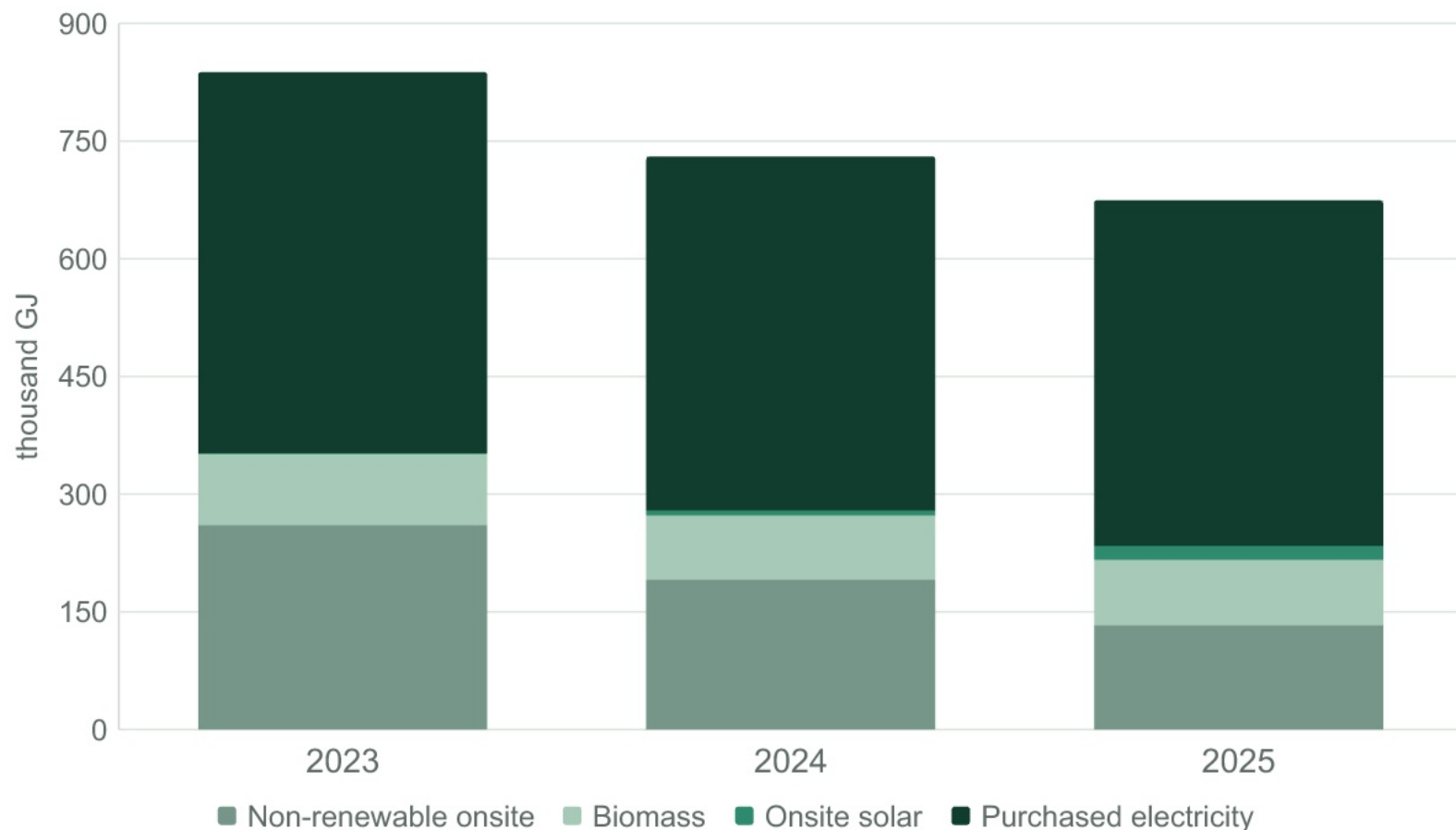
What matters

- Scope 1 fell 47% since 2023
- Scope 2 fell 9% since 2023
- Electricity is now the dominant decarbonization lever

Priority implication

Focus next-wave abatement on grid electricity and verifiable renewable procurement.

