

# Navigating the Net Zero Landscape

A primer for businesses on decarbonization and addressing climate risk

May 2021

[Click here Enter](#)

# Drivers for decarbonization and net zero



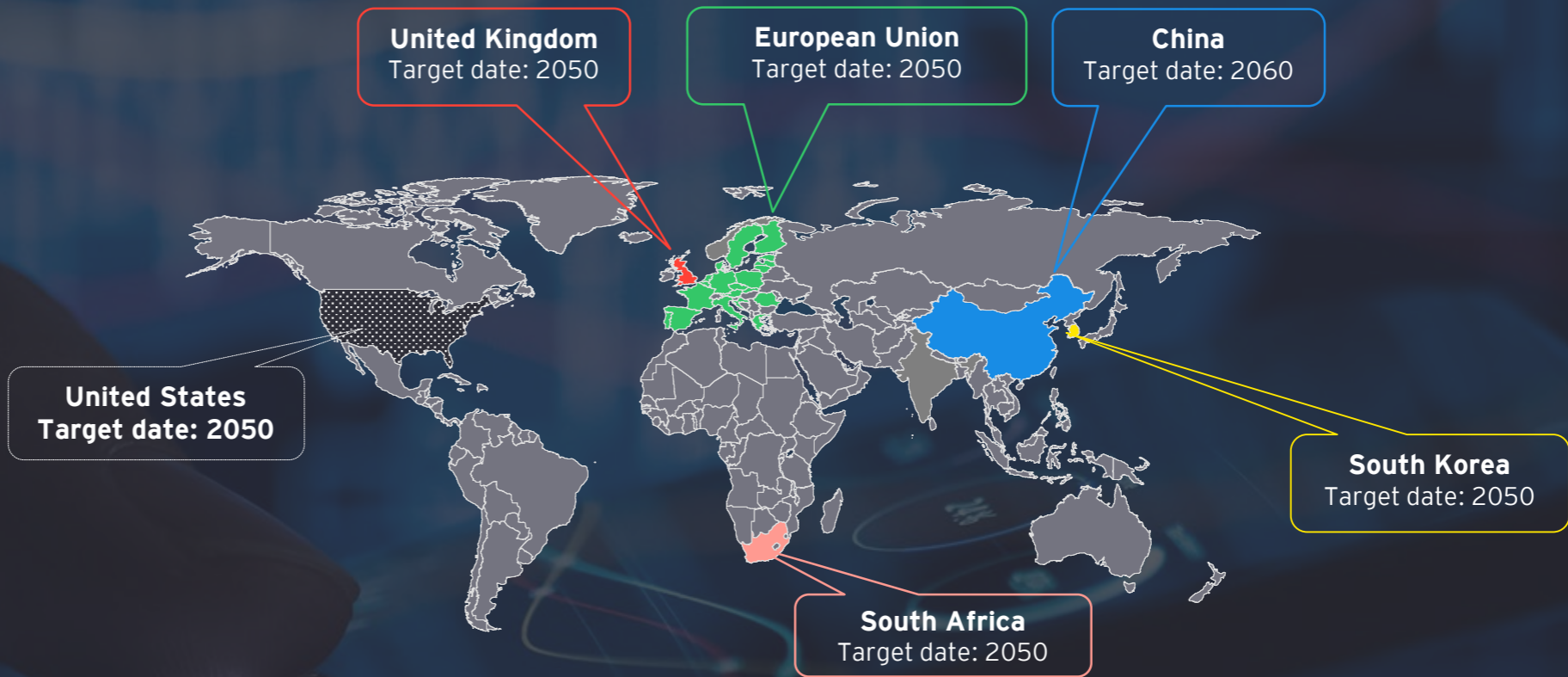
## Global net zero landscape

The recent wave of net zero targets has brought global emissions trajectories closer to the Paris Agreement's 1.5°C goal.

As of December 2020, 127 countries have either set net zero emissions targets or declared intentions to do so, representing cumulatively, around 63% of global emissions.<sup>1</sup>

Interim targets and policy revisions resulting from net zero pledges will have wide-reaching impacts, including risks and opportunities for businesses, as countries chart courses towards meeting their net zero targets.

## Global economies taking net zero emissions targets



## Decarbonization drivers for India

While India has not currently stated intentions to adopt a net zero target, India's climate actions are reflected in progress towards NDCs as well as existing climate-oriented programmes and policies.

India's Union Budget 2021 included a specific focus on energy transition, including the announcement of a National Hydrogen Mission and budgetary allocations for RE and clean air programs.

