


Socio-Economic Futures in Climate Modelling

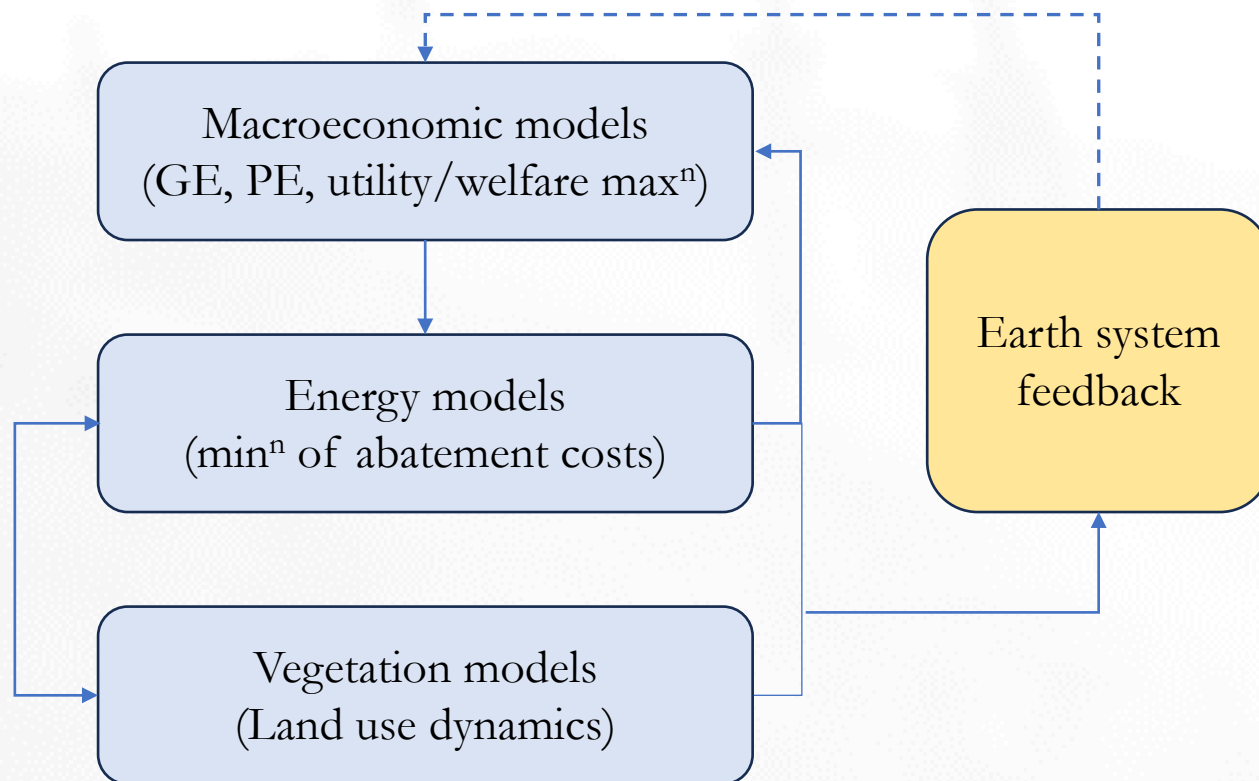
A green-tinted photograph of a rural landscape. In the foreground, a person is walking towards the right, carrying a large, heavy load on their head. In the background, several other people are visible, also carrying loads on their heads, walking along a path. The landscape is hilly and appears to be a rural area. The overall tone is green, suggesting a connection to nature or climate.

