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Accelerating the adoption of Green Technologies in Industries-PM perspective

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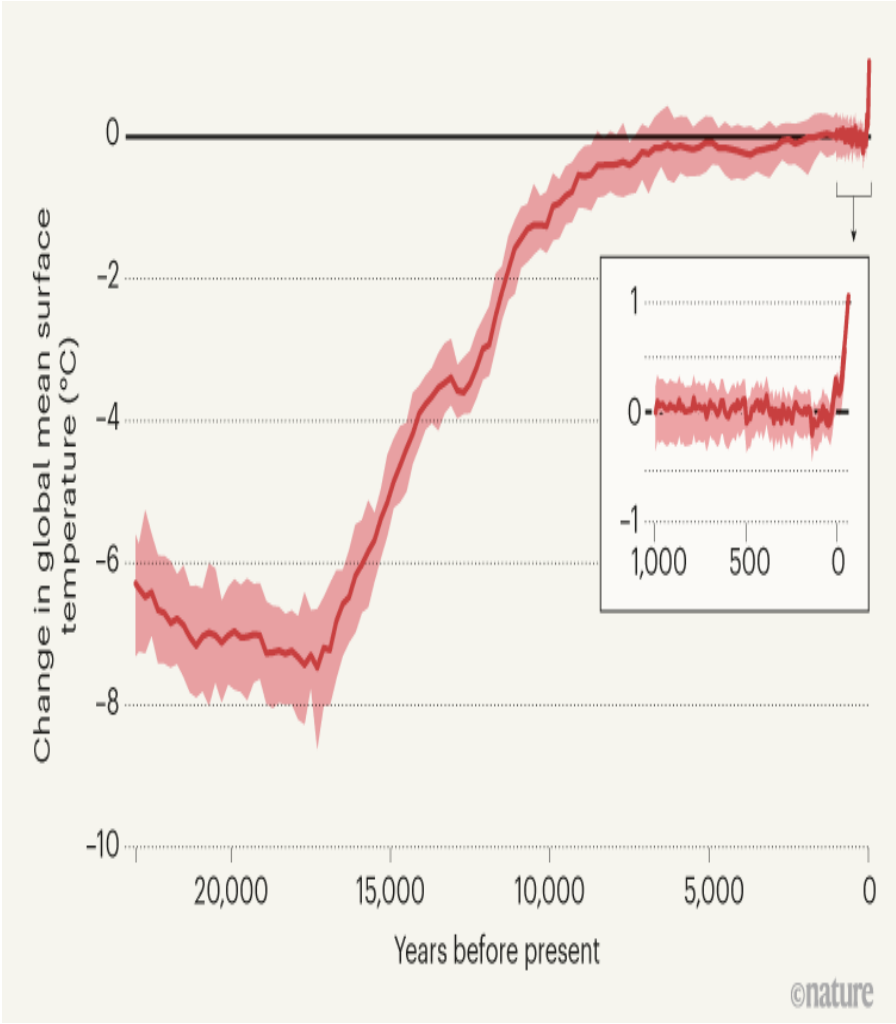
What Are We Discussing Today?

- Climate Change Scenario at a Glance
- Evolving nature of projects in Climate change context
- Types of projects in climate change scenario
- Accelerating Green technologies in Industries
- Way forward - Project Management perspective

Climate Change scenario at a Glance

- Until recently, the *highest* average CO_2 concentration recorded in some 800,000 years was 300 ppm. Indeed, for the last few thousand years before the Industrial Revolution, CO_2 levels sat around 280. As of May 2023, scientists have recorded peaks more than 50 percent higher than that, at **424 ppm**.
- This image shows the corresponding temperature variations dating back to the last ice. Since the relatively recent pre-industrial era, we've already warmed up about **1.1 degrees Celsius**.
- UNFCC/COP set target of limiting warming to 1.5 Deg Celsius by 2030
- Even have just a **one-in-two chance** of keeping warming to 1.5 C, the remaining carbon budget is just 300 $GtCO_2$ as of January 2022—or less than eight years of current emissions. Plus, uncertainties remain, meaning that there is some possibility we have blown our whole carbon budget for 1.5 C already.



