

***The climate is changing, so should we.***

***Leading the great transformation***

**Dr. Maria Kottari**

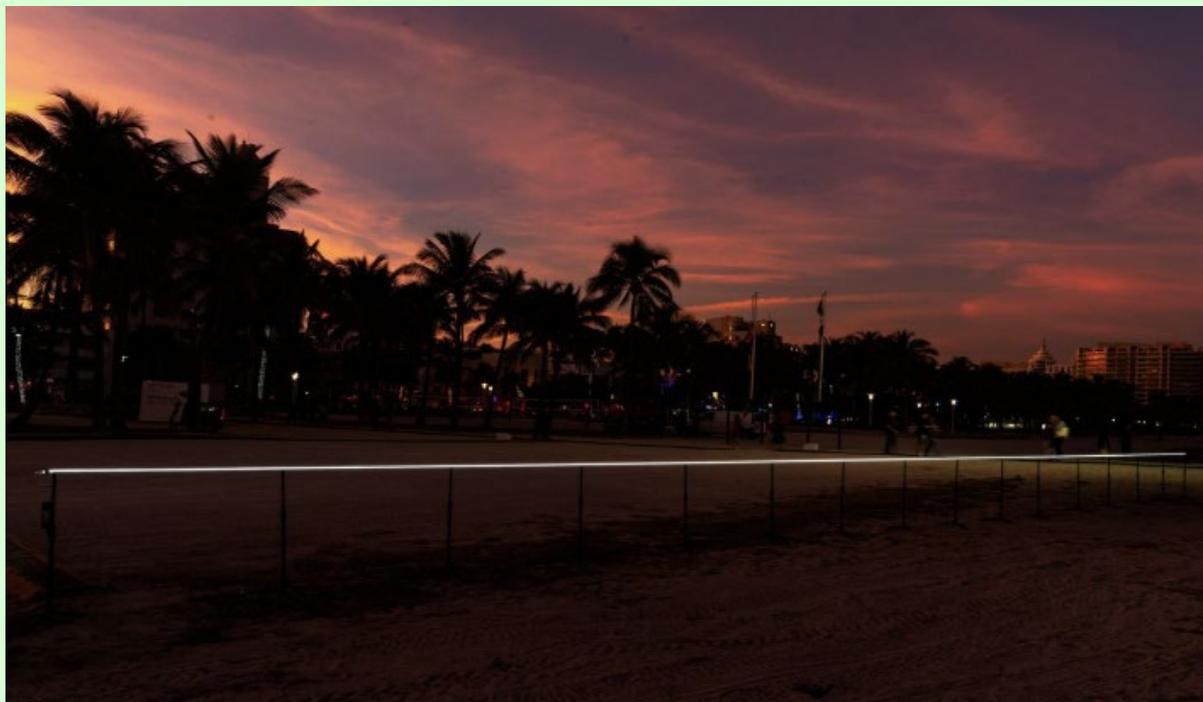
**Founder of the Policy & Research Consultancy The Energy Matrix**

