

ADS Cheat Card 6

Sustainability Quick Hits

Where carbon footprint is actually decided

Most of a SAD's environmental impact is locked in by a small number of decisions. Get these right and Section 4.5 becomes evidence rather than aspiration.

Decision	Where in the SAD	Quick win
Cloud region	3.3 Physical View	Pick a region with high renewable energy share. Carbon intensity varies 5–10x across regions of the same provider.
Non-prod runtime	3.3 + 5.5 Operations	Auto-shutdown dev/test out of hours. Typical saving: 60–70% of non-prod compute cost and carbon.
Compute family	3.3 Physical View	ARM (Graviton, Ampere, Cobalt) and latest-generation x86 deliver 20–40% better performance-per-watt than older instance types.
DR posture	3.3 + 4.2 Reliability	A warm standby running 24x7 doubles compute footprint. Match DR mode (cold / pilot light / warm / hot) to the actual RTO.
Data retention	3.4 Data View	Set a retention policy and automate expiry. Indefinite “keep just in case” is the most common waste.
Cold storage tiering	3.4 Data View	Move logs/snapshots/backups to archive tiers (S3 Glacier, Azure Archive). Cost and carbon both drop sharply.
Caching & async	3.1 Logical View	Avoid recomputation. Cache responses, debounce polls, replace busy-wait with events.
Right-sizing cadence	5.5 Operations	Quarterly right-sizing using cloud advisor tools catches drift. Without a cadence, over-provisioning grows linearly.

The three Green Software principles

Principle	Meaning	Typical action
Carbon efficiency	Emit the least carbon for a given output	Region choice, ARM compute, retention
Energy efficiency	Use the least energy for a given task	Caching, async, code-level efficiency
Carbon awareness	Do more when the grid is clean, less when it isn't	Time-shift batch jobs, defer non-urgent work

When to skip sustainability prompts

A Tier 5 internal tool running on shared SaaS doesn't need a Software Carbon Intensity baseline. Match the depth of treatment to the system's actual footprint. A 50-instance e-commerce platform deserves the full Section 4.5 treatment; a fortnightly batch job on shared compute does not.