NDC: Nationally Determined Contribution

National Solar Mission

Smart Cities Mission

National Mission for Enhanced Energy Efficiency

International Solar Alliance

SUPRABHA: Sustainable Partnership for Rooftop Solar Acceleration in India

Standards & Labeling Program

UJALA Program

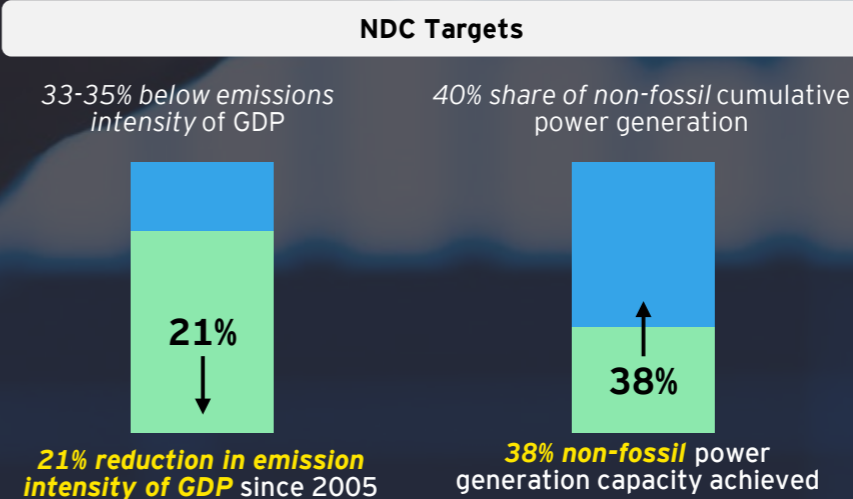
National Electric Mobility Mission Plan

Dedicated Freight Corridors

National Policy of Biofuels

## Existing national initiatives which complement decarbonization

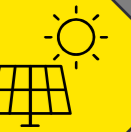
India is on track for achieving NDC targets in advance of the 2030 target year.



## NDC Progress



# Key questions for businesses



1

How do senior executives visualize integration of climate change in business planning?

2

What are the business impacts of climate change risks and opportunities?

Questions to be answered by businesses

4

How can value chain partnerships be leveraged to stimulate innovation, collaboration and investment in decarbonization?

3

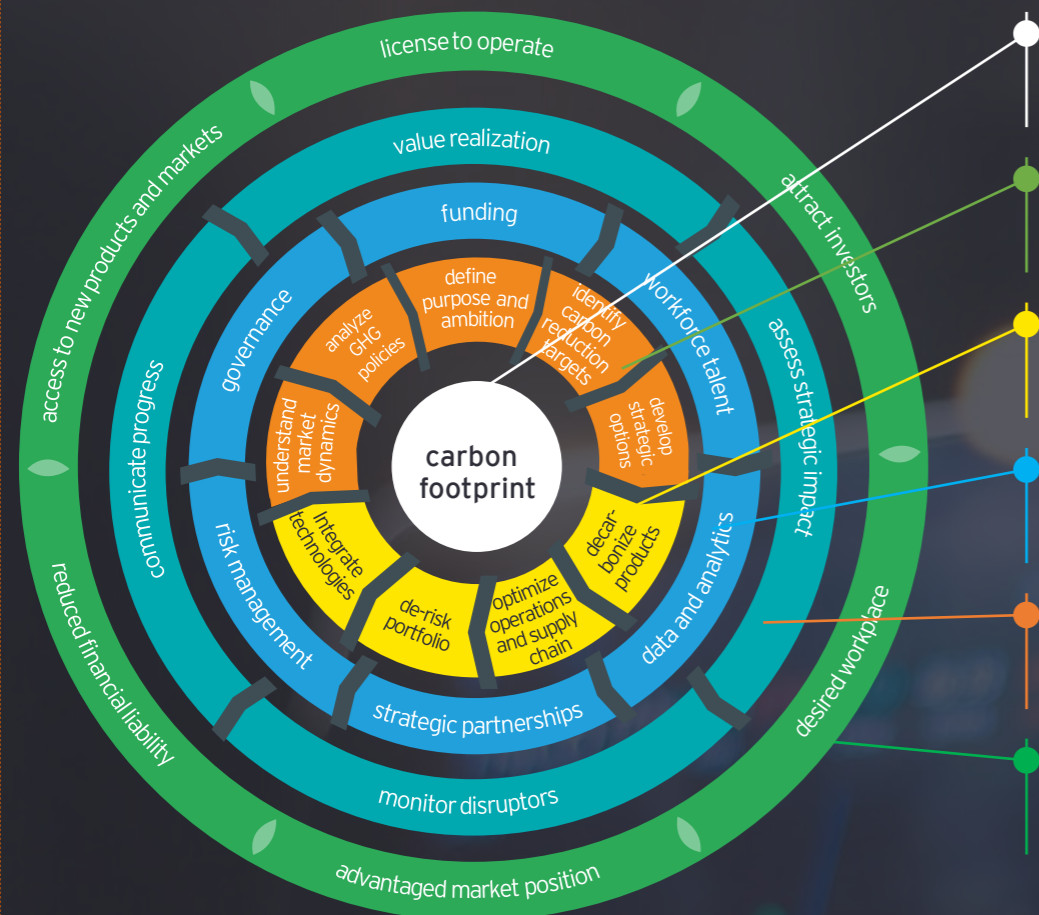
How can businesses develop plans to achieve net zero emissions?