**The Shape Future Consortium Conference**

**Nyenrode University**

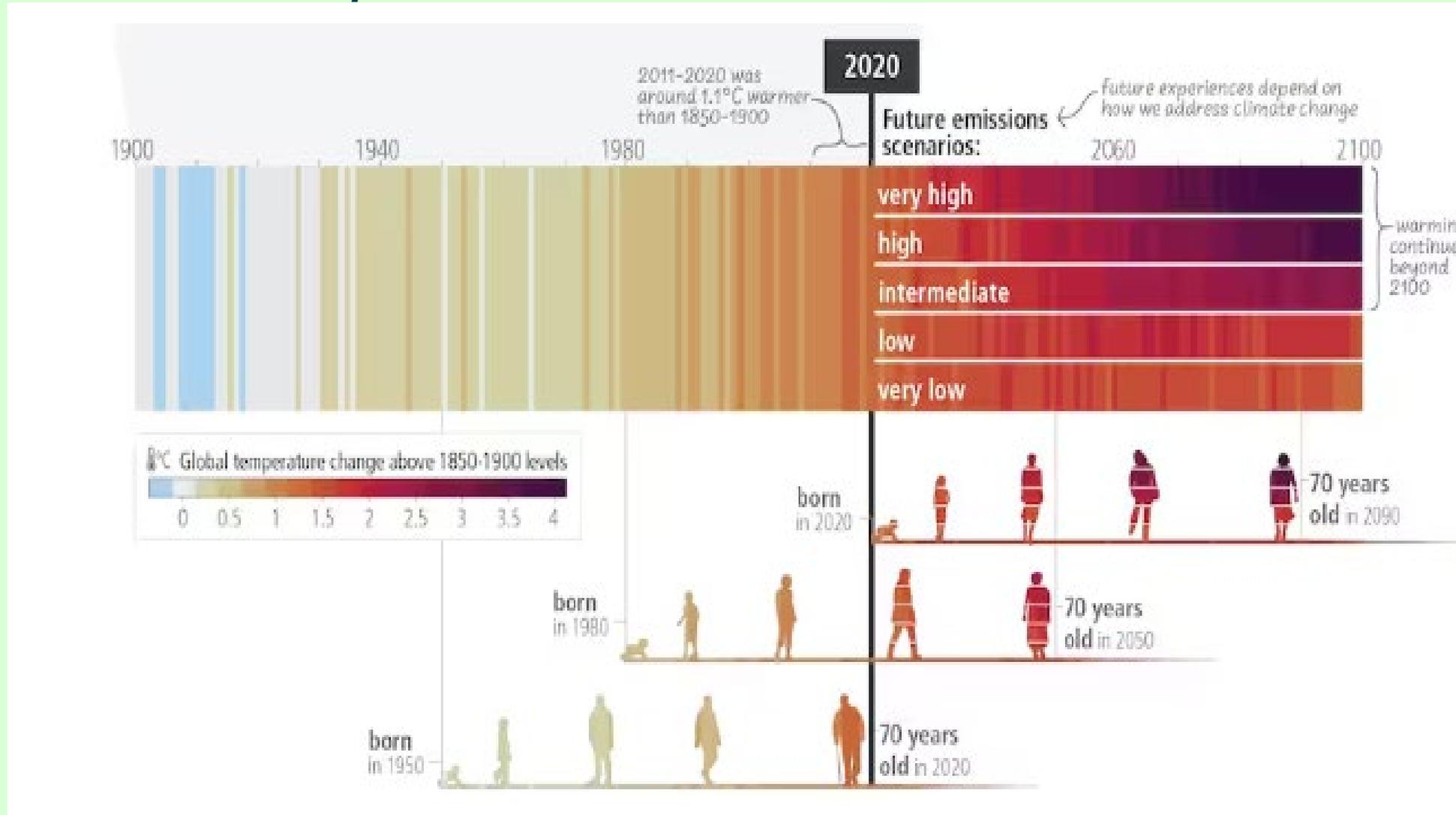
**5-6 February 2026**

***Have you seen climate change?***



CC: Timo Ahocado & Pekka Niittyvirta  
Lines, Helsinki 2025  
<https://niittyvirta.com/lines-helsinki/>

