



المنظمة الخليجية للبحث والتطوير
GULF ORGANISATION FOR RESEARCH & DEVELOPMENT



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Climate Action & Carbon Markets



56TH ENGINEERS DAY CELEBRATION

THEME SEMINAR ON

Engineering & Resilient Future : Building Stronger, Smarter, Safer

A presentation

Climate Action & Carbon Markets

Hemant Nandanpawar

Senior Director – Climate Finance & Policy
Global Carbon Council (GCC)

Doha – Qatar

Net Zero,
Carbon
Neutrality &
Role of
Carbon
Markets

1 Introduction

2 Global Warming & Climate Change

3 Carbon Neutrality & Net Zero

4 Role of Carbon Markets

5 Climate Actions - Opportunities

- Member of Qatari Diar Real Estate Company
- Non-profit organization established in 2009 at QSTP
- Key operations include:
 - Research & Development
 - Standards setting
 - **Green buildings certification - GSAS**
 - Accreditation services - GAB
 - **Global Carbon Council - GCC**
 - Performance testing
 - Knowledge dissemination
 - **Advisory services**
- GORD drives the transformation of societies on **sustainability and climate change** in line with Qatar National Vision 2030 and United Nations Sustainable Development Goals (SDGs).





CENTERS OF EXCELLENCE & AFFILIATES



Green Building Standards



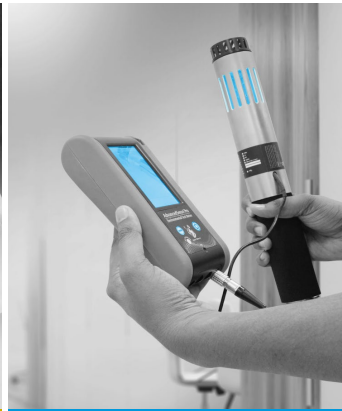
Research & Development



Knowledge Dissemination



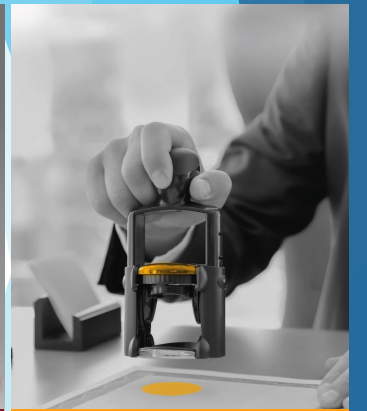
Consulting Services



Accredited Testing Services



Voluntary Carbon Market



Accreditation for Certification Bodies



Global Warming and Climate Change

“The global environment crisis is real as rain, and I cannot stand the thought of leaving my children with a degraded earth and a diminished future.”

- Noble Laureate Mr. Al Gore, US
American politician and environmentalist who served as the 45th vice president of the United States from 1993 to 2001

“Climate change is the most severe problem that we are facing today, more serious even than the threat of terrorism.”

- Sir David King, UK
Special Representative for Climate Change, UK Government and Professor in physical chemistry at the University of Cambridge



Top 10 Causes of Global Warming



- 1 Electricity and Heat
- 2 Transportation
- 3 Manufacturing and Construction
- 4 Agriculture
- 5 Other Fuel Combustion
- 6 Industrial Processes
- 7 Deforestation and land use changes
- 8 Fugitive Emissions
- 9 Waste
- 10 Bunker Fuels

Impact of climate change



Hotter temperatures

intense heat waves, droughts, wildfires and other extreme weather events



Loss of species

risk to the survival of one million species on land and in the ocean due to forest fires, extreme weather, acidic oceans



More severe storms

Cyclones, hurricanes, and typhoons, extreme rainfall and flooding



Not enough food

Fisheries, crops, and livestock may be destroyed, global rise in hunger and poor nutrition, a decline in crop yields and affecting livestock.