Who is responsible

The primary human activity that contributes to climate change is the burning of fossil fuels for energy (electricity, heat, and transport). Agriculture, forestry and land-use changes, industry, and energy embodied in buildings are other major contributors.

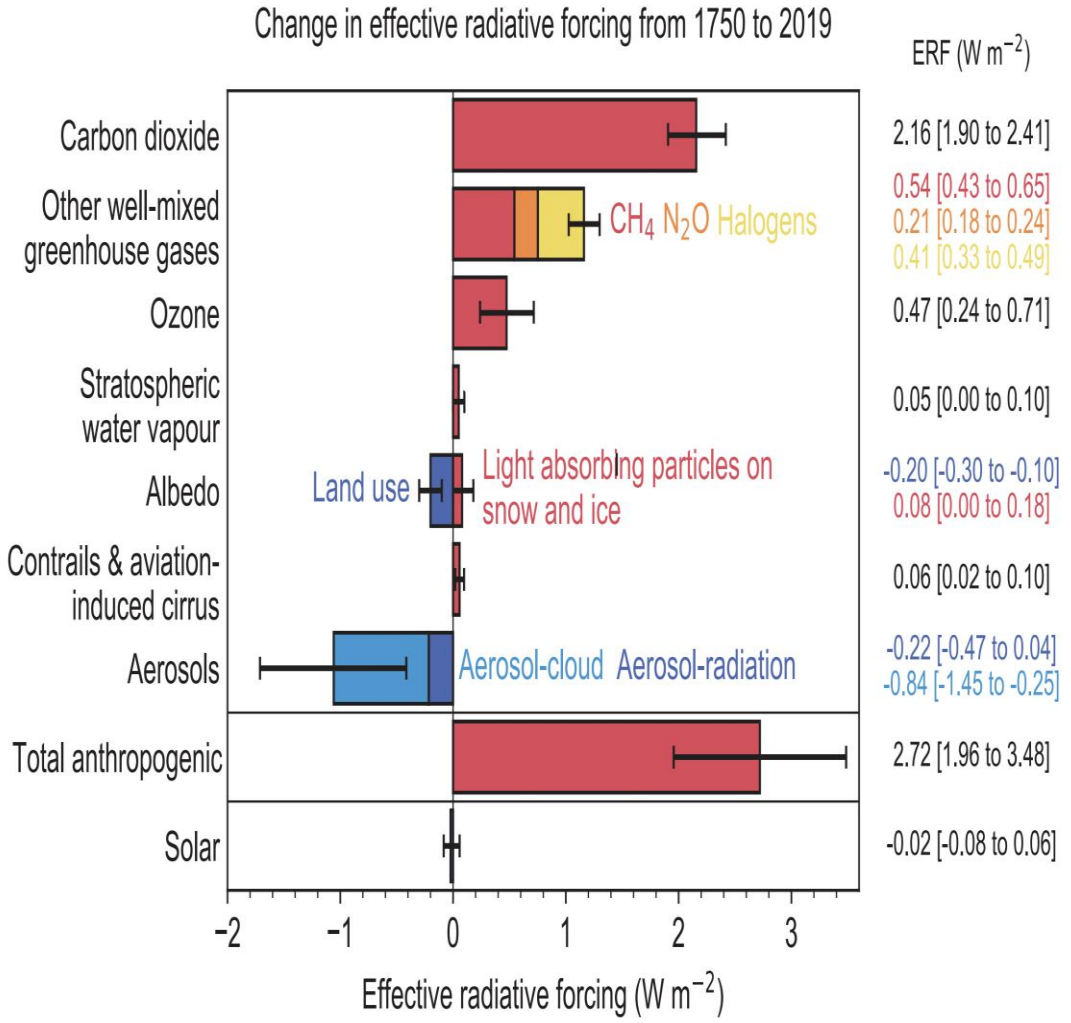
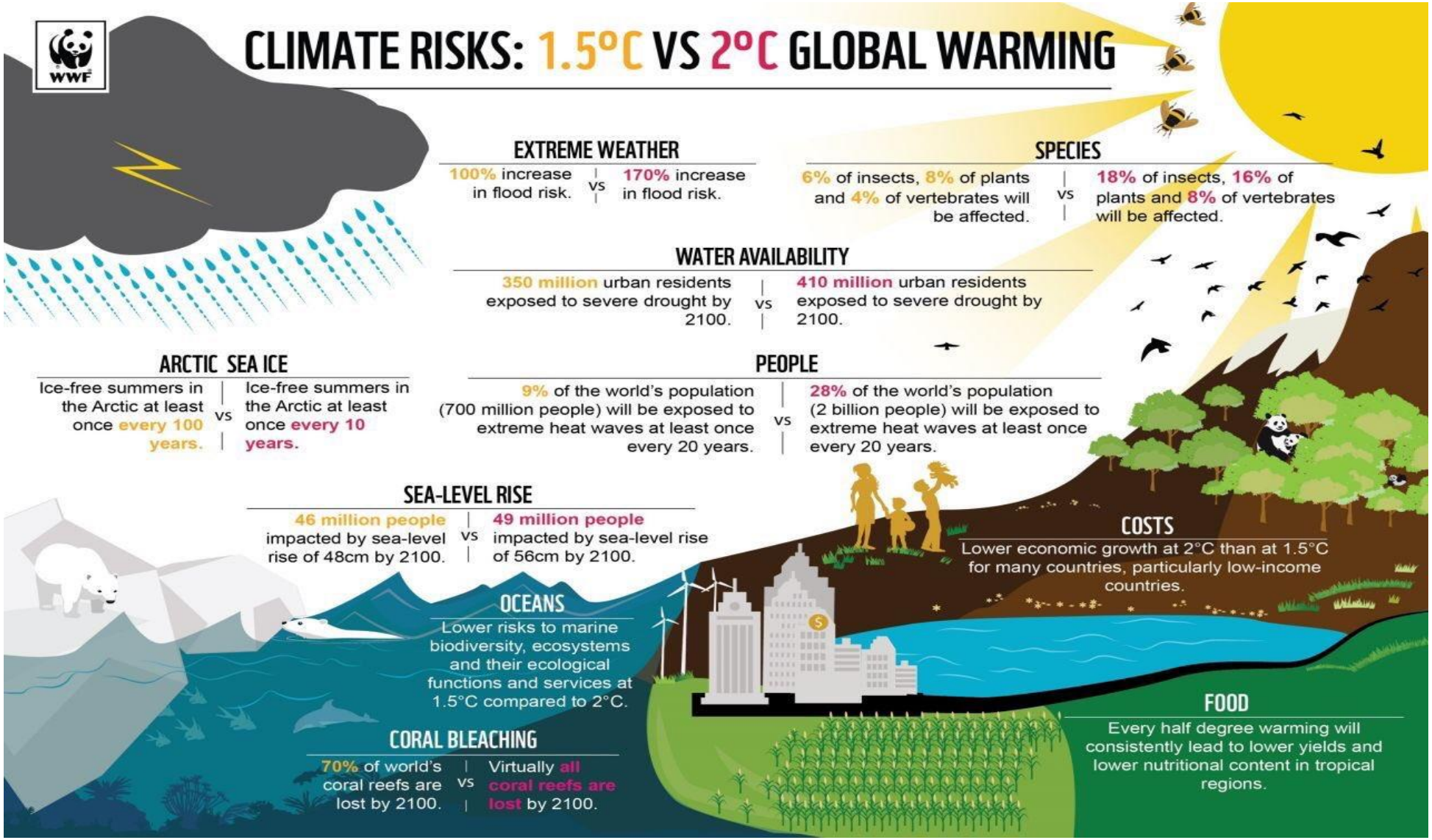