***“The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near future”***

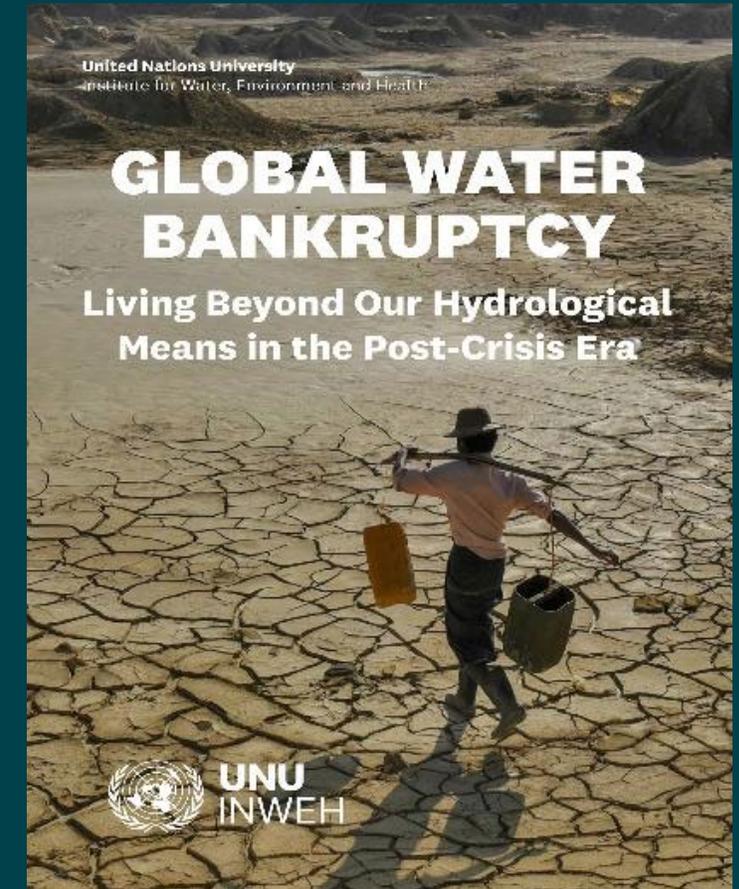


IPCC, 2023: [Summary for Policymakers](#). In: *Climate Change 2023: Synthesis Report*. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

# The reality check – We have breached 1.5°C, and we are living in a state of “water bankruptcy.”



- **The Challenge:** Climate policies fail; we've breached 1.5°C. We are on track towards a 2.9°C increase this century.
- **Current Pressures:** Environmental issues worsen by 2050 from resource intensive lifestyles urbanisation and growth.
- **The Water Factor**
  - **Population Impact:** 75% of people live in water-insecure areas; 30% in the EU face water stress.
  - **Service Gaps:** 2.2 billion lack safe drinking water; 3.5 billion lack sanitation.
  - **Scarcity:** 4 billion face severe water scarcity monthly.
  - **GDP Impact:** Drought damages total US\$307 billion annually.
  - **Biodiversity:** Freshwater vertebrate populations dropped 85% in five decades.
  - **AI "Water Footprint":** By 2027, AI water withdrawal may reach 4.2 to 6.6 billion m<sup>3</sup>, four to six times Denmark's annual total.

