



Climate transition finance

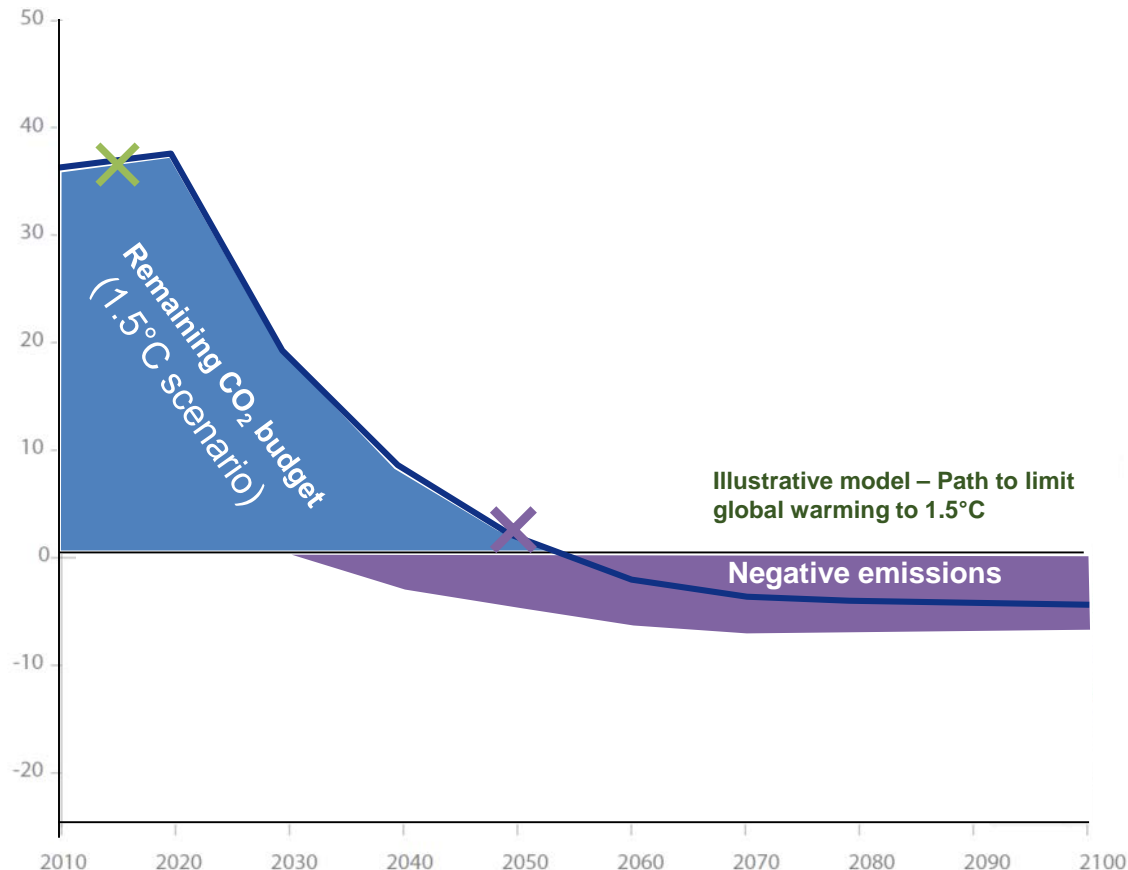
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The challenge of achieving Paris climate agreement goals

Science demonstrates an urgent need for rapid reductions of CO₂ emissions to “Net Zero”

Global total net CO₂ emissions
(in billion tons of CO₂/year)



Source: IPCC SR1.5 – Summary for Policy Makers, figure 3a

~38 Gt

Annual CO₂ emissions from fossil fuels and industry in 2018

~4 Gt

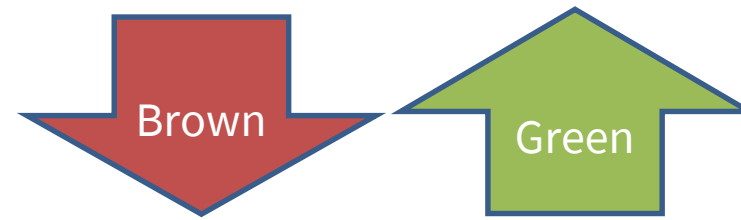
Maximum total annual CO₂ emissions in 2050 and beyond, coupled with negative emission technologies

Net Zero 2050 means a **50% chance of a maximum 1.5°C average global temperature increase** by 2100 compared to pre-industrial level

420 Gt cumulative CO₂ emissions left (“CO₂ budget”) for a 2/3 chance of limiting global warming to a max. 1.5°C temp. increase

How the world will transition to Net Zero?