Figure 7.6 | Change in effective radiative forcing (ERF) from 1750 to 2019 by contributing forcing agents (carbon dioxide, other well-mixed greenhouse gases (WMGHGs), ozone, stratospheric water vapour, surface albedo, contrails and aviation-induced cirrus, aerosols, anthropogenic total, and solar).

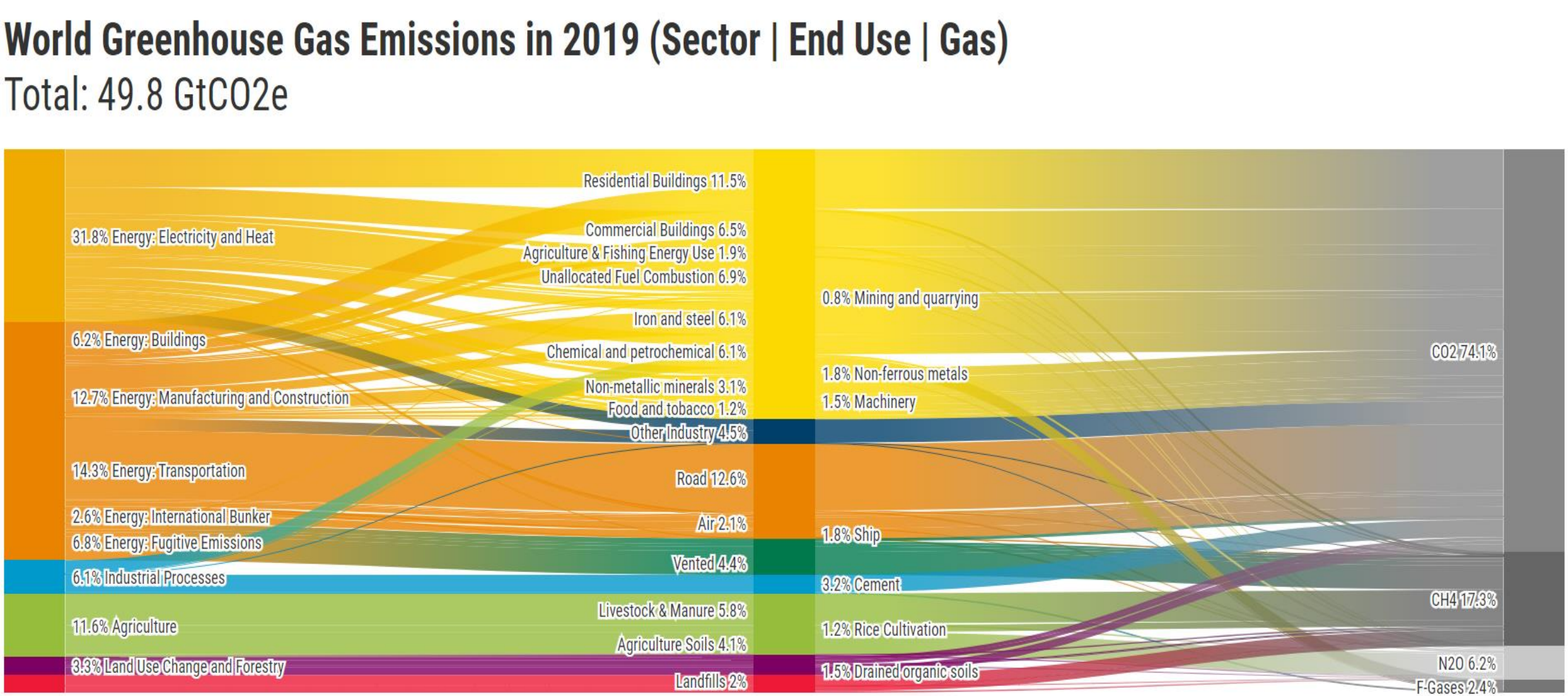
Source: World Bank National Accounts Data

Impact by 0.5 Deg increase



Source: World Bank National Accounts Data

Sector wise emissions at a Glance



Source: World Bank National Accounts Data

Evolving nature of projects in Climate change context (1/3)