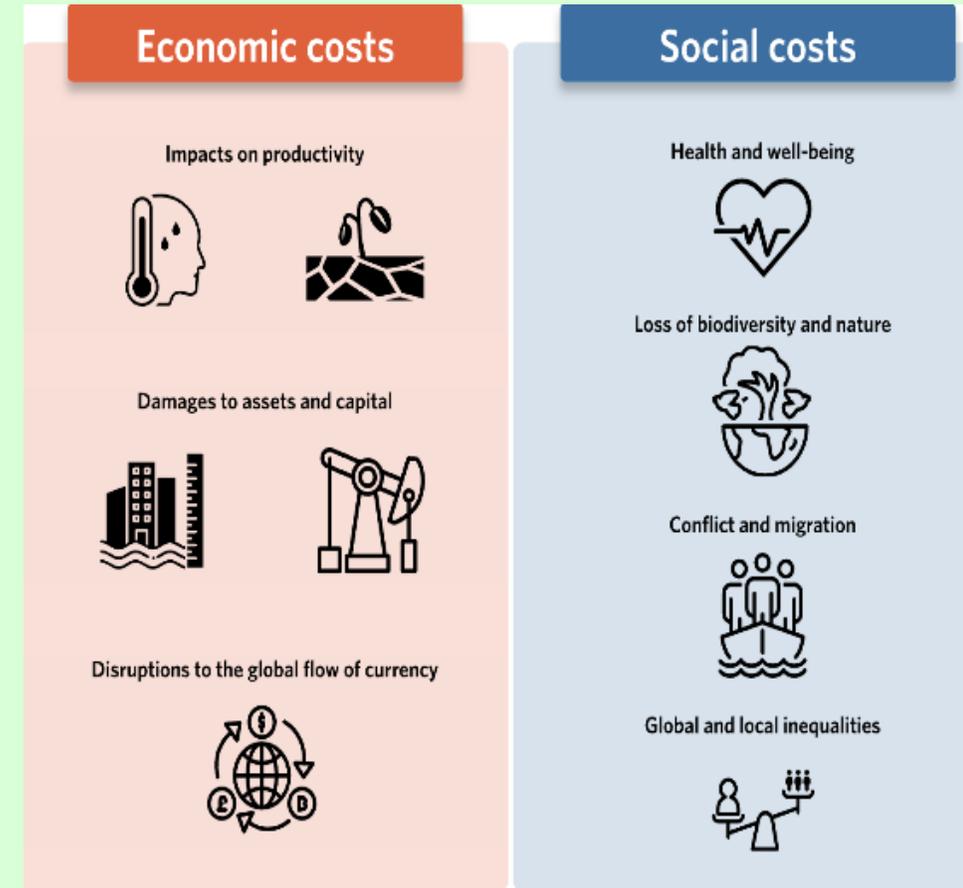


UNU-INWEH Report: Madani, K. (2026). Global Water Bankruptcy: Living Beyond Our Hydrological Means in the Post-Crisis Era. United Nations University Institute for Water, Environment and Health (UNU-INWEH), Richmond Hill, Ontario, Canada. DOI: 10.53328/INR26KAM001

# The macroeconomic stakes and the cost of inaction



- **GDP at risk:** Under a high-emissions scenario, climate damages could reach **4% of global GDP by 2050** and **22% by 2100**.
- **Intensification of resources depletion:** Environmental pressures—driven by population growth, urbanisation, and resource-heavy lifestyles—are expected to worsen through 2050.
- **Heavy toll on health:** Globally, rising temperatures are projected to cause an additional 250,000 deaths per year between 2030 and 2050 from malnutrition, malaria, diarrhea, and heat stress alone (WHO, 2021).
- **Capital loss:** Climate-related disasters (e.g., hurricanes, floods, wildfires) were responsible for USD 299 billion in economic losses due to damage to assets and capital in 2022 alone (Aon, 2022)
- **Economic drag:** Inaction slows poverty reduction and widens global inequality, creating a volatile environment for industrial and financial growth.

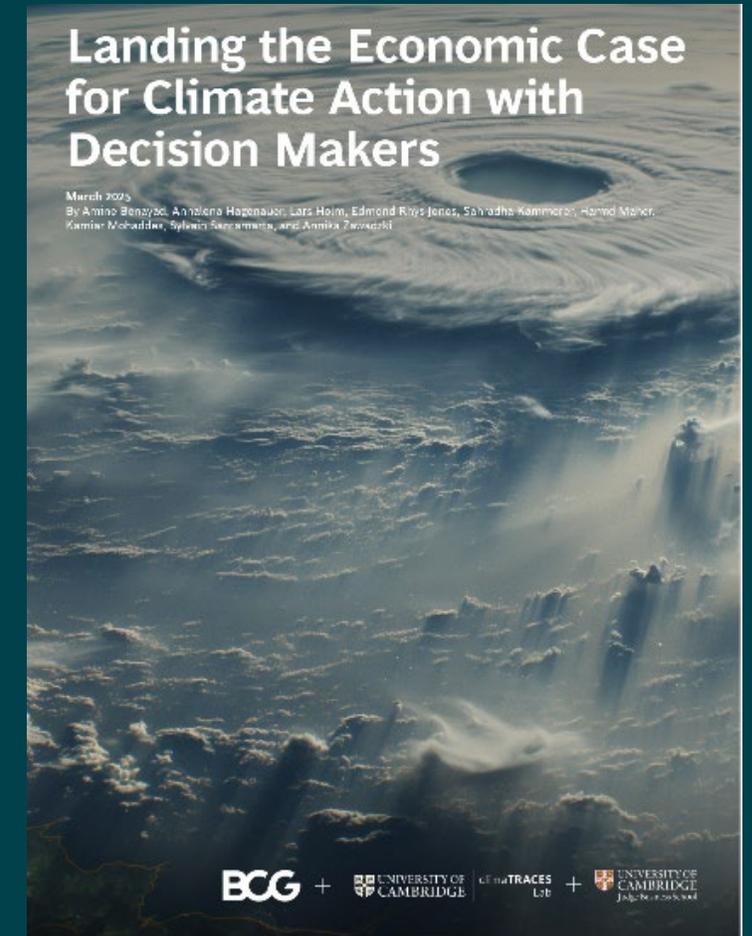


Climate Policy Initiative: <https://www.climatepolicyinitiative.org/the-cost-of-inaction/>

