



BUSINESS COUNCIL ON
CLIMATE CHANGE

Artificial Intelligence & Sustainability

Public Executive Summary

BC3 AI Sustainability Quick Start Guide

April 2026 Summary of Member-Only Resource



Overview

BC3 AI SUSTAINABILITY QUICK START GUIDE

BC3 and its partners created a guide for its members to understand AI's impacts, learn what matters, and act responsibly. This summary is shared broadly to scale these practices and encourage cross-industry dialogue and collaboration.

Join BC3 and the AI Community of Practice for:

- Expert discussions
- Joint innovation & action
- Network clarity & alignment

Contact bc3@bc3sfbay.org



Executive Summary: AI & Sustainability

What leaders need to know:

AI use is already widespread

AI is embedded in everyday business operations, with most companies using it across functions.

Impacts scale through everyday use

Generative AI consumes energy and water continuously through model inference, not just during development.

Sustainability teams can influence impact

Employee usage, vendor choices, and infrastructure decisions shape AI's environmental footprint.

Leaders can act now

Clear strategies, informed procurement, and responsible use can reduce risks while unlocking value.

Bottom line: *AI can accelerate sustainability outcomes if leaders manage its impacts with intention.*



Leaders are using AI for sustainability

Generative AI increases energy and water use quickly, however AI can also be utilized to make sustainability efforts work smarter and faster.

Using AI as an opportunity to progress sustainability work

**Streamline
sustainability
workflows**

**Elevate
sustainability
insights for
decision making**

**Support
stakeholder
engagement,
communication,
and reporting**



Leaders recognize AI's estimated impacts

AI TRAINING / CREATION

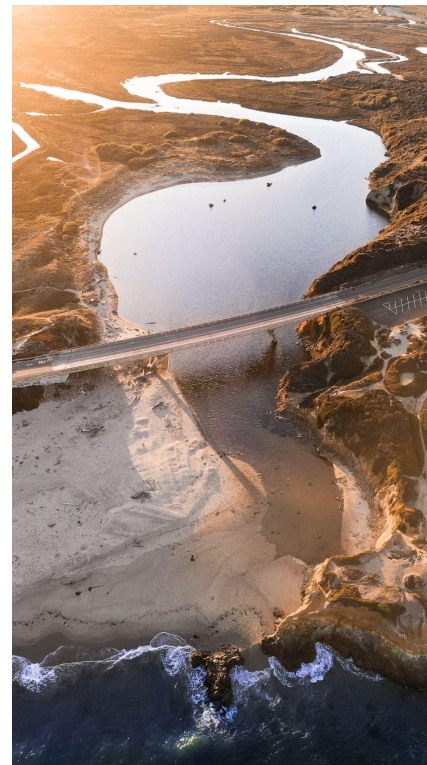
1.7 TWh / year
630,000 tons CO2 / year

- 0.1% of global data center electricity use
- Equivalent to >131K homes electricity use
- Doubling by 2030

INFERENCE / USE

.24 Wh / query
.03 g CO2 / query
45 mL water / query

- X10 for images, X100 for video
- Equivalent to sending an email
- 83.9 billion queries in August 2025 and growing drastically



Lifecycle of Generative AI's GHG emissions

~14-15%

Hardware Manufacturing

Emissions from mining and manufacturing the chips and servers, continue through the concrete, steel, and equipment that build data centers for compute and storage

Google's TPU v6e lifecycle data shows producing a single AI accelerator and its host hardware emits ~700 kg CO₂e over a six-year life

Embodied— Before AI Runs

~80-90%

Emissions from the energy used for model training and fine-tuning, and inference for end-use queries

Training (65-70%)

Mistral Large 2 training estimated to emit 13.26 ktCO₂e based on studies showing training ≈ 2–3× inference energy in first year

Inference (15-20%) depending on scale

A median Gemini Apps text prompt of 400 tokens uses 0.24 watt-hours (Wh) of energy, emits 0.03 grams of carbon dioxide equivalent (gCO₂e)