Energy use fell 19.5% as non-renewable onsite energy halved



Activity signals

674.5k GJ

total energy in 2025

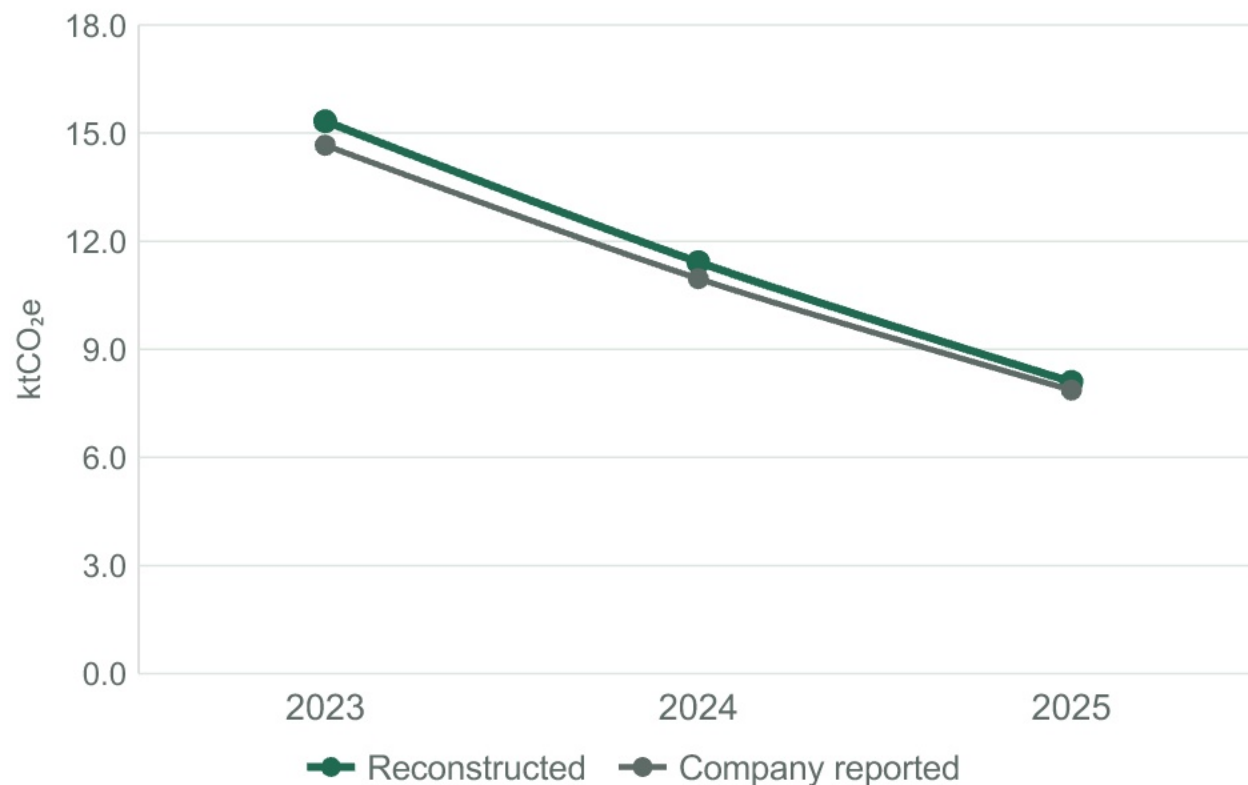
-49.0%

non-renewable onsite
energy versus 2023

15.5x

growth in onsite solar versus
2023

Scope 1 reconstruction is within 4.6% of the reported total



Year	Model	Reported	Variance
2023	15.33	14.66	+4.6%
2024	11.42	10.96	+4.2%
2025	8.10	7.87	+2.9%

Interpretation

The gas-only proxy is directionally credible, but activity-level fuel evidence is still required for assurance.