# The macroeconomic benefits of investing in climate action and sustainability



- **Transformative gains:** Transitioning to a sustainable energy and food system will yield macroeconomic benefits of **\$20 trillion per year by 2070** (approx. 6% of global GDP).
- **Manageable costs:** The investments required for this transformation peak at only **1.5% of projected global GDP** around 2040 before turning into substantial net benefits.
- **Greater economic resilience and financial stability:** Limiting warming reduces risks to assets, insurance markets, credit ratings, and public finances, lowering volatility and protecting long-term investment confidence
- **Massive societal co-benefits:** The economic value preserved through climate action could fund transformative priorities, including expanded health care, global infrastructure, and improved security, while supporting jobs and innovation in growing low-carbon industries





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## The Energy Transformation – A Global Shift

- **Decarbonisation Mandate:** Achieving global climate goals requires the total decarbonisation of energy supplies and massive electrification of end-uses.
- **Technology-Focused Pathway:** This future is driven by clean-technology gains, high levels of grid interconnectivity, and large-scale electricity storage.
- **Mainstreaming innovative solutions:** Technologies like hydrogen, power-to-liquids, and carbon capture must move from niche to mainstream to meet 2050 targets.
- **Economic Growth:** This transition is not a retreat from growth but a reconfiguration toward a **circular economy** that reduces dependence on extractive activities.
- **Political costs:** Many governments shun low-cost tools like carbon taxes in favor of expensive subsidies for clean technology. These decisions are shaped by political pressure from mining interests, fossil-fuel regions, and domestic firms facing cheaper foreign rivals.



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## The water-energy-climate nexus. Strategic vulnerabilities and innovation opportunities



Podcast Episode

### AI vs Water Security

Everything Is Changing

Link to [Podcast episode](#)

- Energy and water are deeply and fundamentally connected (IEA): Water underpins energy production, while energy is essential for water extraction, treatment, and distribution, with the energy sector accounting for about 10% of global freshwater withdrawals.
- **Renewable advantage, with caveats**: Wind and solar use 10 to 75 times less water than thermoelectric power, strengthening energy security in water-scarce conditions. Not all renewables are low-water. Biomass and hydropower can be highly water-intensive, with thermoelectric power using 2 to 25 times less water than biomass and hydropower.
- **Window for innovation**: Google case study in Netherlands on using sustainable cooling solutions to reduce data centre water stress in local communities

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## Avoiding the Transparency Trap: From ESG Compliance to Credible Sustainability Actions



- **Beyond Compliance:** Shift from checkbox ESG reporting to multi-level leadership that supports long-term economic value and trust.
- **Consumer Awareness:** Consumers may overlook greenwashing at purchase, but can identify misleading claims when transparency is expected.  
**Regulatory Reality:** Greenwashing weakens credible sustainability markets and increases exposure to regulatory action, including the [EU Green Claims Directive](#).
- **Clear Sustainability Claims:** Use specific, accurate, and verifiable claims, supported by recognised eco-labels, to enable informed consumer choices.
- **Financial and Reputational Risk:** Misleading environmental communication creates legal, financial, and brand risk for organisations.

# Pathways to Transformation and Effective Leadership



**Why It Matters:** Sustainability and climate change combat is no longer only an environmental issue—it is central to economic development, governance, and societal well-being.

**Corporate Leadership:** Combine technology-driven efficiency with cultural transformation to embed sustainability into strategy, operations, and decision-making.

## Public Authorities:

- Set clear policies, standards, and incentives to guide sustainable investments and climate action.
- Enforce transparency and accountability through regulations (e.g., reporting requirements, eco-labels).
- Facilitate innovation and infrastructure that enable low-carbon economies.

## Citizen Engagement:

- Adopt sustainable energy & consumption practices and hold companies accountable.
- Participate in civic dialogue, supporting policies and initiatives that prioritize long-term resilience. Encourage community-based solutions, circular economy models, and sharing initiatives.

**Leadership Synergy:** Transformation is most effective when corporates, authorities, and citizens act together, aligning incentives, values, and capabilities.

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Solving the climate crisis is within our grasp, but we need people like you to stand up and act.

AL GORE