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IPCC AR6 Emissions Scenarios

Modeling framework: Integrated Assessment Models (IAMs)

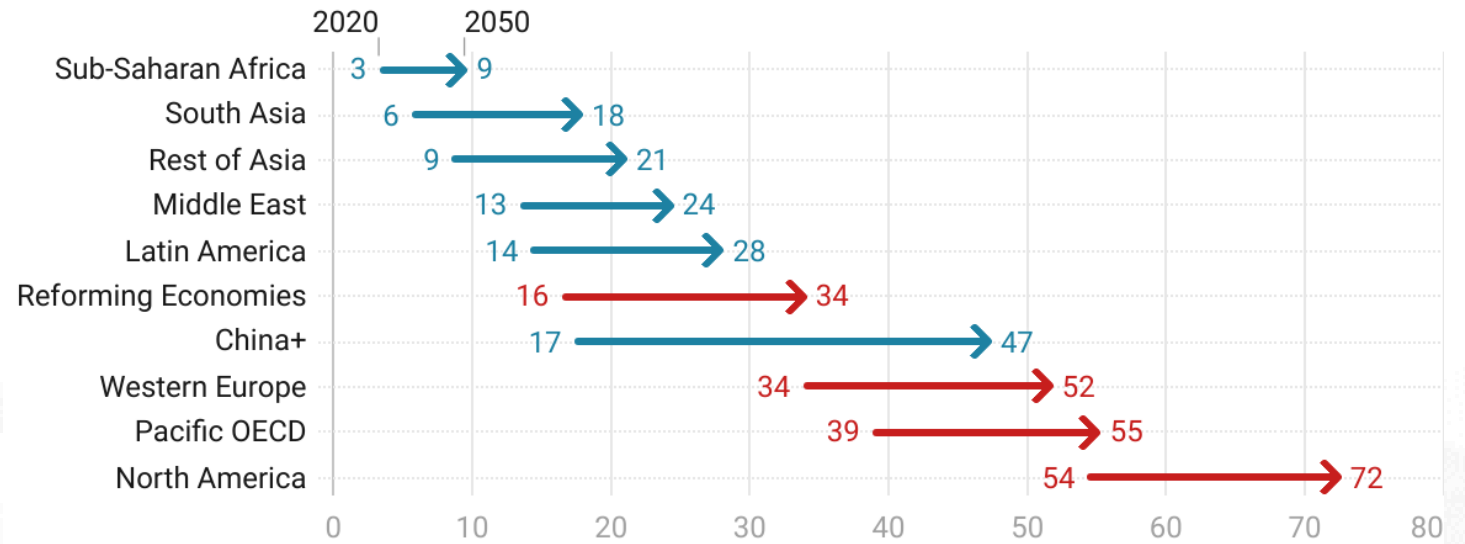


Scenarios Framework: Shared Socio-Economic Pathways (SSP)

- “Socio-economic story-lines” → projections for the future...
- Baseline scenarios based on the balance of adaptation and mitigation burdens on the world

Will there be co-operation and sustainable development or rivalry and fossil fuel dependence?

Per Capita GDP in C1 Scenarios ['000\$-PPP]

