

Sustainability of TinyML



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	Microprocessor	vs	Microcontroller
Platform		>	
Power	30W–100W	~1000X	150μW–23.5mW

Environmental Impact

Operational (Recurring)

- Product use
- Operational energy consumption
- e.g., training, inference

Capital (one-time)

- Supply chain for raw materials
- Chip manufacturing
- e.g., hardware production, transport, end-of-life processing

“ Development that meets the needs
of the **present** without
compromising the ability of future
generations to meet their **own** needs ”

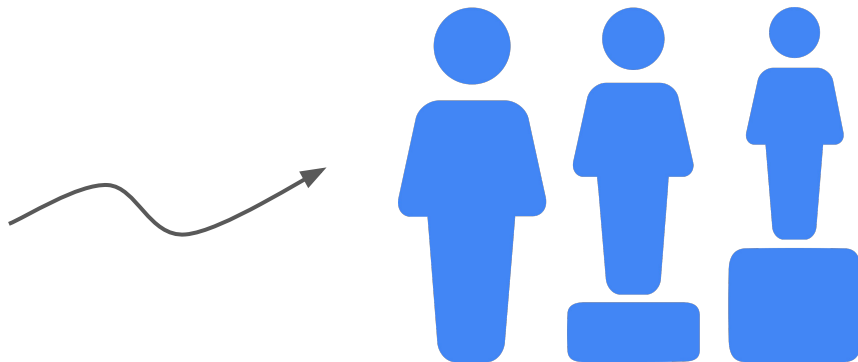
World Commission on Environment and Development
Brundtland Report 1987

Equitable Resource Distribution

Equity

Fair distribution of burdens, benefits, resources, etc.

- **Intra**generational justice
Within a generation
- **Inter**generational justice
Between generations



Sustainability Pledges



Carbon neutral since 2007, carbon free by 2030



100% renewable energy by 2025, carbon neutral by 2040



Carbon negative by 2030,
remove historical carbon emissions by 2050

Sustainability Calculator

