

ASSESSMENT CHECKLIST

# AI Carbon Footprint Assessment Checklist

50-point checklist for measuring and reducing the carbon footprint of AI systems

Score each item: **2 = Fully implemented**, **1 = Partially implemented**, **0 = Not implemented**.  
 Maximum score: 100. Target for GCF Certification:  $\geq 70$ . Share your score at [greencomputingfoundation.org](https://greencomputingfoundation.org) for a free benchmarking report. Explore any item interactively at [ecobodhai.in](https://ecobodhai.in)

<b>50</b>	<b>7</b>	<b>100</b>	<b>70</b>
Assessment Points	Categories	Maximum Score	GCF Cert Threshold

## A. Training Compute Efficiency

#	Assessment Point	2	1	0
1	Model architecture is optimised for the minimum parameters needed for the task	■	■	■
2	Transfer learning or fine-tuning used instead of training from scratch	■	■	■
3	Training run uses the minimum compute needed — early stopping and hyperparameter optimisation applied	■	■	■
4	Carbon-aware scheduling applied: training runs when and where the grid is greenest	■	■	■
5	Training carbon (kgCO <sub>2</sub> e) is measured and documented for each significant run	■	■	■
6	Experiment management in place — failed runs stopped early; fewer than 10 full runs per final model	■	■	■
7	Mixed-precision training (FP16/BF16) enabled to reduce compute energy	■	■	■

## B. Inference & Deployment Efficiency

#	Assessment Point	2	1	0
1	Inference runs on CPU where GPU is not required (Kompact AI or equivalent evaluated)	■	■	■
2	Model is quantised (INT8 or lower) for production inference	■	■	■

3	Model distillation applied — smaller student model used in production where feasible	■	■	■
4	RAG (Retrieval Augmented Generation) used instead of large context windows	■	■	■
5	Inference carbon (kgCO <sub>2</sub> e per 1,000 queries) is measured and tracked monthly	■	■	■
6	Batch inference used for non-real-time workloads to improve CPU/GPU utilisation	■	■	■
7	Edge deployment evaluated and implemented where appropriate to reduce cloud compute	■	■	■
8	Model caching and response deduplication implemented	■	■	■

### C. Infrastructure & Data Centre

#	Assessment Point	2	1	0
1	Production infrastructure PUE (Power Usage Effectiveness) is measured and below 1.4	■	■	■
2	Water Usage Effectiveness (WUE) is measured and tracked quarterly	■	■	■
3	Renewable energy percentage for AI compute infrastructure is 50% or above	■	■	■
4	Server utilisation is 60% or above — no underutilised infrastructure running	■	■	■
5	Cooling system uses free cooling or evaporative cooling where climate permits	■	■	■
6	AI workloads preferentially scheduled to data centres on renewable-heavy grids	■	■	■

### D. Hardware Lifecycle

#	Assessment Point	2	1	0
1	GPU and CPU hardware lifecycle is 5 years or more before replacement is considered	■	■	■
2	Embodied carbon of AI hardware is tracked at procurement alongside performance specs	■	■	■
3	Hardware refresh decisions consider lifecycle carbon — not just performance benchmarks	■	■	■
4	End-of-life AI hardware disposed through MoEFCC-certified e-waste recyclers	■	■	■
5	Refurbishment considered before disposal for hardware 6 years old or younger	■	■	■

### E. Data Efficiency

#	Assessment Point	2	1	0
1	Training data is deduplicated — no redundant copies consuming storage energy	■	■	■
2	Data pipeline is optimised — unnecessary transformations eliminated	■	■	■
3	Data stored in compressed formats where retrieval frequency permits	■	■	■
4	Cold data tiered to lower-energy storage (tape, cold cloud tiers, infrequent-access classes)	■	■	■
5	Data locality optimised — training compute is co-located with training data	■	■	■

## F. Governance & Reporting

#	Assessment Point	2	1	0
1	AI carbon footprint reported as a KPI in the sustainability dashboard	■	■	■
2	Per-model and per-deployment SCI (Software Carbon Intensity) score calculated	■	■	■
3	AI sustainability metrics included in BRSR / ESG reporting	■	■	■
4	AI model cards include carbon footprint data alongside accuracy and latency	■	■	■
5	Sustainability team or GreenOps role has full visibility into AI carbon metrics	■	■	■
6	Carbon budget set for AI projects above a defined compute threshold	■	■	■
7	Third-party assurance obtained for material AI sustainability claims	■	■	■

## G. Social Sustainability

#	Assessment Point	2	1	0
1	AI system is deployable on CPU infrastructure accessible in resource-constrained environments	■	■	■
2	AI system is multilingual or locale-aware for Indian language communities where relevant	■	■	■
3	AI system design minimises data collection to reduce both privacy and energy burden	■	■	■
4	AI system reviewed for algorithmic bias — fewer re-training cycles from bias corrections	■	■	■
5	Accessibility of AI system evaluated for users with limited connectivity or older devices	■	■	■

## Scoring Guide

Score Range	Rating	Next Steps
85–100	■ Sustainable AI Leader	Share your methodology; GCF Platinum Certification eligible
70–84	■ Sustainable AI Practitioner	Target 3–4 zero-score items in the next 6 months
50–69	■ Developing	Prioritise Section B (inference efficiency) and F (governance) first
Below 50	■ High Carbon Risk	Contact GCF for a guided Sustainable AI Assessment