Increased drought

Water scarcity, agricultural droughts affecting crops, stir destructive sand and dust storms, desertification



Impacts on human health

air pollution, disease, extreme weather events, forced displacement, pressures on mental health, and increased hunger and poor nutrition



A warming, rising ocean

Melting ice sheets also cause sea levels to rise, threatening coastal and island communities....**melting of glaciers....**



Poverty and displacement

Floods may sweep away urban slums, destroying homes and livelihoods. Heat can make it difficult to work in outdoor jobs. Water scarcity may affect crops.

CLIMATE CHANGE



The Paris Agreement

1.
Limit temperature rise to 1.5C



2.
Review countries' commitments to cutting emissions every five years



3.
Provide climate finance to developing countries



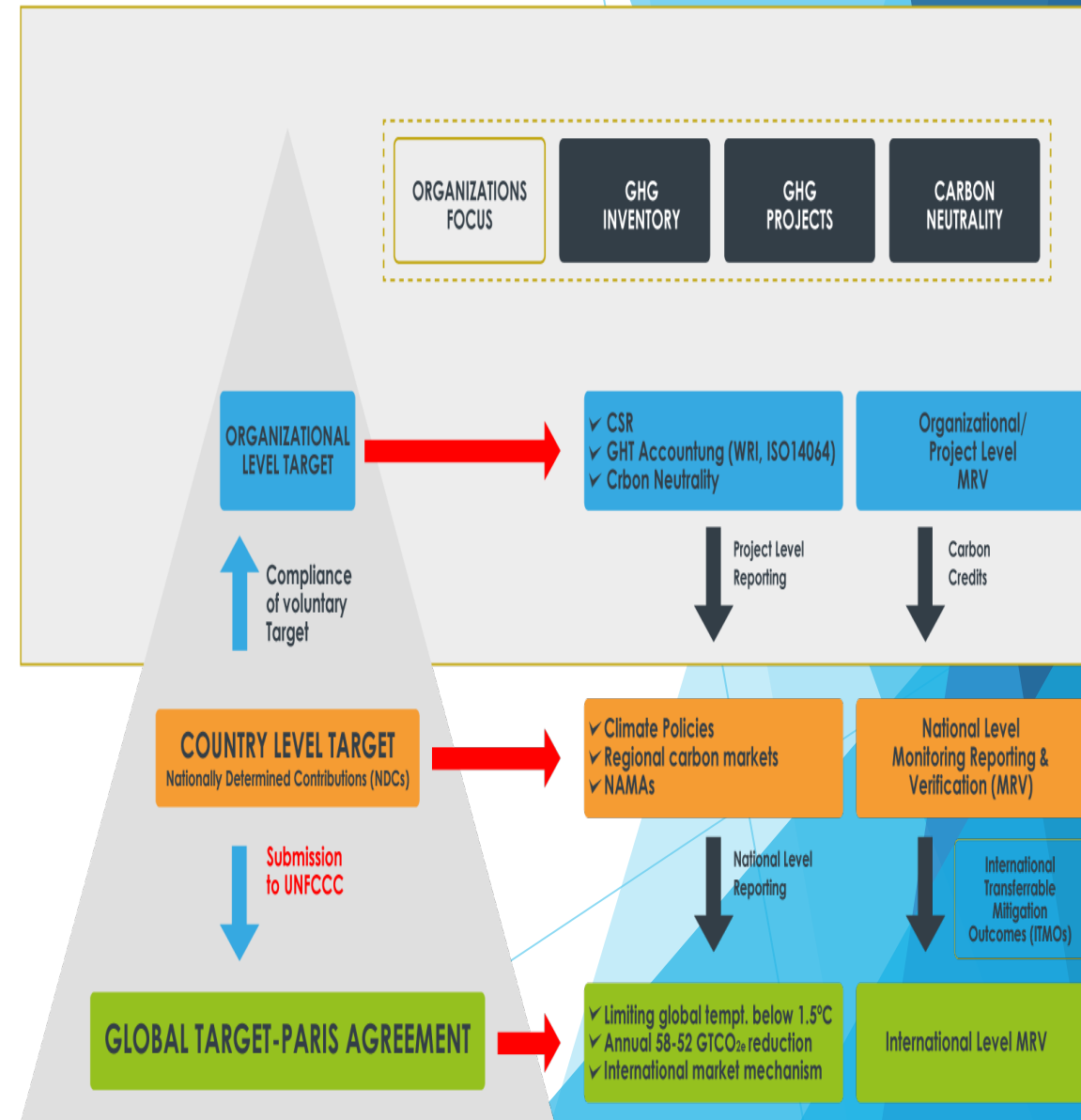
To tackle climate change and its negative impacts, world leaders at the UN Climate Change Conference (COP21) in Paris reached a breakthrough on 12 December 2015

