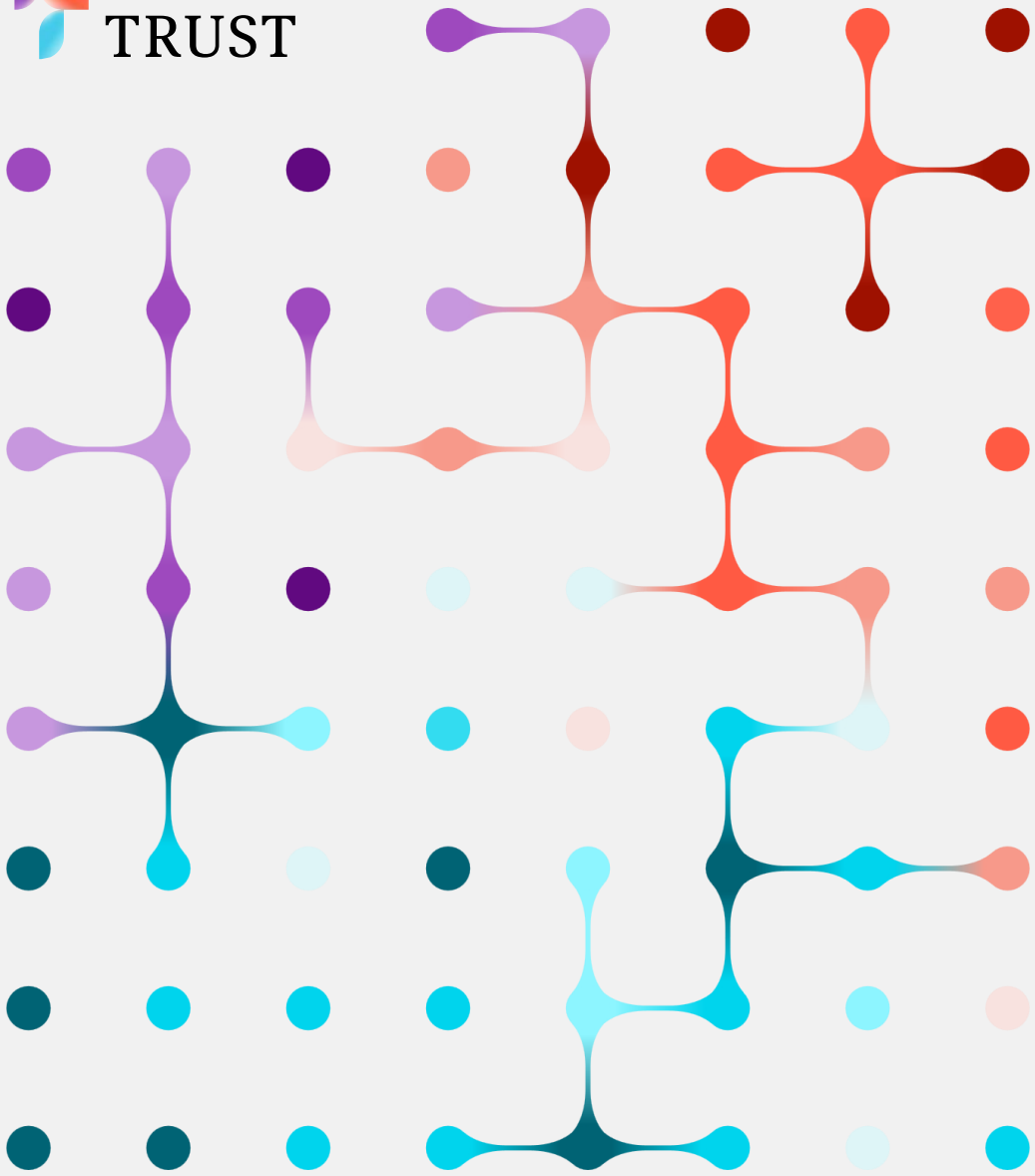
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When Machines Think the Planet Shouldn´t Pay

Professor Morten Dæhlen
University of Oslo, Department of informatics
Co-director, The Norwegian Centre for Trustworthy AI

The Future of Energy is Green and Digital
Oslo, January 14th 2026

TRUST



TRUST aims at providing AI systems that are.....

accurate (precise),

interpretable and transparent (explainable),

aligned (fair, inclusive, autonomy-protecting),

safe (security, privacy),

sustainable (green AI for the green transition),

well governed (nationally and internationally),

and reach all this at **scale,**

…and thus, **trustworthy.**

The Physical Reality of Digital Intelligence (AI is Heavy Industry)

The Hunt for Critical Mineral

The Thirst of the Machines

The Energy Hunger

- Increased Baseload Power Demand
- Delayed Green Transition

Technological Pathways to Sustainable AI

From Large to Small – Edge Intelligence

Neuromorphic and Optical Computing, and even Quantum

Data Sharing, Refinement and Reduction

Data Centres in an AI-powered Green Economy?

Governance Pathways to Sustainable AI

AI-enhanced Governance Framework
for a green economy

Standardized Metrics
and Key Performance Indicators

Prioritize the Earth's health
alongside human/user needs

A Comprehensive Tax System
for Digital Resources (Data)

AI - a Catalyst for the Green Transition

- Smarter Energy Grids towards the Age of Renewables
- Precision Agriculture - less Waste, more Food
- Reinventing Mobility - on Land, at Sea, in the Sky)
- Smarter Healthcare that Prevents rather than Reacts
- From Reactive to Proactive Stewardship of the Earth
- Equity in an AI-Powered Green Economy (learning)
- Discovering New Materials for energy efficiency
- A Force Multiplier for Scientific Discovery (AI in Science)

Concluding remarks

Redefine our Relation to AI

Decoupling (economic) Growth
from (over)Use of Earth ´s Resources

A Challenging
Geopolitical Situation

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Thank you for your attention