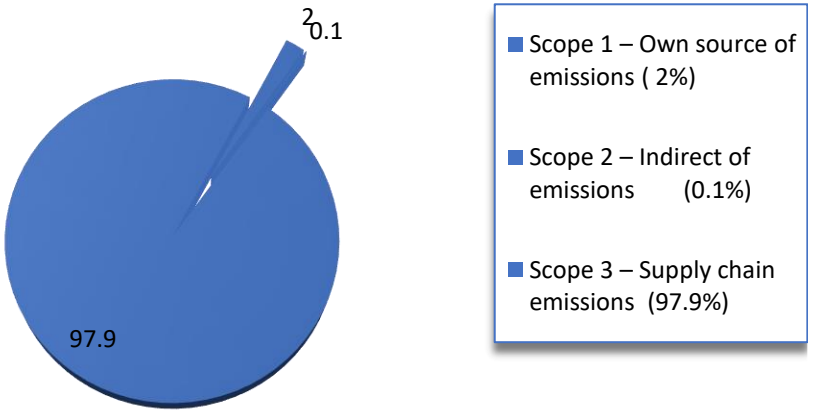
- **Three pronged approaches** happen in climate change
  - Adaptation (about 2.3 T USD by 2030)
  - Resilience (included above)
  - Mitigation (about 23 T USD by 2030) which is 3-6 times likely to increase.

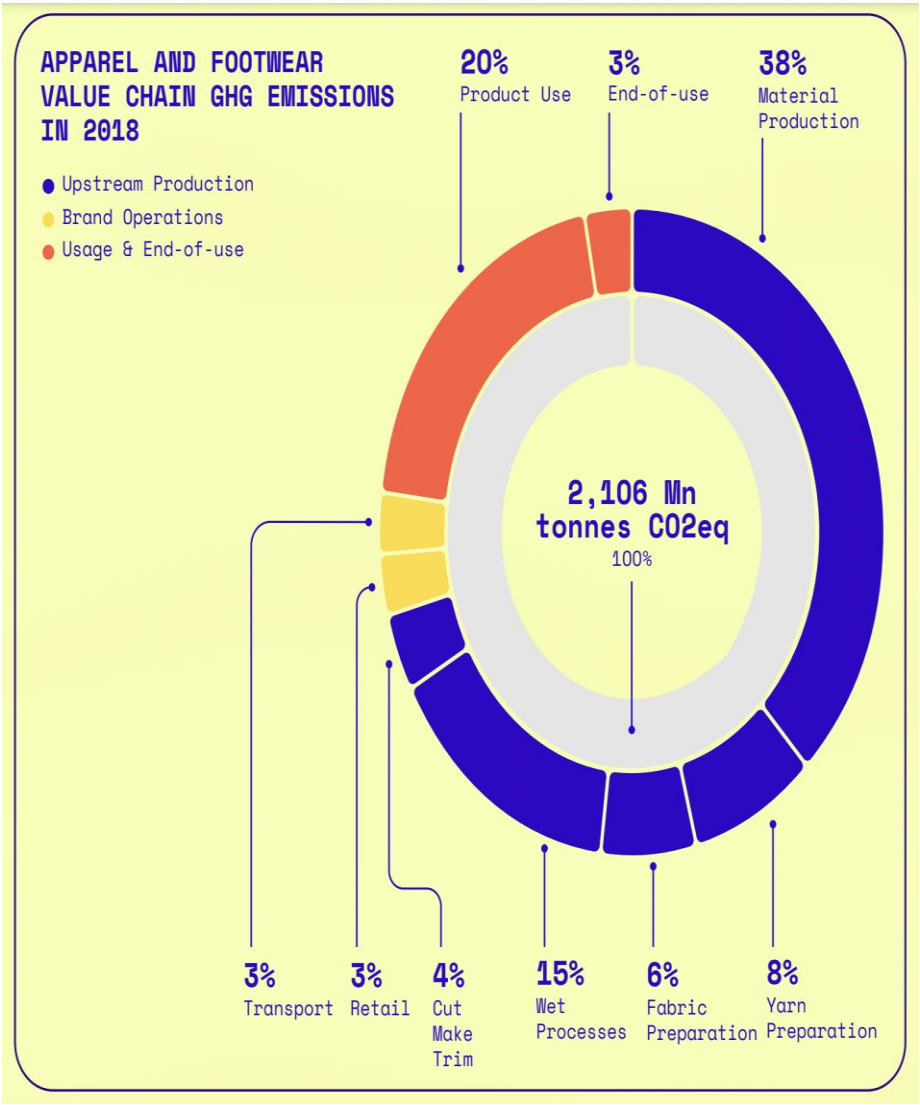
Evolving nature of projects in Climate change context (2/3)

- **Change in global energy source scenario**
  - Coal demand peak in next two years
  - Gas demand peak and plateau by end 2030
  - Oil demand peak by mid 2030