The Paris Climate Agreement

3 key components of the Paris Agreement

As of today, **194 Parties (193 States plus the European Union)** have joined the Paris Agreement, including

QATA





What is Net Zero:

Net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions **re-absorbed from the atmosphere, by oceans and forests for instance.**

Why is net zero important?

To avert severe climate change impacts and maintain a habitable Earth, we must limit global warming to **1.5°C above pre-industrial levels**; presently, we're 1.1°C warmer, and emissions must decrease by 45% by 2030 and **reach net-zero by 2050 to align with the Paris Agreement's 1.5°C goal.**

Source: 1. [United Nations- Net Zero coalition](#)
2. [United Nations](#)

The Road To Net Zero

2015

The Paris Agreement, adopted by 196 countries, seeks to limit global warming to 1.5°C

2015-2017

Countries began presenting climate action plans (NDCs), but the pressing need for greater ambition grew as these initial commitments, even if met, could only reduce warming by 3 degrees and would not avert catastrophic impacts

2020-2021

By the end of COP26, 74 countries promised to reach net-zero emissions by mid-century

2030

103 countries, including 15 major emitters, signed up to the Global Methane Pledge, which aims to limit methane emissions by 30 per cent by 2030, compared to 2020 levels

2050

The transition to net-zero emissions must be fully complete

Emitters Profile

Country	Total Emissions (MtCO ₂ e)	Per Capita Emissions (tCO ₂ e per capita)	Per Capita Energy Consumption (kWh)	Net Zero Commitment Plan
China	12,296	8.71	31,051	China announced the updated NDC, namely strive to carbon dioxide peaking before 2030 and achieve carbon neutrality <u>before 2060</u> , lower its carbon dioxide emissions per unit of GDP by over 65 percent from the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 25 percent by 2030, increase the forest stock by 6 billion m ³ from the 2005 level and its total installed capacity of wind and solar power to over 1.2 billion kW by 2030
United States	5,289	15.96	78,754	United States aims to achieve net zero status <u>by 2050</u> . In terms of renewable energy, Morgan Stanley predicts a carbon-free electric system by 2033 and the eradication of coal-powered plants by 2030. LEED has provided a framework for high performing buildings and spaces to reduce greenhouse emissions
India	3,167	2.29	7,143	<u>Updated India's existing NDC is a step forward towards long term goal of reaching net-zero by 2070</u>
European Union (27)	2,957	6.61	36,129	EU Effort Sharing Regulation aims to achieve is reducing emissions by 30% by 2030. Together with the Emissions Trading System (ETS), the EU has a target of 40% by 2030 to achieve net zero in 2050.
Russia	1,800	12.49	55,459	Russia aims to reach net zero emissions by 2060. The target covers all sectors of the economy (excluding international aviation and shipping)
Indonesia	1,476	5.4	9,854	Indonesia has not yet communicated an explicit net zero target but is exploring scenarios that could lead to net zero emissions by 2060 or sooner
Brazil	1,470	6.91	17,300	As part of its updated NDC, <u>Brazil has set an indicative goal of reaching net-zero by 2050</u> , conditional on the receipt of financial support
Japan	1,063	8.42	39,985	Initially aiming for an 80% greenhouse emissions reduction by 2050 and carbon neutrality in the latter half of the century, they later committed to achieving full carbon <u>neutrality by 2050</u> . This ambitious goal will demand substantial investments in renewable energy due to Japan's reliance on oil, coal, and gas.
Iran	845	10.06	38,133	Iran is one of the few countries that has not yet ratified the Paris Agreement. Iran needs to ratify the Paris Agreement, set a more ambitious target for emissions reductions, and establish associated policies
Canada	732	19.23	102,160	Canada has made 5-year milestone targets to combat global warming and it also plans to exceed their lower emissions objective by 2030. Along with over 110 other countries they have a net zero emissions goal for 2050