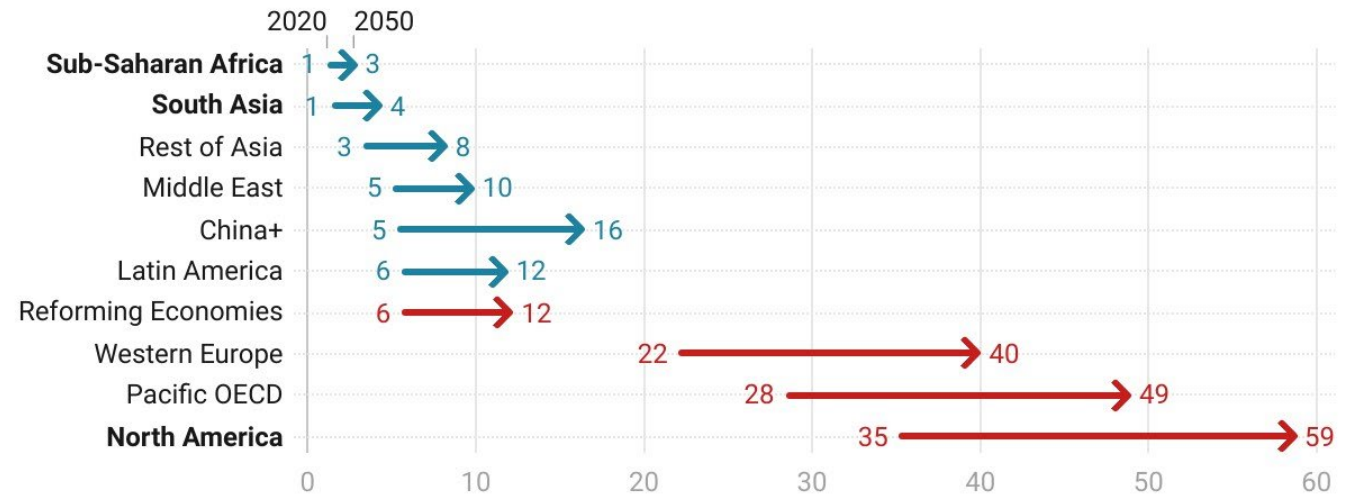


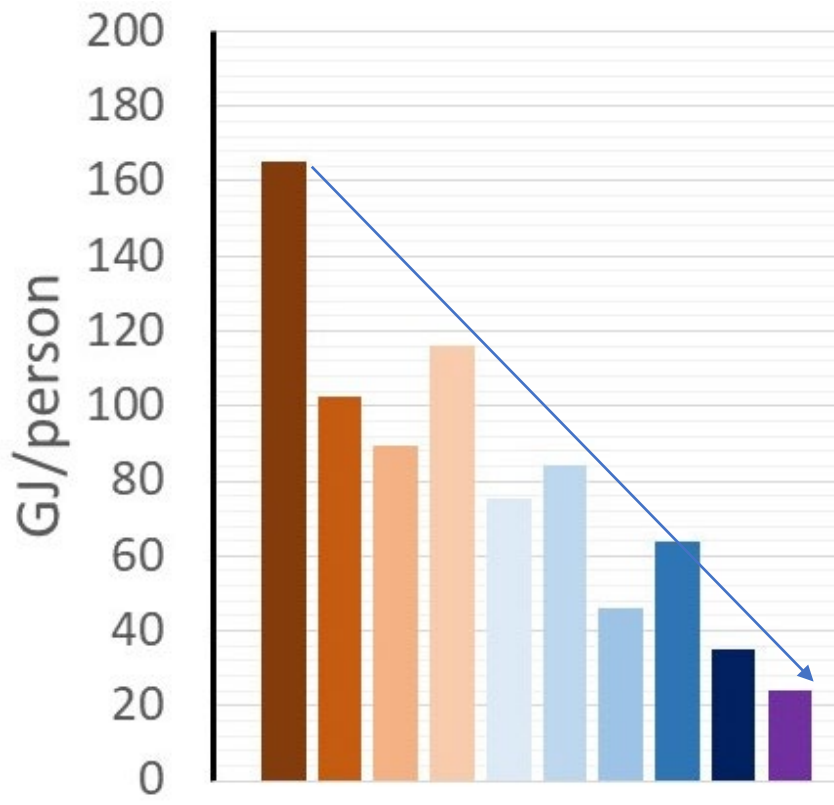
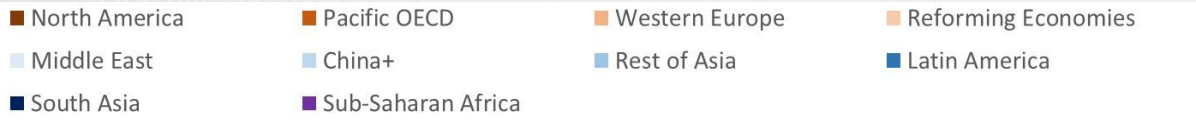
“Pragmatism” and “Reasonable Outcomes”