# Key questions for businesses



## Overview of EY's Decarbonization Architecture



**know your footprint**  
understand current GHG emissions

**see the future**  
define emission targets and strategy

**execute with purpose**  
implement decarbonization strategy

**meet the enablers**  
must-haves for success

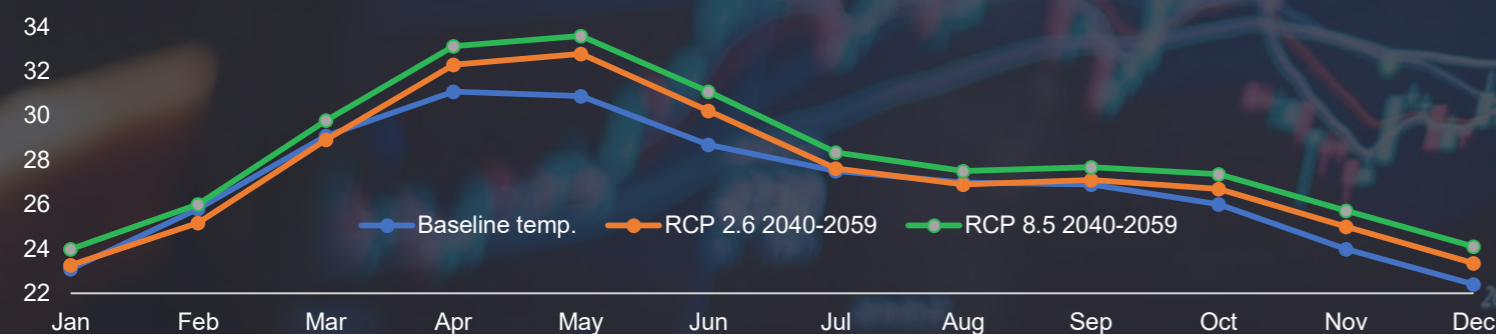
**assess the outcomes**  
measure monitor manage

**reap the rewards**  
long-term value

EY's decarbonization architecture is designed to assess senior executive views on the core components required for a successful pathway to low/zero carbon to capture long-term value

1

## Monthly Average Temperature Projections

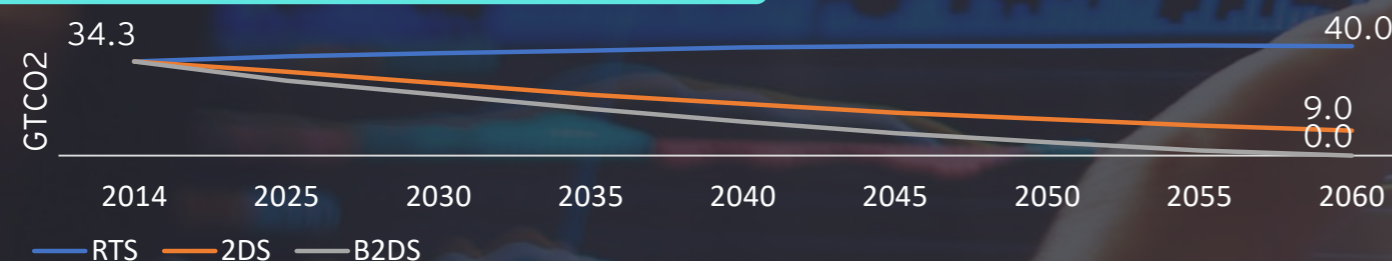


## EBIDTA Projections



2

## Global energy related CO<sub>2</sub> emissions projections



Climate change risks may impact businesses due to supply chain disruptions, regulatory carbon pricing, market trends, customer preferences towards low-carbon products or other means. Long-term projections of climate change effects - physical and transitional are essential for evaluation of business impacts.