Evolving nature of projects in Climate change context (3/3)

- **Types of emissions**
  - Scope 1 – Own source of emissions (2%)
  - Scope 2 – Indirect of emissions (0.1%)
  - Scope 3 – Supply chain emissions (97.9%)





Types of projects in climate change scenario

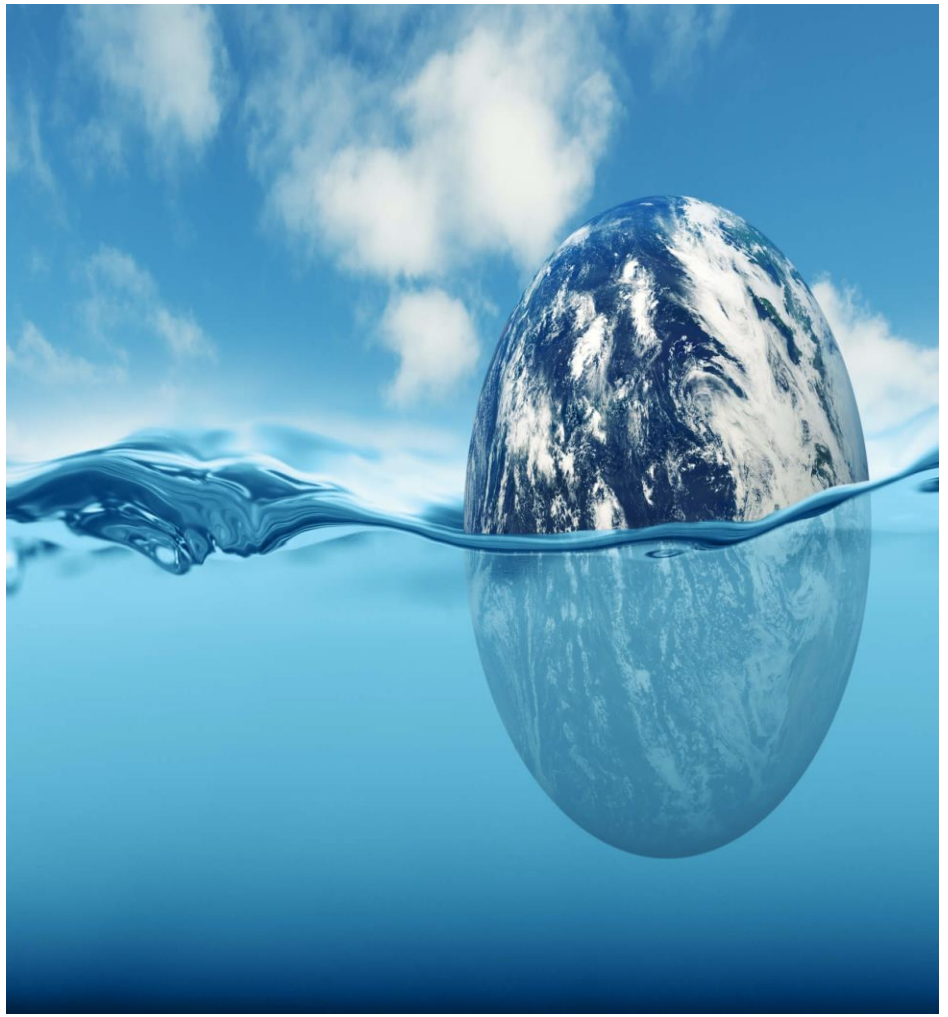
- Circular economy
- Resource conservation
- Electrify
- Renewable energy
- Transport and mobility
- Carbon capturing units (CCU)
- Bio energy based carbon capturing
- Enhanced weathering
- Food related – waste reduction, regenerative
- Carbon offsetting

Green technology- a quick view

- The most ideal approach to deal with environmental problem is to prevent it from being created in the first place. Therefore, green technology proffer the solution to climate change and take the lead in preventing environmental problems resulting to a sustainable environment.