The market-based zero depends on evidence that is not public

Location-based

97.9 ktCO₂e

Purchased electricity × 0.80
tCO₂/MWh grid proxy

Market-based

0.0 ktCO₂e

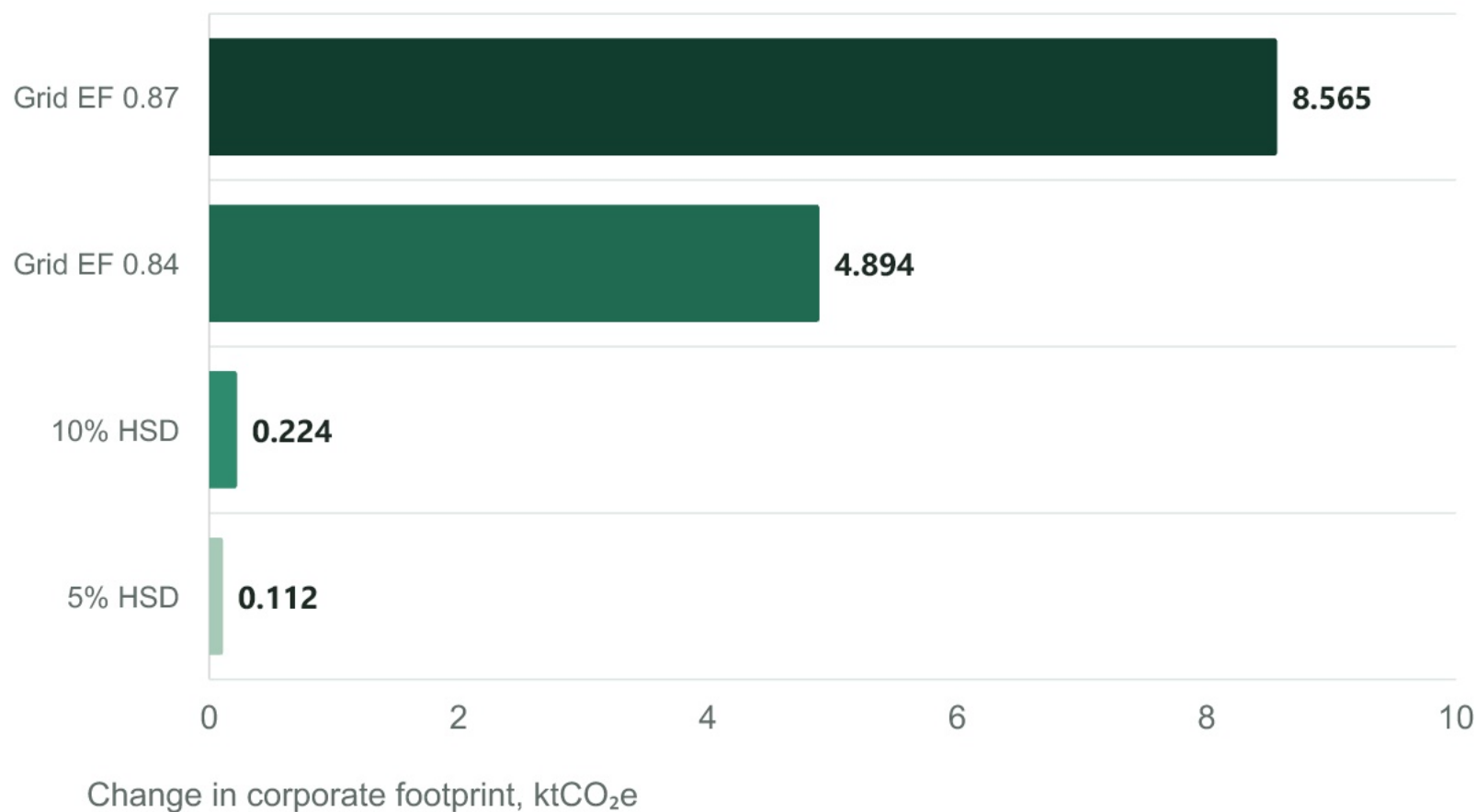
Conditional on I-REC quality
criteria and retirement evidence

Evidence test

Evidence item	Status
100% I-REC coverage	Inferred
Certificate serials	Not public
Retirement records	Not public
Residual mix	Proxy used

**Report both figures and label
the market-based result as
conditional.**

Grid-factor choice drives 38× more uncertainty than a 10% HSD case



8.6 kt

upper grid-factor delta

versus

0.22 kt

10% HSD delta

Management implication

Refresh the grid factor and document the rationale before refining the fuel split.

Boundary changes and missing evidence limit comparability

Gap	What is known	Accounting implication
Warehouse boundary	11 sites in 2025 vs 3 in 2024	Trend is not fully like-for-like
Ice cream factory	Jan–Nov 2025 only	December may be omitted
Fuel split	Gas and light fuel aggregated	Scope 1 relies on a gas-only proxy
Renewable certificates	Coverage inferred from energy disclosure	Market-based zero is conditional
Refrigerants	Only total emissions disclosed	Reported value is adopted without recalculation
Scope 3	No reconstruction completed	Corporate value-chain view is incomplete

Overall assessment **Decision-useful for portfolio analysis, but not yet assurance-ready.**

Five evidence packages would make the inventory assurance-ready

Proposed 90-day roadmap

Priority action	Evidence package	Timing
1 Lock the boundary	Site list, ownership, reporting months and change log	Weeks 1–2
2 Rebuild energy activity	Invoices and meter data by site, fuel and month	Weeks 1–4
3 Validate renewable claims	I-REC serials, vintage, ownership and retirement records	Weeks 1–4
4 Recalculate fugitive emissions	Equipment register, charge, top-up and leakage data	Weeks 3–8
5 Launch Scope 3 screening	Materiality screen, spend map and supplier data plan	Weeks 5–12

Recommendation Sequence evidence collection before model sophistication. The largest risk is unsupported claims, not computational complexity.

The reconstruction uses transparent proxies and a clear source hierarchy

Method

- Operational-control boundary
- Scope 1 = stationary fossil combustion + biomass CH₄/N₂O + reported fugitive emissions
- Scope 2 LB = purchased electricity × grid factor
- Scope 2 MB = zero only if instrument quality criteria are met
- Biogenic CO₂ reported separately as a memo item

Source hierarchy

Priority	Source type
1	UNVR Sustainability Report 2025
2	Indonesian electricity-sector factors
3	IPCC 2006 and AR5 GWPs
4	GHG Protocol Corporate and Scope 2 Guidance
5	Explicit proxy assumptions with sensitivity tests

Use case

Portfolio analysis and management discussion, not an assurance opinion.