Operational— While AI Runs

Inference impacts will increase over time
as AI adoption and usage increases

~1-5%

Emissions from the retirement and replacement of AI hardware including e-waste processing and recycling

Downstream — After AI
Hardware Retires



Lifecycle of Generative AI's Water Impacts

~1-5%

Hardware Manufacturing

Water consumed for manufacturing chips/servers, supporting infrastructure, and building data centers



Embodied — Before AI Runs

~90%

Model Training + Inference

Water used for operating data centers during model training, fine-tuning, and user inference

Training

Total water consumption for Mistral Large 2 over 18 months: 281,000 m³ (281 × 10⁹ mL)

Inference

Water consumptions for a single 400-token user prompt is ~ 45 mL

Based on extrapolation, the water used for inference would match training water footprint after ~6 billion prompts (assuming similar 400-token query sizes).



Operational — While AI Runs

Inference impacts will increase over time as AI adoption and usage increases

Unknown

End-of-Life-Water Impacts are not quantified in this study

Water used in the disposal, recycling, refurbishment of data-center hardware after their useful life.



Downstream — After AI Hardware Retires



Leaders engage critical stakeholders

INTERNAL

- Executives & Spokespeople
- Sustainability & ESG teams
- AI researchers & developers
- Product managers & Engineers
- IT & Procurement managers
- AI consumers & general employees

EXTERNAL

- AI service & model providers
- Cloud service providers
- Customers & users of AI products
- Shareholders & analysts
- Regulators & policy makers



Implementing impact mitigation opportunities

Organizations can reduce AI impacts through behavior, infrastructure, and supplier choices.

- **Model selection & use** - Choosing right-sized models
- **Hardware & data center efficiency** - Making AI infrastructure smarter
- **Sustainable siting & timing** - Aligning AI workloads with clean energy and less water-stressed areas and times
- **Supplier engagement** - Selecting for sustainability and driving performance and transparency
- **Renewable energy** - Understanding and connecting AI workloads and use-phase impacts



Leveraging strategy & messaging best practices

How leaders build credible AI Sustainability narratives

Leadership Strategy Elements

- Strategy & context
-aligned
- Measurement
- Impact management
actions

Leadership Positioning Elements

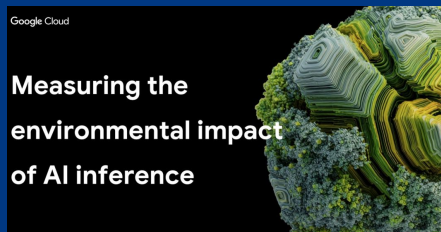
- Optimism
- Realism
- Pragmatism
- Transparency
- Collaboration



BC3 Member Strategy Best Practices

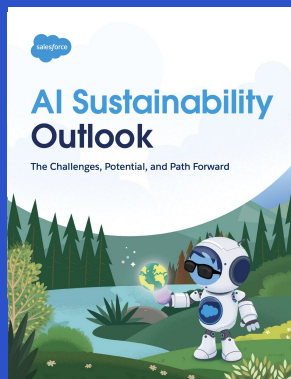
How leaders build credible AI Sustainability initiatives

Google



“Full-stack approach to AI — and AI efficiency”

Salesforce



“AI Sustainability Outlook”

Okta



“Implementing AI Ethics”



BC3 Membership and our AI Sustainability Community of Practice

- BC3 Members have been prioritizing AI Sustainability since 2024.
- Members actively co-develop practical resources and share best practices on AI Sustainability.
- In 2026 BC3 launched a formal AI Sustainability Community of Practice within our membership to foster a shared vision for artificial intelligence sustainability, accelerate joint learning and innovation, and spur collaboration and dialog across BC3 member companies, network partners, and industry experts.
- To learn more about this work or BC3, please reach out!



Learn more about BC3 and join
the AI Sustainability Community
of Practice.

<https://www.bc3sfbay.org/>



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