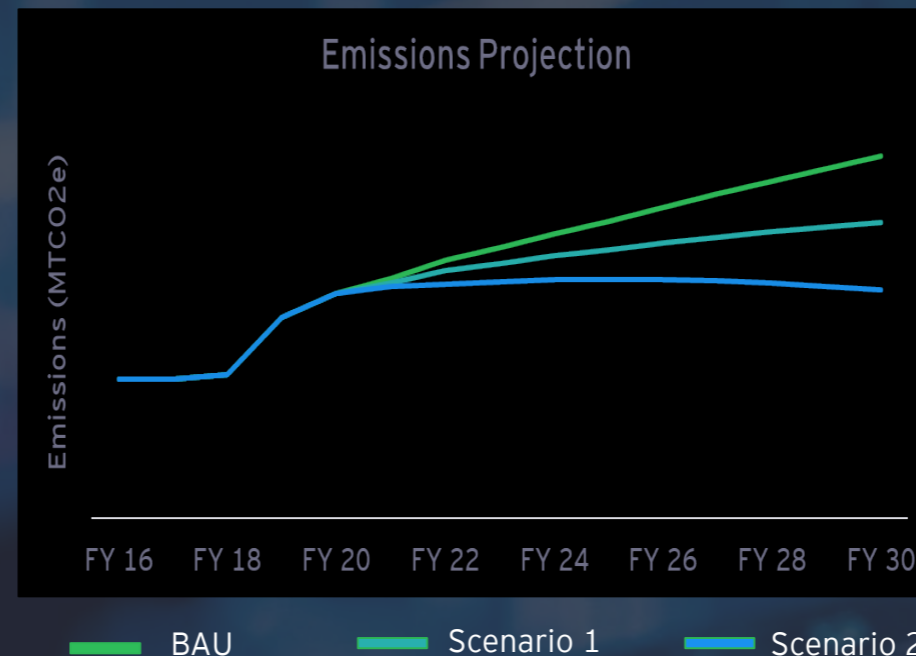
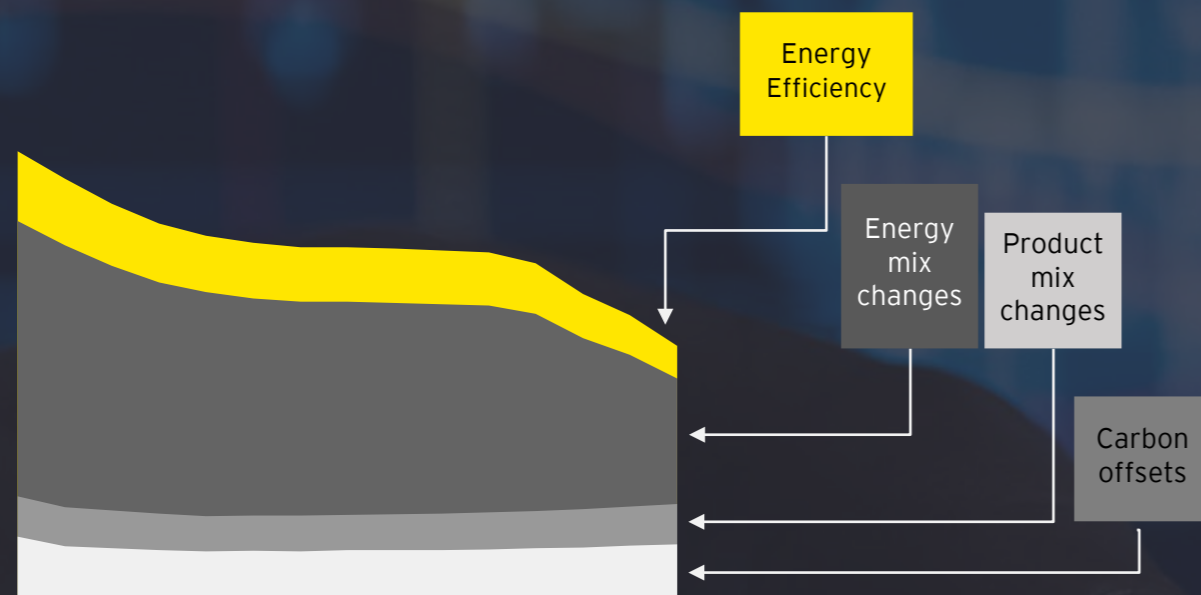


# Key questions for businesses



3

## GHG abatement potential



Essential stepping stones to a net zero emissions roadmap include comprehensive value chain emissions accounting and greenhouse gas (GHG) emissions forecasting based on custom-built scenarios. Scenario development needs to encapsulate evolving climate policies, technology trends and/or sector developments.

## Exploring product diversification opportunities

4

### Exploring corporate - start-up partnerships

- Acquisition of startups
- Partnerships - vendor relationship or shared-risk reward model
- Investment - direct venture capital or venture fund

Technology evaluation

Market sizing

Market positioning

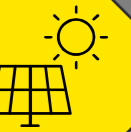
### Leveraging other industry partnerships across value chain

- Supply chain collaborations
- Industry alliances
- Knowledge partnerships

Decarbonization of value chains can not be achieved unilaterally by any one company. Therefore, partnerships can potentially serve as transformative enablers for decarbonization.



# Overview of our approach



## Decarbonization of operations and value chain

### GHG emissions accounting

- ▶ Analyzing baseline GHG emissions data across value chain of the organization
- ▶ Evaluate lifecycle GHG inventory of products
- ▶ Dashboarding of emissions with split across emission sources, geographies, business functions

### Projections of baseline emissions

- ▶ Assessment of business growth plans and expected product mix changes
- ▶ Developing projections of GHG emissions
- ▶ Assessment of targets aligned with Science Based Targets Initiative

### Analysis of decarbonization pathways

- ▶ Evaluating marginal abatement costs of short-term and long-term decarbonization levers
- ▶ Project technology cost trends and maturity levels of CCUS, hydrogen, biofuels and other long-term levers

