RESPONSIBLE AI INCLUDES ENVIRONMENTAL RESPONSIBILITY

Te Kāhui Atamai Iahiko o Aotearoa
AI Forum New Zealand

WHY CARE

As AI adoption scales, some AI systems can materially increase energy use, emissions, and infrastructure demand. If these impacts are not understood and governed, organisations face regulatory, reputational, and operational risk.

Environmental sustainability is now a core dimension of AI governance.

KEY RISK DRIVERS

- Regulatory & disclosure risk (CRD, certifications, overseas regulation)
- Environmental impact (energy, carbon, water, raw materials)
- Reputational & greenwashing risk (credibility of AI sustainability claims)
- Cost & operational efficiency risk (energy and compute-intensive AI systems)

AOTEAROA NZ CONTEXT

In Aotearoa New Zealand, AI environmental governance reflects Kaitiakitanga (stewardship and guardianship of resources for long-term resilience) alongside existing obligations.

Climate-related disclosures (CRD): AI can materially affect reported energy use and supplier impacts.

Environmental certifications: Programmes such as Toitū Envirocare, ISO 14001, and B Corp require identification of material environmental impacts, including digital and AI services.

Procurement and suppliers: Cloud and AI vendors increasingly influence sustainability performance and disclosure quality.

Where organisations operate overseas, **extraterritorial** requirements (e.g., EU AI Act) may also apply.

GOVERNANCE DECISION

AI environmental sustainability should be managed through existing risk and AI governance frameworks, not standalone programmes.

MATERIALITY & PROPORTIONALITY

Not all AI systems are environmentally material. Governance depth should match environmental impact.

- High inference volume?
- Frequent training or experimentation?
- Meaningful cloud or electricity spend?
- Significant supplier exposure?

IS AI MATERIAL?

Proportionate response:

AI READY › VISIBILITY
AI SMART › MEASUREMENT
AI TRUSTED › OPTIMISATION

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AI READY

Know your role as a guardian

ESTABLISH VISIBILITY

Determine **materiality** of AI environmental impacts and avoid obvious **inefficiencies**

Actions

- Integrate sustainability into AI risk assessment
- Extend AI system inventory with basic environmental metadata
- Run quick screening using indicative estimates
- Apply no-regret design and usage choices (smaller models, efficient prompts)

Outcomes

1. AI environmental risks and materiality are understood
2. Inventory enables sustainability oversight
3. Early AI footprint risks are controlled

AI SMART

Be an active guardian

MEASURE & DESIGN BETTER

Move from estimates to **defensible**, decision-grade **measurements**

Actions

- Adopt lifecycle-aligned (LCA) Actions measurement methods
- Define KPIs (e.g., emissions per outcome/token) for AI systems
- Embed environmental criteria into design and procurement decisions
- Align data with CRD and certification reporting processes

Outcomes

1. AI environmental impacts are measured credibly
2. Environmental impact informs AI investment and design decisions
3. AI sustainability reporting is consistent and defensible

AI TRUSTED

Lead as a guardian

OPTIMISE CONTINUOUSLY

Actively **manage and reduce** AI environmental impacts over time

Actions

- Monitor energy and workload patterns
- Apply carbon-aware operations practices (time/region shifting)
- Optimise models, infrastructure choices, and retraining strategies
- Show credible year-on-year improvement for material AI systems

Outcomes

1. Environmental performance of AI is actively managed
2. AI environmental impacts reduce over time
3. AI governance demonstrates responsible stewardship

Mitigation Principles

Right-size models **Choose lower-carbon regions/time** **Reduce unnecessary inference & retraining**

Implement eco-design principles for efficiency **Extend hardware lifetime & support circular procurement**

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