

Briefing note

ASSESSMENT • DATA CENTRE COMPARATIVE SITE ASSESSMENT • COMPARATIVE SITE ANALYSIS • BASE CASE BASELINE • CONVENTIONAL

Comparative site analysis. Choosing Site A over Site B carries a public value differential of **\$151.7M** — the public-value cost of siting at the higher-stress location. One input to a siting decision, not a pass/fail verdict; there is no single net benefit or benefit–cost ratio.

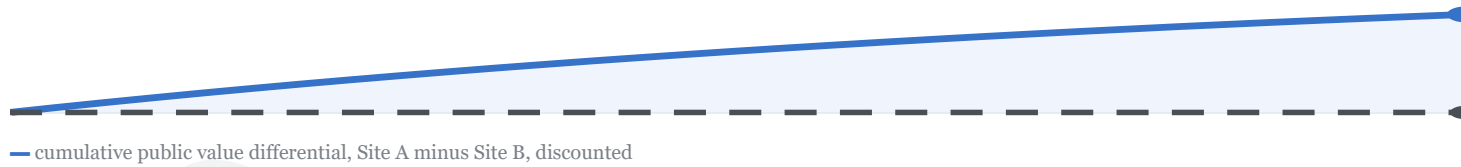
\$151.7M Public value differential (A minus B)	\$243.7M Site A • public value at stake	\$92.0M Site B • public value at stake	— Benefit to cost • none in comparative mode
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These headline figures are the BASE CASE: the account the engine computed from the inputs and the analysis signed for this run, and the account the QA review checked. The scenario and sensitivity figures later in this note are secondary — they show how the result moves under other assumptions, and they are not the signed account.

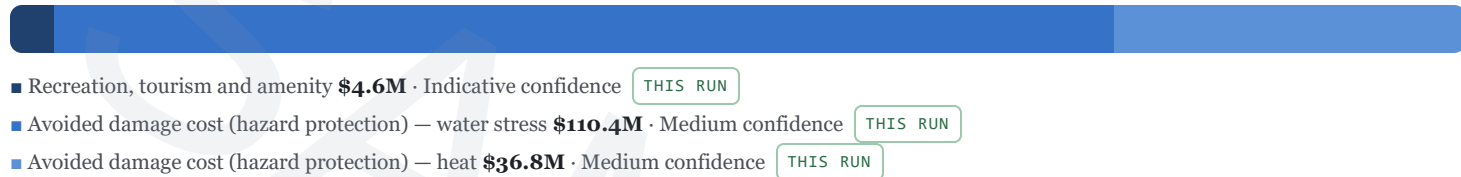
This results account, the settled inputs register, the CBA spreadsheet and the QA report are one set of project documents of equal standing: each carries things the others do not, so they are read together.

WHERE THE VALUE COMES FROM \$151.7M • 3 differential components	THE PUBLIC VALUE COST OF CHOOSING SITE A \$151.7M differential	HOW ROBUST THE RESULT IS Recomputed across 6 compositions
HOW THE VALUE ACCRUES OVER TIME The differential builds year by year	CONFIDENCE IN THE EVIDENCE 97% medium • 3% indicative	CAPTURE POTENTIAL 3 components flagged
THE QA RECORD Passed • 10 flags		

CUMULATIVE PUBLIC VALUE DIFFERENTIAL, DISCOUNTED OVER THE HORIZON



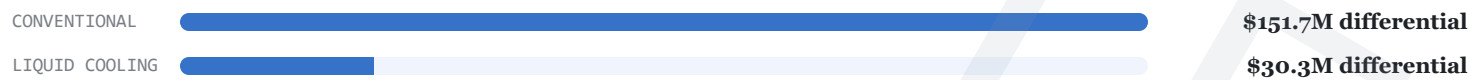
WHERE THE VALUE COMES FROM, PUBLIC VALUE STREAMS (PV, NET SURPLUS)



ACROSS THE CLIMATE SCENARIOS (CONVENTIONAL INTERVENTION)



ACROSS THE INTERVENTION LEVELS (BASELINE CLIMATE)



SCENARIO FIGURES SHOW HOW THE RESULT MOVES UNDER OTHER ASSUMPTIONS. THE BASE CASE AT THE HEAD OF THIS NOTE IS THE ACCOUNT THE QA REVIEW CHECKED. DOUBLE-CHECK ANY SCENARIO FIGURE BEFORE RELYING ON IT.