With large shifts in energy supply AND demand



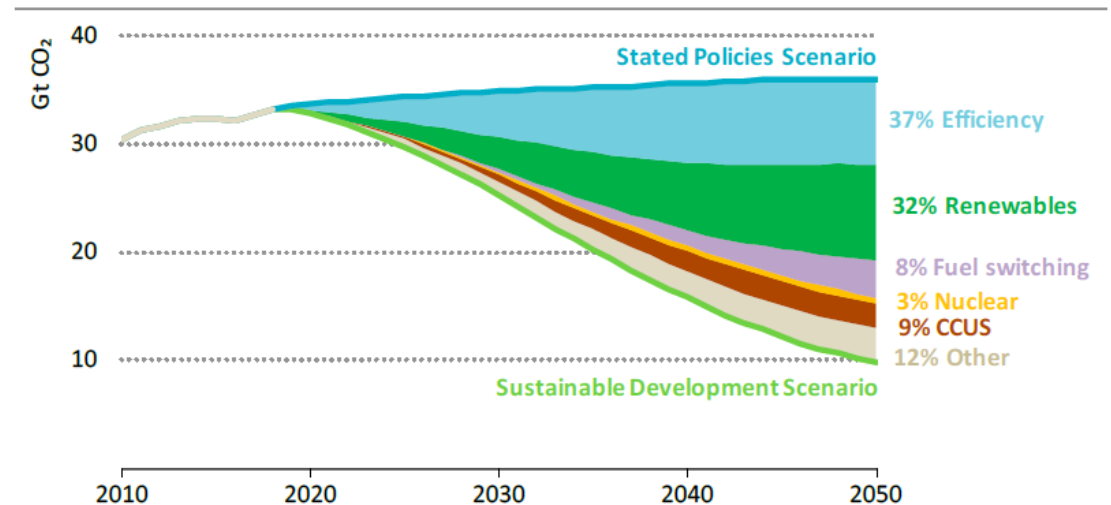
The transition to a well below 2 degree world will be achieved through large shifts in the energy supply by an increase in the share of renewables in the energy mix.

Primary energy sources share (variation in % from 2010) in 1.5°C compatible pathways.

Major primary energy sources	2020	2030	2050
Coal	-1% (-6% to +16%)	-64% (-60% to -71%)	-75% (-73% to -80%)
Oil	+17% (+15% to +19%)	-11% (-23% to -3%)	-60% (-81% to -30%)
Natural Gas	17% (11% to 25%)	8% (-10% to +22%)	7% (-28% to +14%)
Non-biomass renewable	79% (60% to 91%)	310% (280% to 370%)	570% (460% to 670%)

Source: Intergovernmental Panel on Climate Change

CO2 emissions reductions by measure in the Sustainable Development Scenario relative to the Stated Policies Scenario