### Enabling decarbonization

- ▶ Evaluating role of financing mechanisms and strategic decarbonization drivers
- ▶ Framework for internal carbon pricing
- ▶ Building consensus for a comprehensive decarbonization roadmap / net zero roadmap and implementation plans

### Building value chain partnerships

- ▶ Structuring partnerships for driving value chain decarbonization and innovation
- ▶ Market assessment for alternate low-carbon products or carbon neutral products
- ▶ Engage with NGOs for nature based solutions and carbon offsetting

## TCFD-aligned climate risk and opportunity assessment

### TCFD gap analysis

- ▶ Review governance and climate disclosure practices
- ▶ Gap assessment of governance and disclosures with respect to TCFD

### Scenario development

- ▶ Development and definition of climate scenarios aligned with IPCC scenarios
- ▶ Customize the scenarios to geographies and sectors relevant the company

### Business impact of climate risks and opportunities

- ▶ Under each scenario evaluate business / financial impacts due to:
  - ▶ Transition risks - climate policies, technology and market trends
  - ▶ Physical risks in specific geographies of operation

### Strategy for climate resilience

- ▶ Recommendations for integrating climate risk in enterprise risk management framework
- ▶ Evaluate strategic and operational levers for mitigating financial impact of climate risks

### TCFD-aligned disclosures

- ▶ Structuring partnerships for driving value chain decarbonization and innovation
- ▶ Market assessment for alternate low-carbon products or carbon neutral products

CCUS: Carbon capture utilization and storage  
TCFD: Task Force for Climate-related Financial Disclosures  
IPCC: Intergovernmental Panel on Climate Change

