



Climate Risks: What a 1.5-degree Pathway for Rubber Fora

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Climate Risks



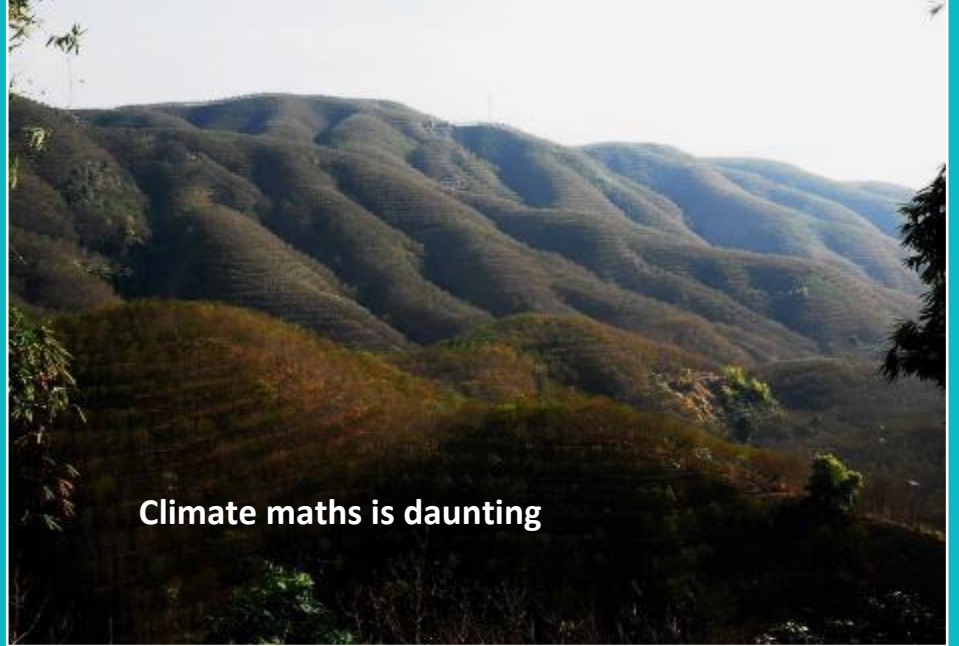
The impacts of climate change are happening now, and faster than ever predicted. The climate crisis is becoming increasingly evident with more frequent, more intense natural disasters!



- **Almost all of the world's natural rubber—a strategic raw material- is currently grown in areas where the annual mean temperature is 26 to 28°C.**
 - **Asia-Pacific region contribute to 91% of natural rubber production and major end user is tyre and auto parts.**
 - **Natural rubber production is slowly shifting from traditional to non-traditional regions and within a region rising temperature is bringing a shift towards marginal areas.**
- 2 **Natural rubber production is impacted by climate change and needs to adapt to it.**



Climate Risks



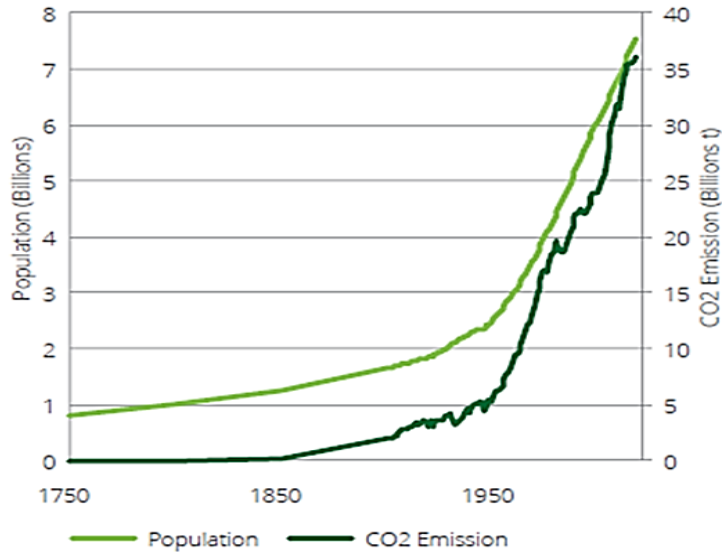
Climate maths is daunting

- **Mitigating climate change through decarbonisation represents half of the challenge**
- **Scientists estimate that limiting warming to 1.5°C would reduce the odds of initiating the most dangerous and irreversible effects of climate change**
- **The good news is that a 1.5°C pathway is technically achievable. The bad news is that the math is daunting. Such a pathway would require dramatic emissions reductions over the next ten years—starting now**