Source: World Energy Outlook 2019 , IEA

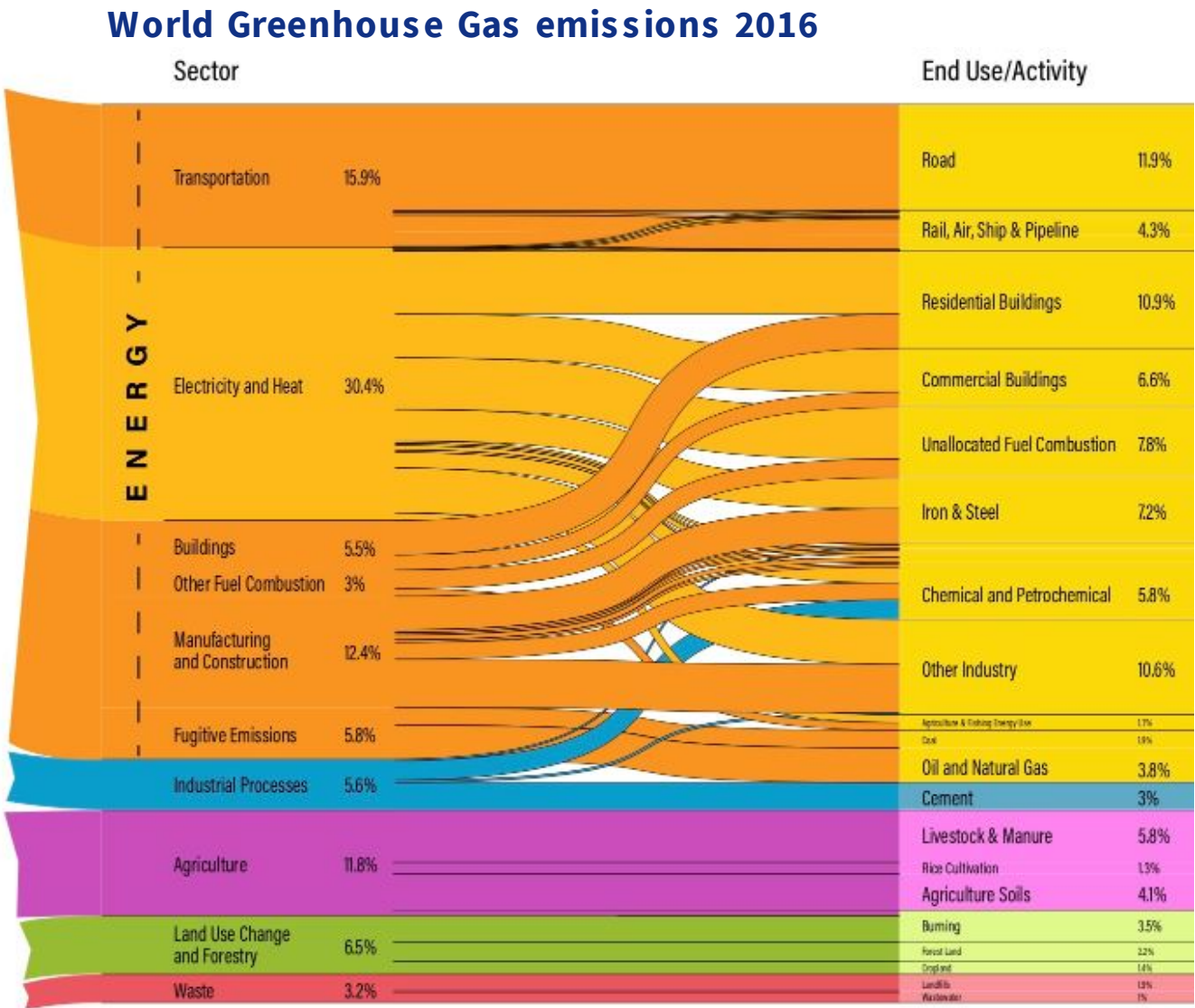
How the world will transition to Net Zero?

With large shifts in energy supply AND demand

The transition to a well below 2 degree world will be achieved with large shifts from the energy demand side.

This will require drastic energy efficiency gains in sectors such as transport, buildings, industrials, consumers and agriculture.

But in many of these sectors, there are currently no viable technologies to enable operation or production without fossil fuels.



Source: World Resource Institute

Climate Transition Finance

- **‘Climate Transition’** is the concept which envisages the shift of the world economy from the fossil-fuel dependent model of today to a low-carbon one in the future.
- In 2019, AXA IM published a call-to-action for the establishment of a new fixed income asset class called **“Transition Bonds”**
- Green Bond Principles launched Climate Transition Finance Working Group which we are co-chairs to assess concept
- More than 80 capital markets participants in Working Group including many corporate issuers. Japanese WG members included
- There is hope that Japan can be a major player in Transition Finance
- Transition Bond labelled issuances from Cadent Gas, SNAM etc



Climate Transition Finance

The key concepts for carbon intensive industries

Climate Transition Strategic Goals: Clear intentionality to state climate change strategy. Objective of climate transition broadly accepted achieving the goals of the Paris Agreement.

