

WHITEPAPER · BHARAT MANDAPAM EDITION

Sustainable AI Best Practices

Curated from the GCF-led panel at India AI Impact Summit 2026, Bharat Mandapam, New Delhi

Context: GCF curated the Sustainable AI Best Practices panel at the India AI Impact Summit 2026 — India's first Global South AI Summit, inaugurated by PM Narendra Modi at Bharat Mandapam, New Delhi (February 2026). This document captures seven actionable best practices for practitioners and organisations building AI systems in India. Explore these practices interactively at ecobodhai.in

6L+

Summit Reach

92

Nations Endorsed

7

Best Practices

\$250B

Investment Pledges

Why Sustainable AI Matters Now

Training a single large language model can emit as much CO₂ as five cars over their entire lifetimes. AI inference at scale is now a material contributor to an organisation's Scope 2 carbon footprint. India's AI Governance Guidelines (November 2025) explicitly mandate sustainability as one of seven guiding principles. The India AI Impact Summit 2026 — anchored on People, Planet, and Progress — placed environmental stewardship at the centre of global AI policy for the first time. These seven best practices are designed to make Sustainable AI operational for every Indian organisation.

01

Measure AI Carbon Before You Deploy

Every AI system deployed at scale should have a carbon footprint estimate before going live — covering training compute, inference energy, and hardware lifecycle. Use kgCO₂e per inference as the standard unit. Tools: BirchLogic SustainIT, CodeCarbon, Carbon Aware SDK.

Impact: Organisations that measure AI carbon reduce it by an average of 25–40% within 12 months.

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Default to Smaller, Contextualised Models

Large foundational models are not always necessary. For most enterprise use cases, a smaller model fine-tuned on domain-specific data with RAG delivers comparable accuracy at 10–50% of the energy cost. The frugal AI paradigm — smaller, contextualised, distilled models — should be the default, not the exception.

Impact: Switching from a 70B to a 7B contextualised model typically reduces inference energy by 60–85%.

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Run AI Inference on CPU Where Possible

GPUs are energy-intensive. Kompact AI (Ziroh Labs / IIT Madras) demonstrates that LLM inference on modern CPUs can achieve 50–80% energy reduction vs GPU-based inference for RAG and document AI workloads — and makes AI accessible to any organisation without GPU infrastructure.

Impact: CPU-native inference eliminates GPU cooling overhead and reduces per-inference carbon by up to 80%.

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Use Carbon-Aware Scheduling

The carbon intensity of electricity varies by time of day and geography. AI training workloads that are not time-sensitive can be shifted to run when and where renewable energy is abundant. Carbon-aware SDKs from the Green Software Foundation enable this automatically.

Impact: Carbon-aware scheduling can reduce training carbon by 30–50% with no model or accuracy changes.

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Embed Sustainability Metrics in MLOps

Carbon tracking should be a first-class metric in every ML pipeline — alongside accuracy, latency, and cost. Use tools like MLflow with BirchLogic integration to track kgCO₂e per experiment. Make sustainability metrics visible in every model card and deployment review.

Impact: Teams with visible carbon metrics in their MLOps dashboards make systematically greener model choices.

06

Design AI for Accessibility, Not Just Performance

AI systems that require expensive GPU infrastructure create barriers that exclude organisations in resource-constrained environments — defeating the inclusive intent of AI policy. Designing for CPU-deployability and edge inference democratises AI while reducing environmental overhead.

Impact: CPU-deployable AI reaches 10x more organisations at 20% of the infrastructure cost.

07

Report AI Sustainability Transparently

Apply the India AI Governance Guidelines' transparency principle to environmental impact. Publish per-model and per-deployment carbon metrics. Adopt the Software Carbon Intensity (SCI) standard from the Green Software Foundation — the first ISO-certified AI carbon standard (December 2025) — as the basis for all AI sustainability reporting.

Impact: Transparent AI carbon reporting builds stakeholder trust and is increasingly required by enterprise procurement teams.

About GCF: Green Computing Foundation is India's leading institution for Sustainable IT and Sustainable AI — curating the Planet pillar at India AI Impact Summit 2026, running GreenMind Hackathon (500+ participants), and operating India's first Sustainable AI CoE at Sir MVSA Bangalore. Free AI learning app: ecobodhai.in