Rapid declines in CO₂ emissions would be required to reach a 1.5°C pathway

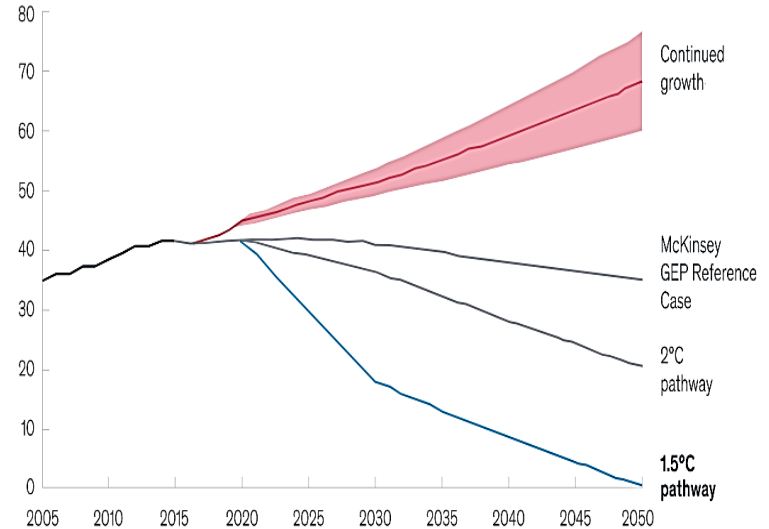
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Global population and CO₂ emission (1750-2020)²



Source: McKinsey, 2020 & Deloitte, 2020

Metric gigatons of CO₂ (GtCO₂) per year



- **Reducing carbon emissions is no longer enough to halt the impacts of climate change**

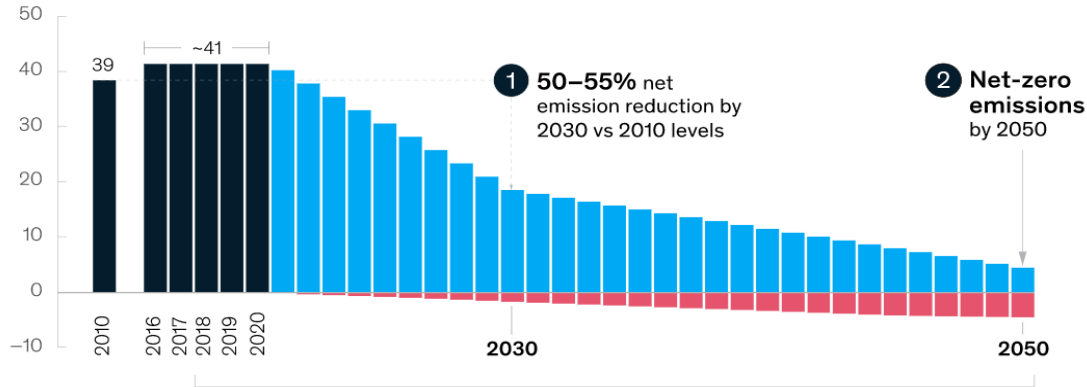


A Paced Transition Pathway

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Cumulative global CO₂ emissions, current and historical, metric gigatons of CO₂ (GtCO₂) per year

■ McKinsey GEP Reference Case ■ Emissions required for 1.5°C pathway ■ Negative emissions² required for 1.5°C pathway



- **CO₂ emission per unit of output- a little below 2% per year, but requirement would be much higher2050**
- **Keeping to 1.5 degrees would require limiting all future net emissions of carbon dioxide from 2018 onward to 570 gigatons (Gt) and reaching net-zero emissions by 2050**



Climate-resilient, low emissions, climate adaptation strategies

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Five major business, economic, and societal shifts would underlie transition to a 1.5-degree pathway

- **Sustainable production**
 - **New cultivation approaches , halting deforestation, curbing waste**
- **Embracing the circular economy and boosting efficiency in raw material/industries to decrease GHG emissions, reduce costs, and improve performance**
- **Renewables and bio-energy**
- **Electrification is a massive decarbonisation driver for transportation/buildings**
- **Carbon-capture and carbon-sequestration activity-Over the next decade**

Transition to a 1.5-degree pathway for Rubber Fora



Sustainable Production

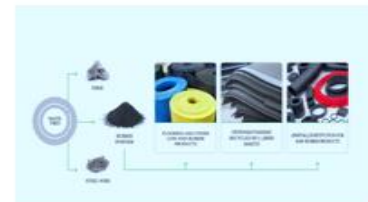


Land use changes & farming practices



Responsible sourcing- traceability from land origin of products to their overall carbon footprint and evolving business strategies on efficient raw material, deforestation free supply chain and circular economy