Accelerating Green technologies in Industries

- Energy transition
- Accelerating/fast tracking
- Availability of technology
- Domain expertise availability
- Lack of skill sets
- Financial constraints
- Supply chain in total to adopt Green tech.
- Engineering, procurement and Construction (EPC) Challenges – carbon free cements ?
- Social impact



Project Approach

From ancient to modern

Railroad / Manufacturing

Early 1900s

Post 1950

- PERT and CPM
- Beginning of modern Project Management

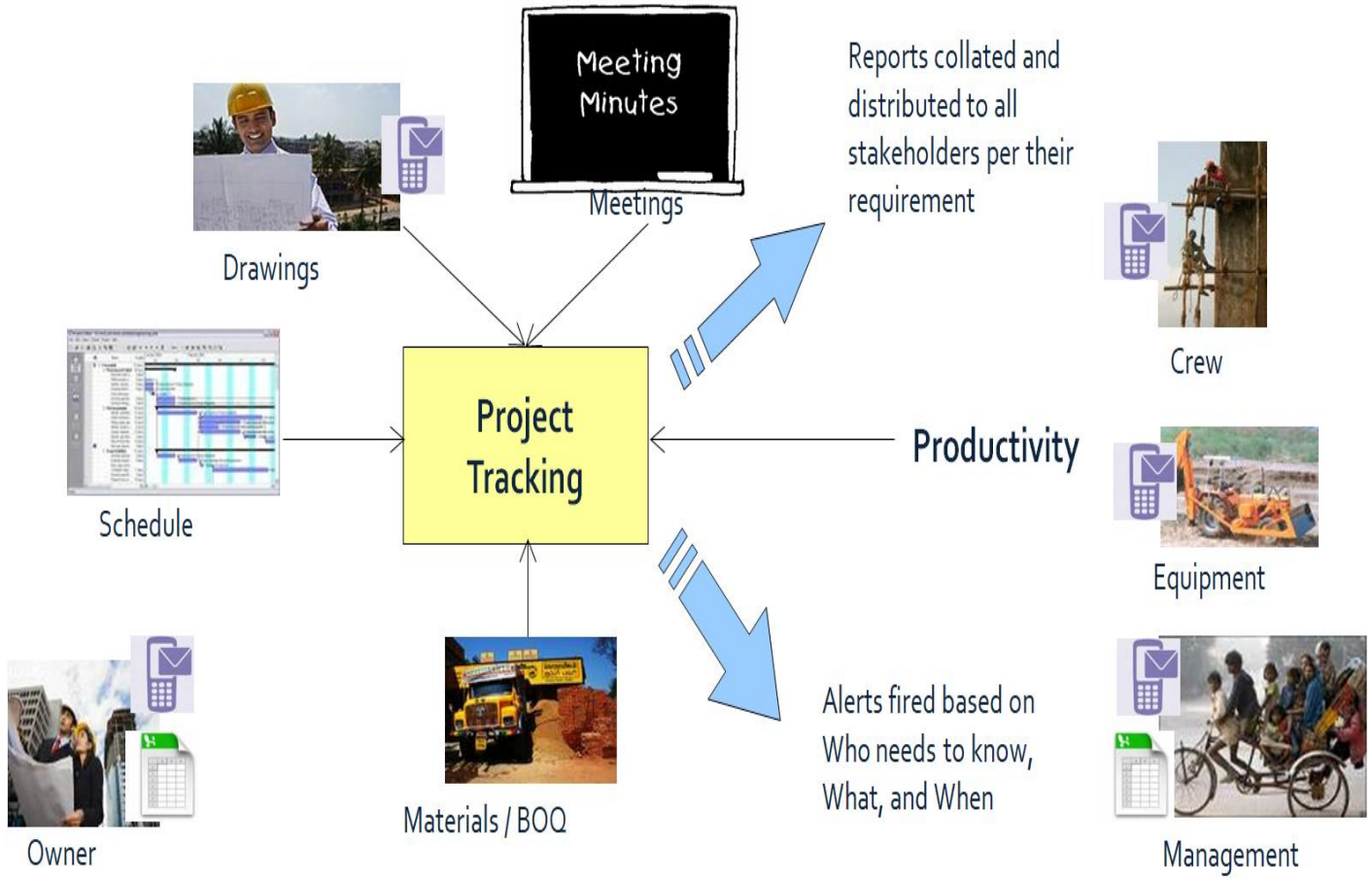
1950

1900 - 1950

- Construction, Engineering, Defence
- Gantt and Taylor

Way forward - Project Management perspective

- Initiation and selection
- Planning
- Execution
- Monitoring
- Risk Management
- Close out



