WORLDS APART

The future will look different no matter what — just how different is our choice. There are many doors to many possible worlds.

PROGRESS ON THE SDGS

Progress on the Sustainable Development Goals (SDGs) is largely undone, poverty rates reach new highs and life expectancy decreases.

EACH DEGREE MATTERS

In every decade, the impacts of global warming become increasingly severe. The closer we get to 1.5°C, the harder it becomes to avoid irreversible risks to human societies and Earth's ecosystems. The climate extremes that we experience are more extreme, more frequent and more intense.

LATE, UNCOORDINATED ACTION

If the world acts early on, we can prevent substantially burdens falling on current and future generations. Only worlds with no- or low-temperature overshoots beyond 1.5°C will be aligned with the goals of the Paris Agreement for limiting global warming to 1.5°C — using 'negative emissions'.

EVERY BIT OF WARMING MATTERS

Every year matters. Every action matters. Every bit of warming matters.

EVERY ACTION MATTERS

Atmospheric CO₂ is like a bathtub filling up with CO₂. We can start to drain it by reducing emissions. But the further it fills, the more difficult it will be to reverse. The greater any overshoot, the harder it will be to avoid dangerous climate change.

LATE, UNCOORDINATED ACTION

Deforestation continues in tropical regions, particularly the Amazon rainforest, which is at risk of droughts. Ice sheet melt in the Antarctic and Greenland lead to rising sea levels. Glaciers extent decreases in most mountainous areas.

COASTAL COMMUNITIES

Coastal communities struggle with increased inundation associated with rising sea levels and more frequent and intense heavy rainfall, and some respond by moving. Migration, forced displacement, and loss of identity is extensive in some countries.

TROPOCAL / SUBTROPICAL CONCERNS

Mid-latitude and tropical regions severely affected, in particular the Mediteranean, the plains of Africa and South America. Intensifying storms and heatwaves increase. Coral reefs die off, which affects marine ecosystems, particularly in the tropics, particularly Dollar Islands.

PROACTIVE Vs. LATE ACTION

Coordinated decarbonisation that takes a wider sustainability perspective minimizes the required scale are still delayed, decisive action. Solar Radiation Management (SRM), a geoengineering solution, is proposed, but negotiations prove very uncertain.

NATURAL LAND AND OCEAN CARBON SINKS

Natural land and ocean carbon sinks are necessary for stabilising the global atmospheric CO₂ concentration at pre-industrial levels. However, they are not yet able to absorb the additional CO₂ stemming from fossil fuel burning.

ACTION THREE POSSIBLE WORLDS BEGIN TO DIVERGE IN THE 2020s...

Emergency global summit in Chicago, Kolkata, Beijing, Rio de Janeiro or Stockholm? Or is it better to have a slow and steady approach? Or to deal with climate change as a general sustainability issue?

ERADICATING POVERTY

Human-made CO₂ emissions need to be cut by 40% by 2030 relative to 2010 levels by 2030. Energy efficiency improvements are needed to achieve this. But first, a little more context.

Mid-case scenarios such as the medium emissions storyline from among other DOE models define the world we get tomorrow. But to get a better world, we need to determine the world we get tomorrow.

ACTION EARLY, EFFECTIVE WORLD

And the solution is straightforward: reduce GHG emissions from meat more than 80% by 2030. Required energy system transformation is transformed by 2050 (carbon neutrality). GHG emissions from meat are cut by 80% compared to 2010 levels by 2030. West Antarctic ice sheet melt, the retreat of the Greenland ice sheet and the melting of the Arctic Sea ice are reversed, and the Earth system, while warmer, becomes more stable.

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LATE, UNCOORDINATED ACTION WORLD

Deforestation continues in tropical / subtropical coastal communities. Migration, forced displacement, and loss of identity is extensive in some countries.

POSSIBLE WORLDS IN 2100 COMPARED WITH TODAY

Deserts expand, drawing the water in its megacities. Premiums for water increase. Disruptive technologies for energy and food production are developed. But first, a little more context.

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PROVIDING CO2 SINKS

The Earth system, while warmer, becomes more stable. But first, a little more context. If the world acts early on, we can avoid dangerous climate change. The closer we get to 1.5°C, the harder it becomes to avoid irreversible risks to human societies and Earth's ecosystems. The climate extremes that we experience are more extreme, more frequent and more intense.

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