- ❑ Sustainable material supply is key factor for end-users leading to increased sustainability awareness
- ❑ Circular Economy business model



- ❑ Non-tyre material recycling
- Partnerships are developing



Transition to a 1.5-degree pathway for Rubber Fora

Decarbonisation driver

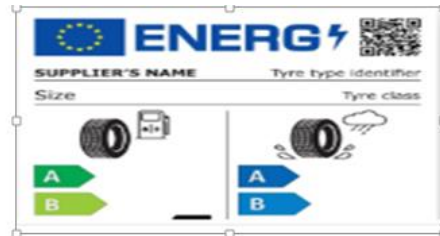


Which mitigation policies work best?



Digital technology solutions?

- Carbon tax
- Emission trading system
- Feebates
- Regulations



Transition to a 1.5-degree pathway for Rubber Fora

It is impossible to chart a 1.5-degree pathway that does not remove carbon dioxide to offset ongoing emissions. The math simply does not work.

➤ Climate Adaptation

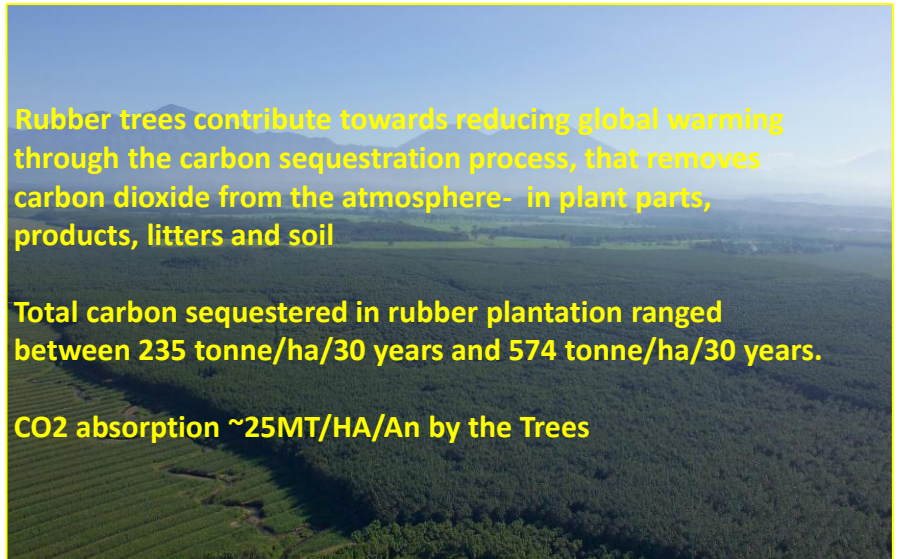
Reducing carbon emissions is no longer enough to halt the impacts of climate change

- Eco-system based adaptation
- National adaptation plan

➤ Carbon-capture and sequestration

➤ Climate finance

- Critical in addressing climate change - large-scale investments required to significantly reduce emissions



Rubber trees contribute towards reducing global warming through the carbon sequestration process, that removes carbon dioxide from the atmosphere- in plant parts, products, litters and soil

Total carbon sequestered in rubber plantation ranged between 235 tonne/ha/30 years and 574 tonne/ha/30 years.

CO₂ absorption ~25MT/HA/An by the Trees

Source: Mahtthan, R.K, 2020



Pathway for Rubber Fora: Moving Forward ?

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- ✓ **Actions have been initiated at the country level to decarbonise and address urgent adaptation needs.**
 - Around 14 million ha of rubber plantation globally is a strong carbon sink
 - Proper plan for replanting of old rubber trees with inter cropping & mixed cropping well aligned with NDC
 - Decarbonising supply chain via regulatory framework to bring it free of deforestation and assured on traceability check
 - Assured living income from rubber farming for social safety net for millions of small farmers
 - Reuse natural rubber from the end of the life of product

- ✓ **Green financing to encourage climate adaptation in natural rubber.**

- ✓ **International accounting of carbon in bio-mass and its value added products.**

- ✓ **Public-private sector collaboration in mitigation and adaptation projects and awareness creation for people adopt it.**

- ✓ **Integration of rubber in mitigation policies, measures and adaptation policies' discussion in climate summit.**





International
Rubber Study Group

'Climate change is a long-term shift in global or regional climate patterns'

'In reality, it is about changes in our very way of life'

Thank You!