COMPONENTS FOR BUSINESS ACCOUNTS: GROSS, NOT IN THE NET PUBLIC VALUE TOTAL

“Capturable” means public value an entity — a business, scheme or public body — could realistically turn into revenue or avoided cost, rather than diffuse benefit to society. It is the part that becomes money in the business accounts.

Avoided damage cost (hazard protection)

Insurance premium reduction; Parametric insurance instruments; Resilience bonds; Regulatory credits

In the public value total

Recreation, tourism and amenity

Tourism revenue protection; Property value premium; Brand and reputational value; Licensing and access fees

Public value · business accounts

Future resource use and stranded resource risk

Water rights and resource access agreements; Ecosystem service payments

Acknowledged

Capitalised private house-value loss **\$7.1M**

These are gross market expressions of the same value, turnover-scale rather than profit. They are kept for the business accounts and deliberately not aggregated into the net public value total, avoiding double counting.

THE PUBLIC VALUE ACCOUNT · BASE CASE

Component	Site A	Site B	Differential
Recreation, tourism and amenity	\$4.6M	\$0.0M	\$4.6M
Avoided damage cost (hazard protection) — water stress	\$147.1M	\$36.8M	\$110.4M
Avoided damage cost (hazard protection) — heat	\$92.0M	\$55.2M	\$36.8M
Total public value differential			\$151.7M
For the business accounts — never in the public value differential			
Capitalised private house-value loss	\$7.1M	\$0.0M	\$7.1M
The one-off hit to existing home values — a private wealth impact carried to the business account, never summed into public value. The public value account books the ongoing amenity value loss as an annual flow (the capitalised stock × the 3.5% discount rate) instead of this stock.			

NOTES

The headline

This assessment measures public value — the total value to society, whether or not anyone can charge for it — of choosing between two candidate sites for the same data centre. The headline figure in each scenario is a differential: the public value cost of choosing the higher-exposure site (Site A) over the lower-exposure site (Site B), expressed in USD. It covers avoided damage from water stress and heat exposure, and a recreation/amenity effect on nearby residents; it is not a profit-and-loss statement and not a financial return.

How it was measured

The avoided-damage differential (water stress and heat) was computed from hazard-exposure modelling classed as medium confidence, transferred from comparable settings. The recreation/amenity differential was computed from a hedonic benefit-transfer method and is Indicative: the evidence is contested (a study of comparable US data-centre sites found no persistent home-value effect), so the account also shows this component's 0% lower bound alongside the non-zero estimate. A separate capitalised private-loss figure for amenity is a market expression, not part of the public value total.

The baseline picture

Under the baseline climate pathway with conventional cooling, choosing the higher-exposure site over the lower-exposure site costs an estimated \$151.7 million in public value — driven mainly by avoided water-stress damage (\$110.4 million) and avoided heat damage (\$36.8 million), with a smaller indicative recreation/amenity effect (\$4.6 million).

What the intervention changes

Switching the cooling technology from conventional to liquid cooling collapses this differential at every climate level: at the baseline pathway it falls from \$151.7 million to \$30.3 million — to roughly a fifth of the conventional-cooling figure — because liquid cooling is modelled as mitigating the water-stress and heat exposure that the conventional scenarios leave unmitigated. This is a property of the cooling-technology setting, not of the climate pathway.

Under worsening climate

Holding cooling technology at conventional and moving across climate pathways, the public value cost of the higher-exposure site more than doubles: from \$151.7 million (baseline) to \$216.1 million (mid) to \$317.3 million (high). With liquid cooling, the same climate-driven pattern appears at a much smaller scale: \$30.3 million (baseline) to \$42.3 million (mid) to \$63.5 million (high) — again more than doubling from baseline to high, but on a materially reduced base.

Present values in real terms · discount rate 3.5% · horizon per the case calendar · price year 2025 · shown at the committed climate × intervention pairing

PUBLIC VALUE ACCOUNT · BASE CASE · ENGINE OUTPUT · QA-CHECKED

\$151.7M PUBLIC VALUE DIFFERENTIAL ·
COMPARATIVE