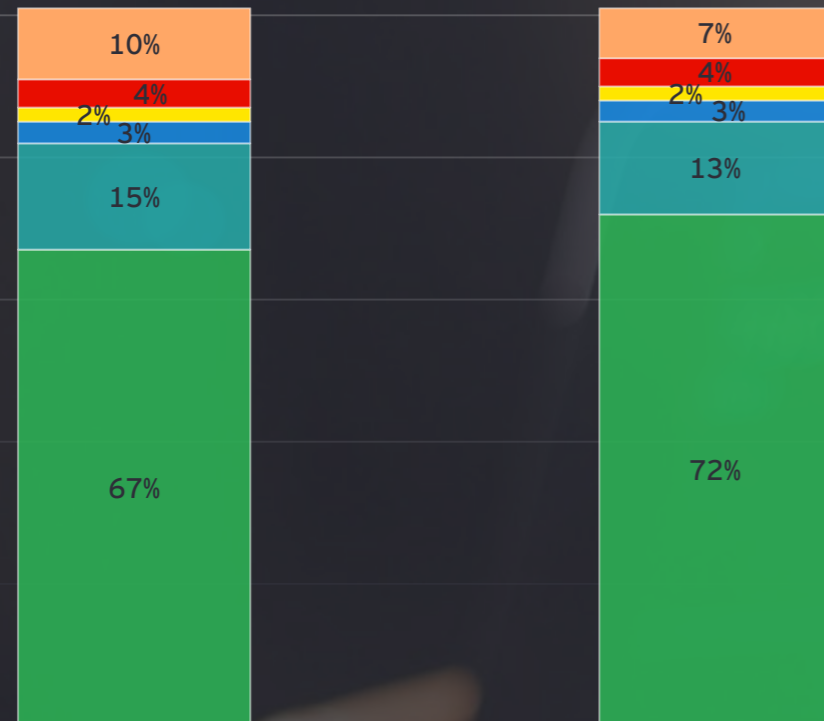


# Pathways for decarbonization



## Energy Transition Commission (ETC) pathways for net zero economy

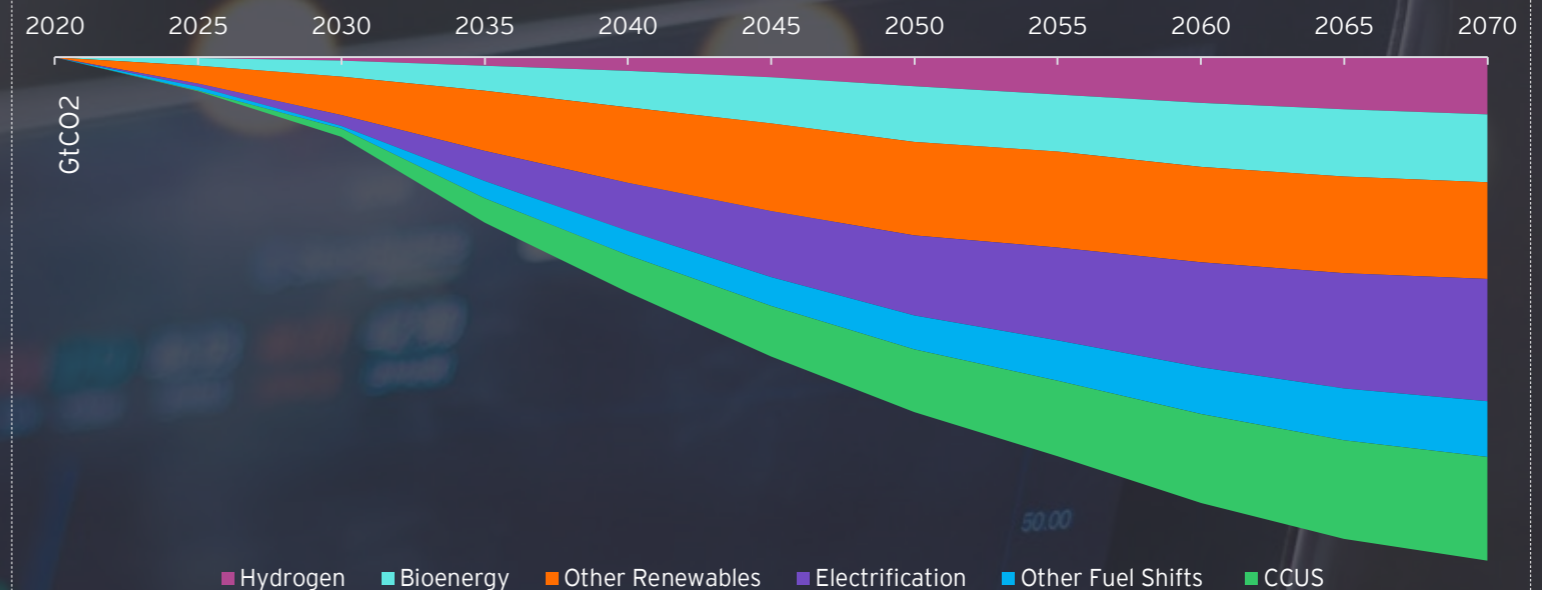
■ Electricity
 ■ Hydrogen
 ■ Ammonia
 ■ Synthetic Fuels
 ■ Bioenergy & Bio-feedstock
 ■ Fossil Fuel+CCS



TOTAL SUPPLY-SIDE PATHWAY

TOTAL SUPPLY-SIDE + EFFICIENCY PATHWAY

## IEA Sustainable Development pathway: Potential for GHG emissions reduction



## Understanding of global decarbonization pathways

We leverage datasets on global decarbonization pathways with country-specific and company-specific emissions forecasts. Further, we leverage our experience on advising organizations in hard-to-abate sectors on navigating through decarbonization challenges.

## Pathways for decarbonization

### Energy Mix

- ▶ Shifting to zero carbon sources of energy may seem like an obvious answer for decarbonizing any business. However, the cost economics and business models for this transition has to be evaluated.
- ▶ The time horizon for new alternative energy sources such as green hydrogen, blue hydrogen, biofuels, and CCUS equipped fossil fuels has to be examined.

### Electrification

- ▶ Examples of end-use applications where electrification combined with zero carbon sources will have an important role include vehicles, heat pumps, thermal processes in chemicals and cement, and reduction of iron for steel production.
- ▶ Cost reduction in energy storage technologies will be an important enabler for electrification.

### Process emissions

- ▶ Apart from energy-related emissions, process emissions need to be given due consideration in applications ranging from cooling of buildings to industrial processes that directly emit GHGs.
- ▶ Reducing process emissions may require changes in technology, input materials or the product itself.

### Product Innovation

- ▶ In some industries such as automotive or fertilizer sectors, the most emissions-intensive value-chain segment is the use of the product itself. In others, the upstream emissions are more significant.
- ▶ Product innovation and material circularity are important pathways for decarbonizing value chains and mitigating upstream or downstream emissions.

**Sector- specific approach:** Each sector has its own sets of challenges and emissions hotspots which need to be considered in development of a decarbonization roadmap.