Source: 1. [Climate Watch Data](#)
2. [Our World in Data](#)

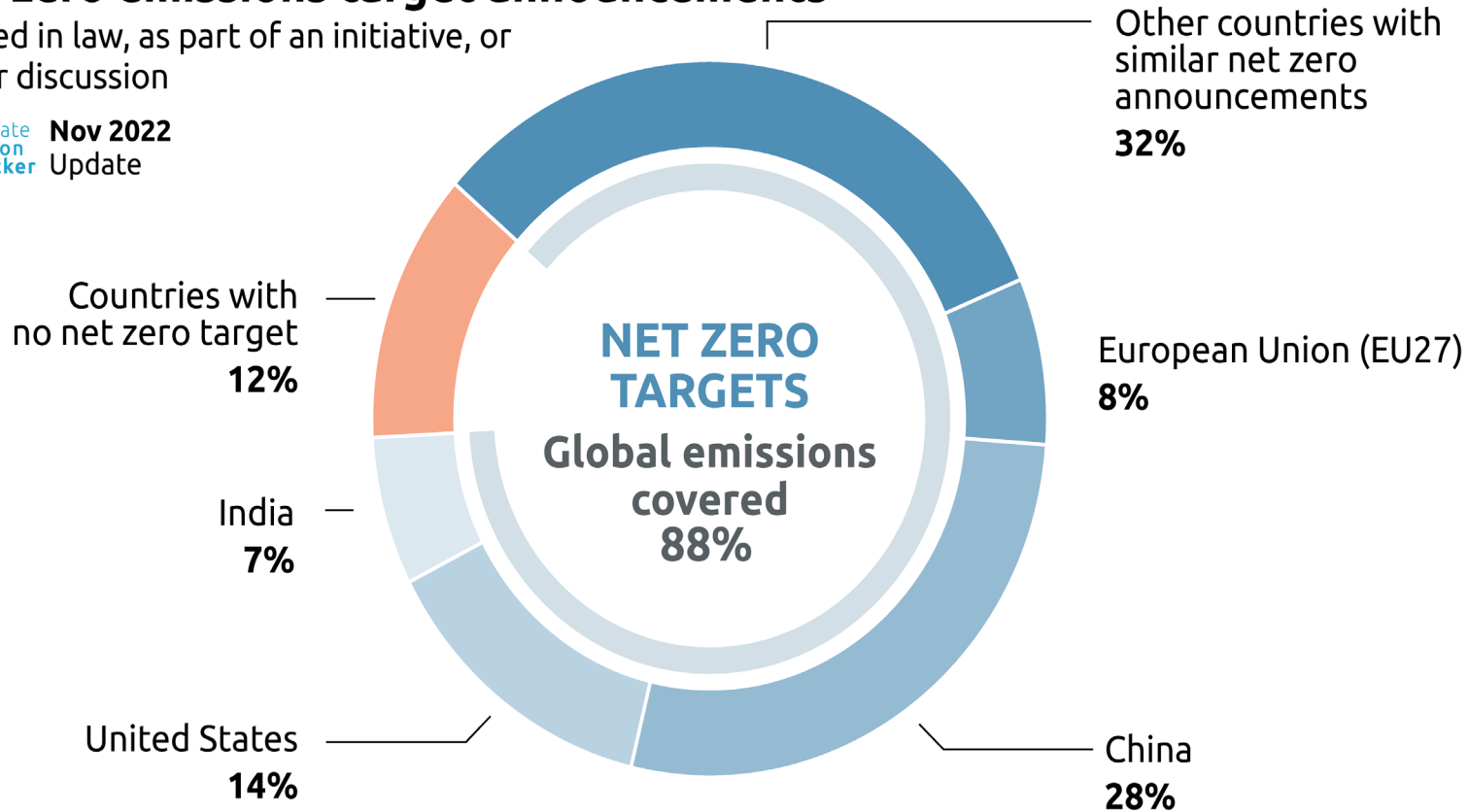
Countries Committing to Net Zero

As of November 2022, around 140 countries had announced or are considering net zero targets, covering close to 90% of global emissions (See Figure), compared to the 130 countries, covering about 70% emissions, in May 2021.