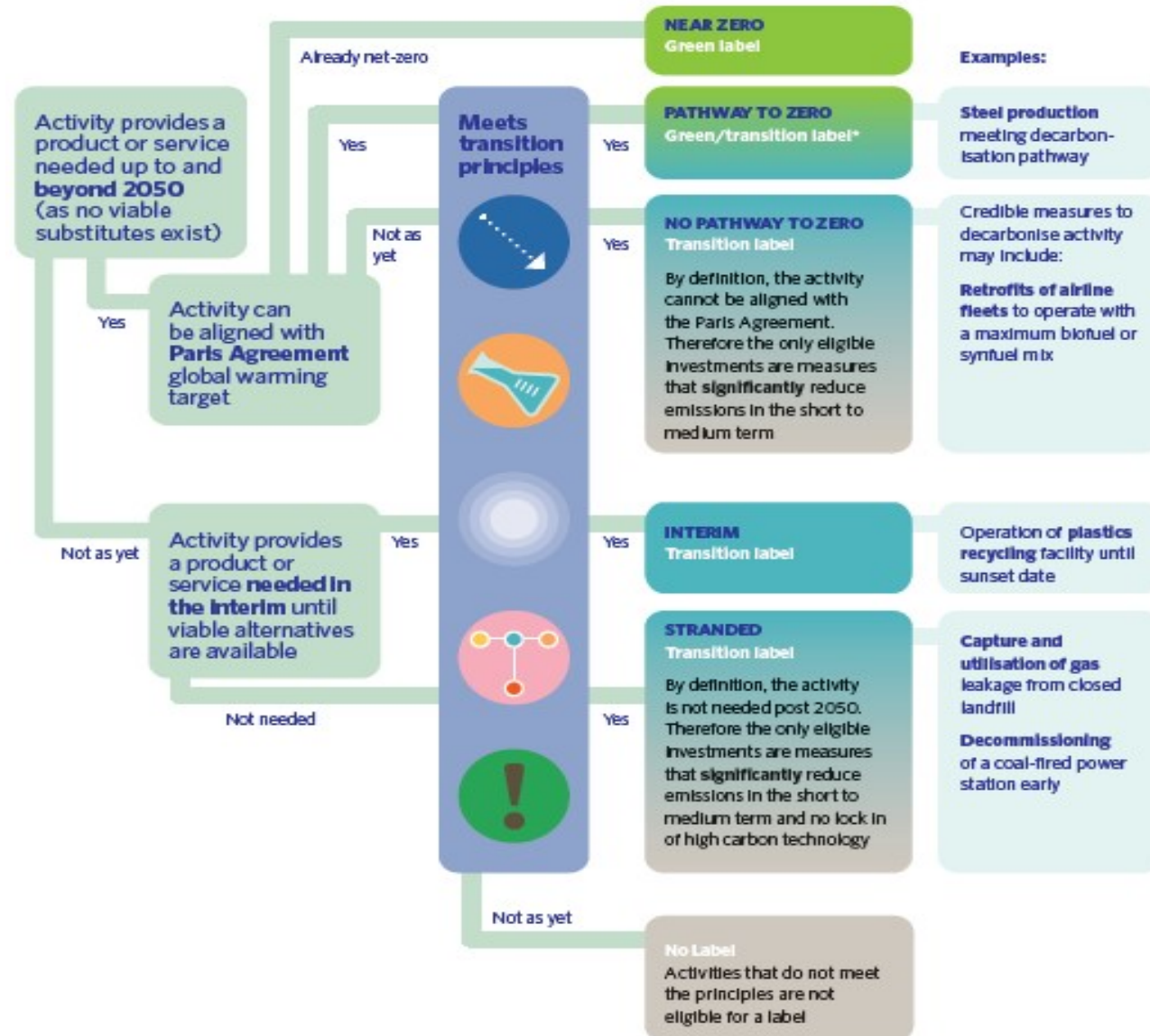
Disclosure: TCFD is a well recognised and respected disclosure framework. Should it be a base expectation to describe climate related risk management practices for all issuers?

+1.5 degree Celsius alignment: How can issuers assess their climate strategy is just business-as-usual OR shifting the business towards achieving the Paris goals? What science based targets and pathways should be considered?

Climate Finance Instruments: Linking corporate expenditure which enable achieving strategic climate objectives with financing needs

Climate Transition Finance

Climate Bonds Initiative and Credit Suisse report recommends creation of distinct Transition label



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