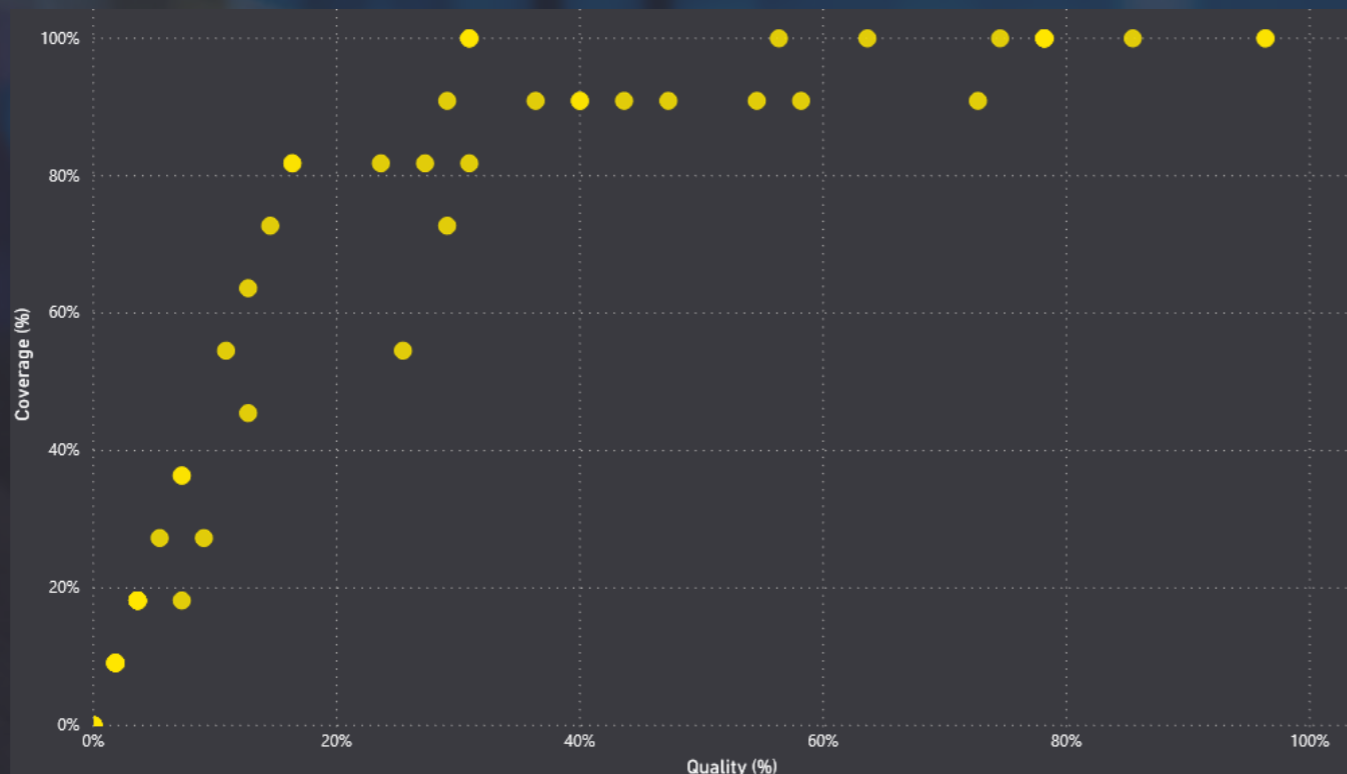


# Global Climate Risk Barometer and TCFD Report Playbook



## Repository of data on climate disclosures

Coverage:  
Companies are scored on the basis of the percentage of the 11 TCFD recommendations addressed by them



Quality: Companies are given a rating (out of five) on the basis of the quality of the disclosure, expressed as a percentage of the maximum score should the company implement all 11 TCFD recommendations

EY's Global Climate Risk Disclosure Barometer rates companies on quality and coverage of disclosures in line with the recommendations by the TCFD. We are equipped with a database of 1000+ companies, scored through a multi-tiered system on both the coverage and quality of the TCFD recommendations. We leverage the database and methodology for carrying out gap analysis and peer benchmarking of existing TCFD-aligned disclosures.

## TCFD Guidance



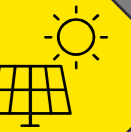
In a 2019 review of TCFD disclosure practices, the TCFD Secretariat found that while disclosure of climate change information has increased, current levels remain insufficient for investors.

To address this challenge, The Institute of International Finance (IIF) and the United Nations Environment Programme Finance Initiative (UNEP FI), with the support of EY, conducted a joint effort to support banks and other financial institutions in their efforts to strengthen climate risk disclosures.