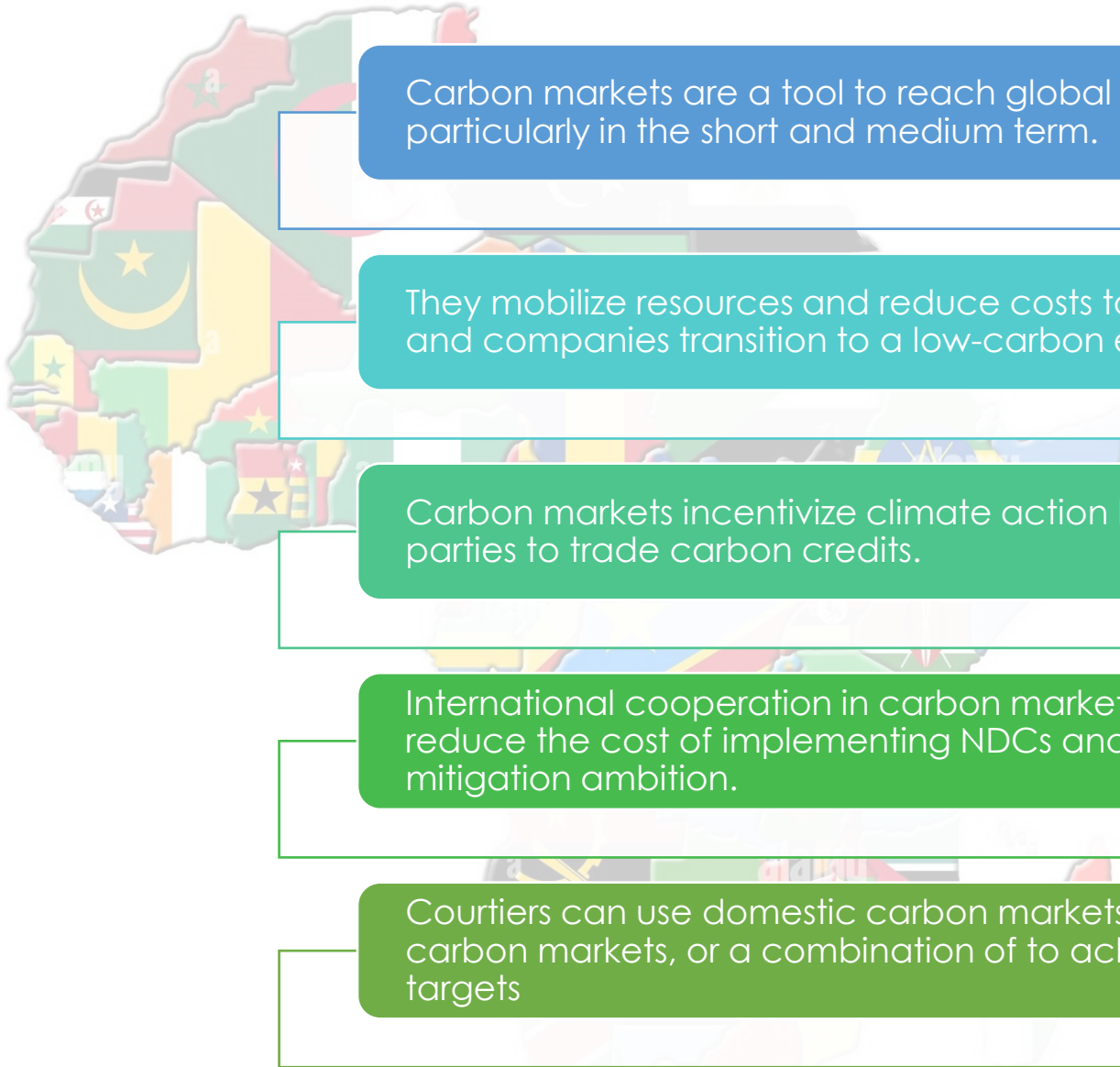
Net zero emissions target announcements

Agreed in law, as part of an initiative, or under discussion

 **Nov 2022**
Update



In November 2021, **India joined China, the EU, and the USA in announcing a net-zero goal (India announce to achieve Net Zero by 2070)**, collectively representing over half of global greenhouse gas emissions, while even countries with a history of weak climate action, like **Australia, Russia, Saudi Arabia, Turkey, and the UAE**, have made similar net-zero commitments.



Carbon markets are a tool to reach global climate goals, particularly in the short and medium term.

They mobilize resources and reduce costs to help countries and companies transition to a low-carbon economy.