Way forward - Project Management perspective

- Big picture approach
- Risk management
- Supply chain related solutions
- Communicating for Change

- Competence Development
- Training
- Resource base creation
- Mindset

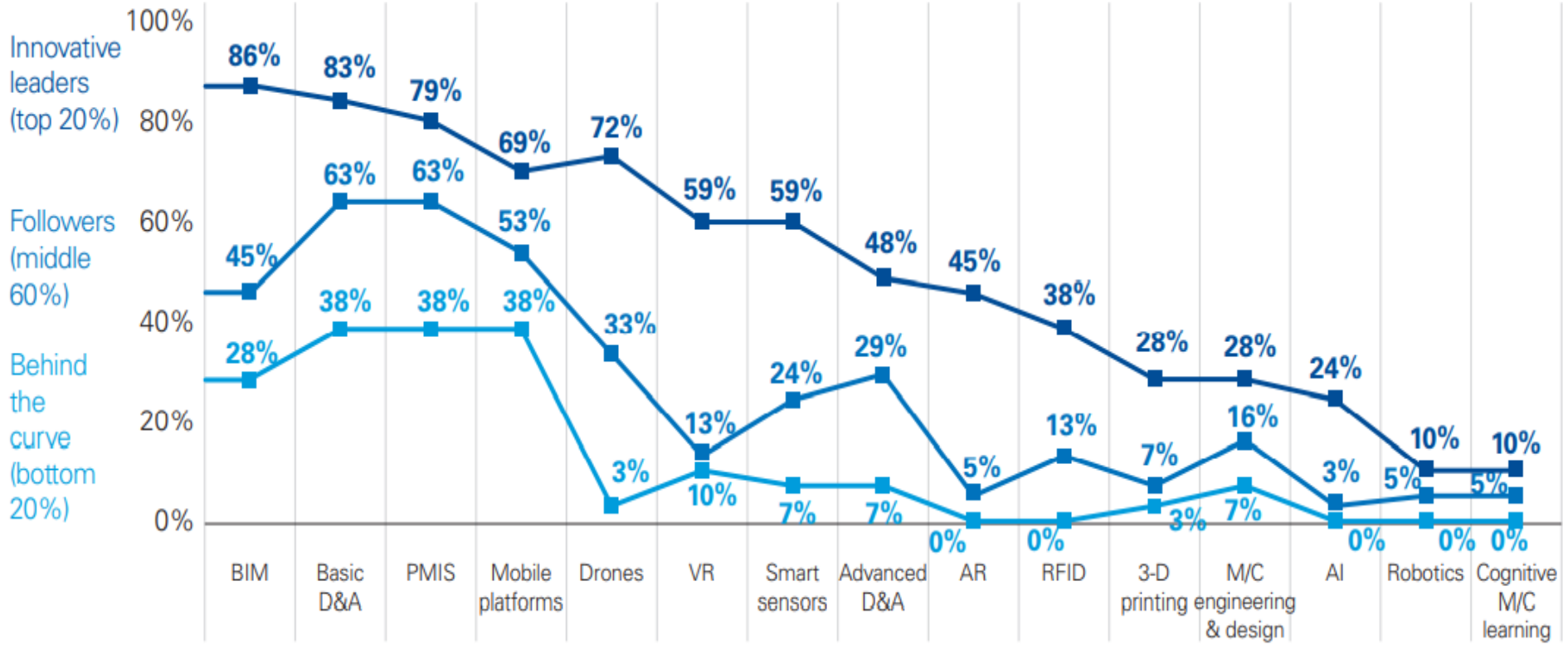
- Financial model
- Cross functional expertise
- Build cost Competitiveness
- Technology embracing

Project Planning

Planning is 80% while Execution is 20%

Role Of Technology/Digitalization

Percentage of companies that implemented each technology



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Source: Future-Ready Index: Leaders and followers in the engineering & construction industry

Questions?

Thank you!