Historical socio-economic trends, but great strides in technology

Poverty more optimal than reducing inequality

Per Capita Consumption of Goods and Services - C1 Scenarios



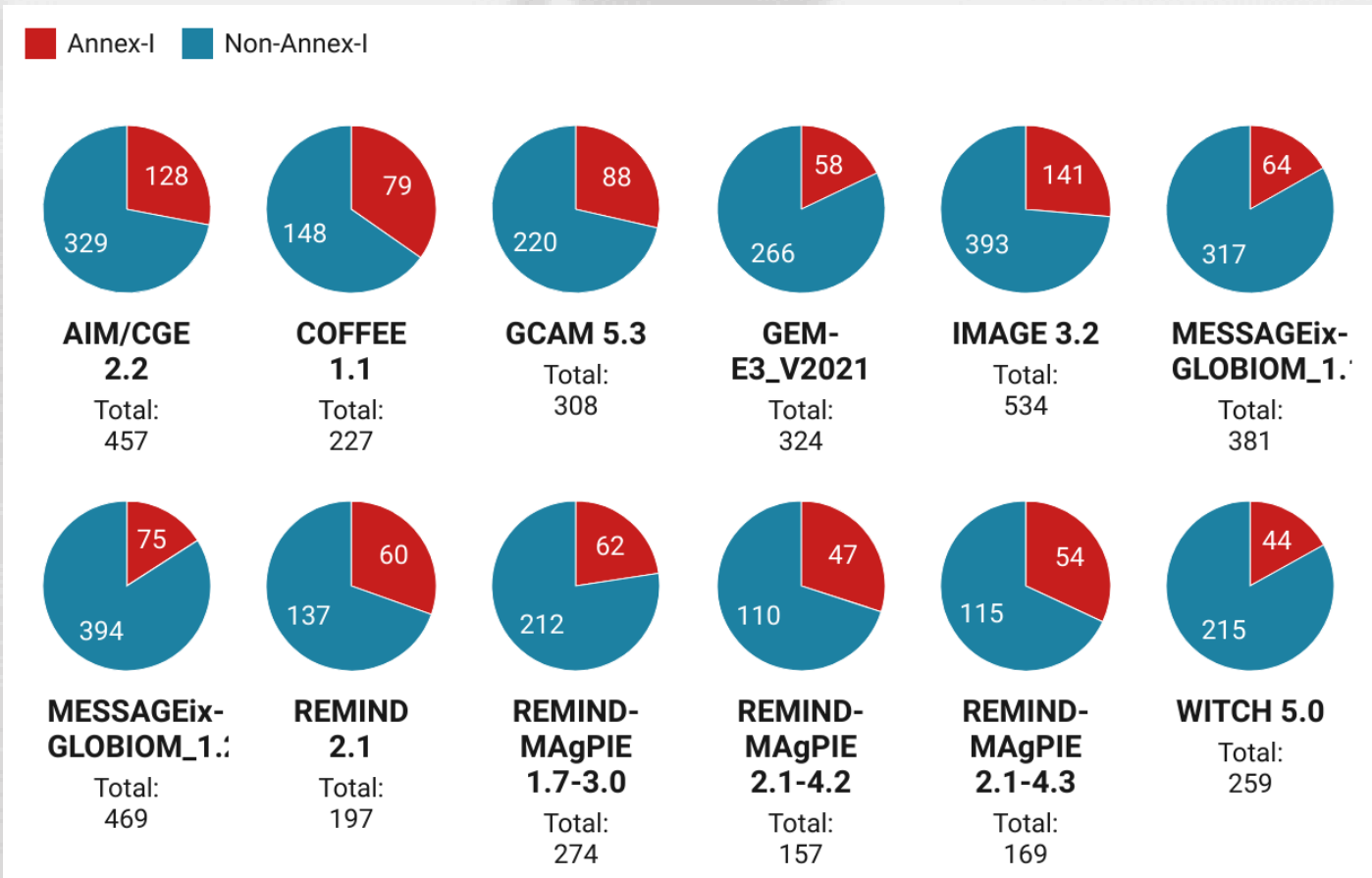


Per capita energy consumption in C1 scenarios

“Great strides in tech...where?”

Continuing energy poverty in the global South

“Great strides in tech...where?”
But the global South will provide the sinks



Carbon dioxide Removal in C1 scenarios

In these modelled futures:

Climate vulnerability and risks are unequally distributed – just like the present

The global South is denied the means to build resilience

Assessment of impact is based on low levels of development (and therefore low adaptation as well)

Alternatives are possible:

Change the starting point and the objective function

Minimize risk by maximizing resilience, then reduce it further by minimizing cost

No trade-off between justice and efficiency