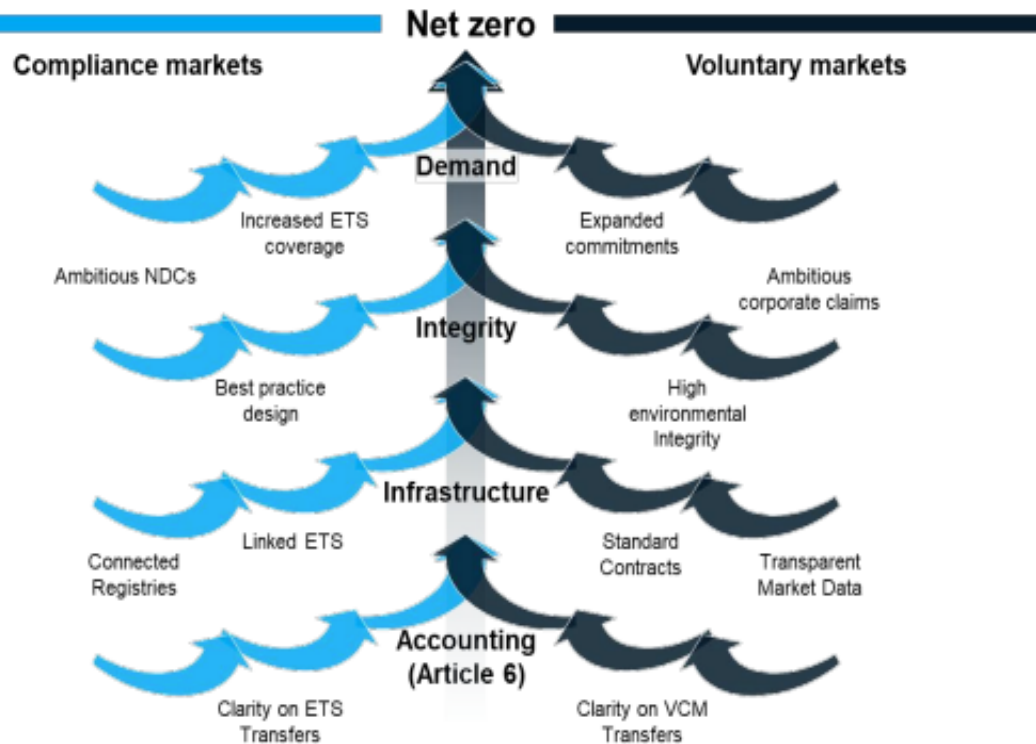
Carbon markets incentivize climate action by enabling parties to trade carbon credits.

International cooperation in carbon markets can help to reduce the cost of implementing NDCs and promote higher mitigation ambition.

Countries can use domestic carbon markets, international carbon markets, or a combination of to achieve its NDC targets

The Vital Role of Carbon Markets In Achieving Net Zero

Carbon markets are expanding rapidly, as governments, companies and financial institutions increasingly commit to achieving net-zero greenhouse gas (GHG) emissions targets



If the 2020s are the decade where carbon markets realize their potential, coverage could reach over half of global emissions by 2030.