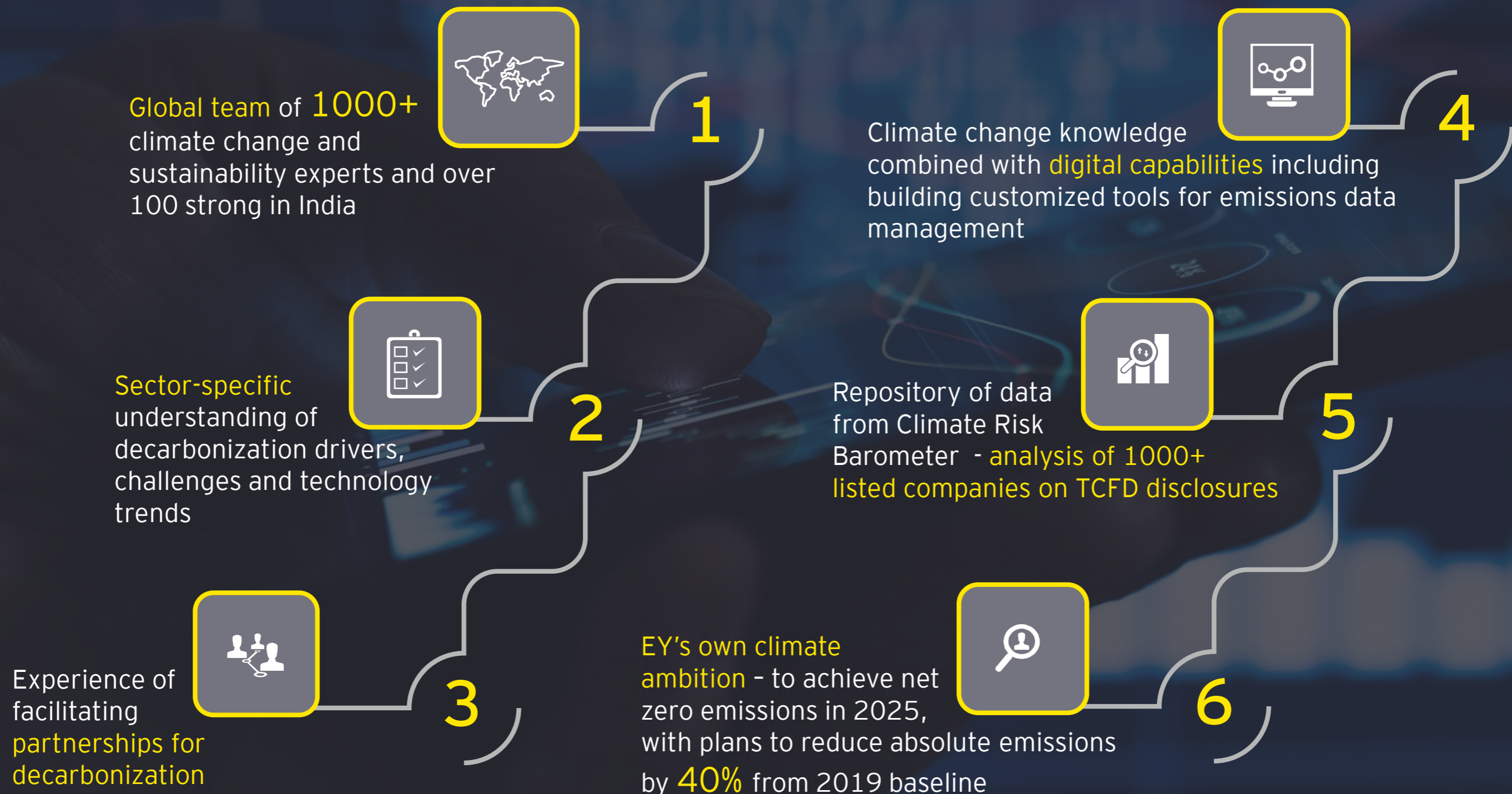
We have developed this TCFD Report Playbook to serve as a resource for firms at different stages on their journey toward fully aligned and comprehensive TCFD reporting.



# Why EY?



EY delivers decarbonization solutions leveraging a structured approach, network of specialists, knowledge repository and a deep understanding of climate change risks and opportunities. We have extensive knowledge of sustainability and climate change journeys of Indian and global businesses. Our leadership team includes partners with proven capability of delivering decarbonization engagements globally.





Financial Accounting  
Advisory Services (FAAS),  
EY India



Climate Change and Sustainability Services (CCaSS), EY India



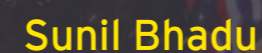
Climate Change and Sustainability Services (CCaSS), EY India



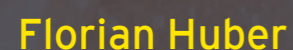
EY-Parthenon,  
Strategy and Transactions,  
EY India



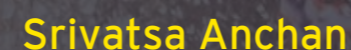
Strategy and Transactions,  
India Leader - Power and  
Utilities. EY India



Business Consulting,  
EY India



EY Carbon, Chief Development Officer, EY GSA (Germany, Switzerland, Austria)



Business Consulting,  
EY India



Business Consulting -  
Government and Public  
Services Advisory, EY India



Climate Change and Sustainability Services (CCaSS), EY India

Ernst &amp; Young Associates LLP

EY | Building a better working world

EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via [ey.com/privacy](https://ey.com/privacy). EYG member firms do not practice law where prohibited by local laws. For more information about our organization, please visit [ey.com](https://ey.com).

Ernst & Young Associates LLP is one of the Indian client serving member firms of EYGM Limited. For more information about our organization, please visit [www.ey.com/en\\_in](http://www.ey.com/en_in).

Ernst & Young Associates LLP. is a Limited Liability Partnership, registered under the Limited Liability Partnership Act, 2008 in India, having its registered office at 22 Camac Street, 3rd Floor, Block C, Kolkata - 700016






© 2021 Ernst & Young Associates LLP. Published in India.  
All Rights Reserved.

EYIN2105-003

This publication contains information in summary form and is therefore intended for general guidance only. It is not intended to be a substitute for detailed research or the exercise of professional judgment. Neither EYGM Limited nor any other member of the global Ernst & Young organization can accept any responsibility for loss occasioned to any person acting or refraining from action as a result of any material in this publication. On any specific matter, reference should be made to the appropriate advisor.

SN

ev.com/en in

 @EY India
  EY
  EY India
  EY Careers India
  @ey\_indiacareers