Carbon markets would require a significant expansion in their size and ambition over the next decade to deliver on their potential: According to the Task Force for Scaling Voluntary Carbon Markets (TSVCM), in a scenario aligned with the Paris Agreement, voluntary markets could potentially grow 15-fold by 2030, while compliance markets would need broader jurisdictional expansion and greater inclusion of sectors and emission sources to drive decarbonization efforts effectively.

A wide range of stakeholders are contributing to efforts to improve and expand carbon Markets: Corporate entities, investors, scholars, and environmental non-profit organizations are collaborating via the [TSVCM](#) and other platforms to promote the growth of trustworthy voluntary markets.

Continued expansion of both compliance and voluntary carbon markets could see coverage more than double, from 24% of global emissions today, up to 52% of global emissions in 2030

What does it do

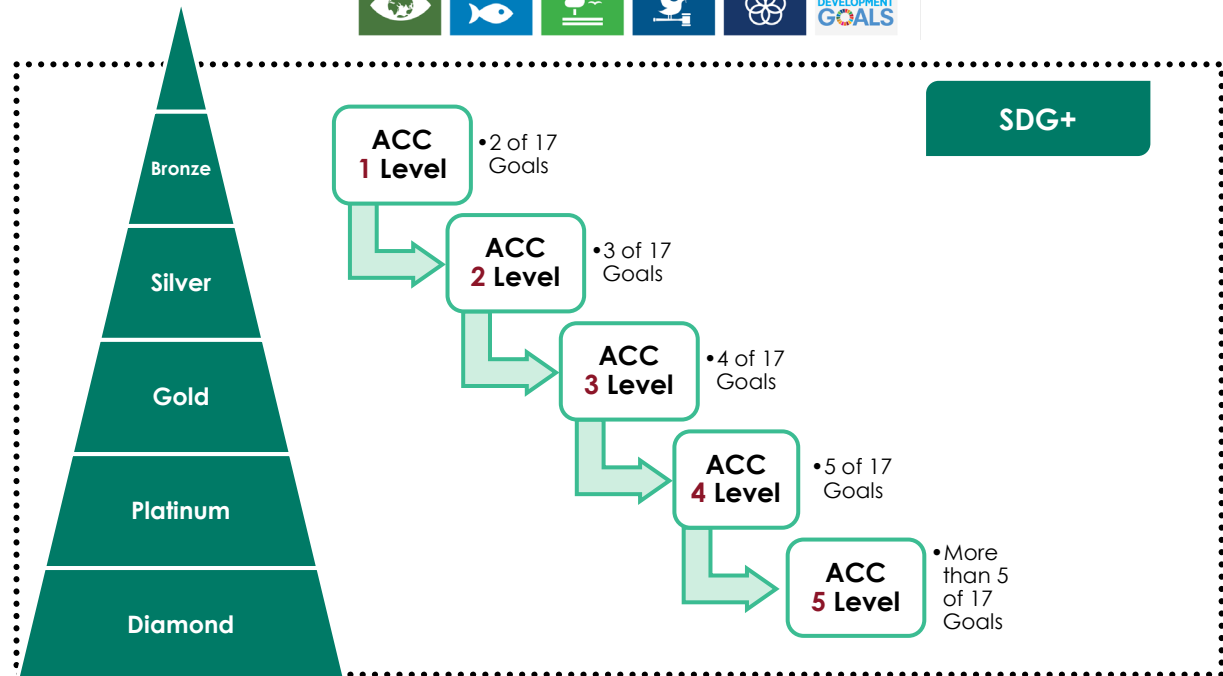
- ▶ The GCC Program receives GHG emission-reduction projects from the entire world.
- ▶ GCC Program provides opportunity to projects from organisations to:
 - reduce green House Gases to catalyse climate action on the ground
 - ensuring that project construction and operations do not cause any net-harm to the environment and society
 - contribute to the United Nations Sustainable Development Goals
 - Comply with CORSIA requirements

Certification Labels

- reduced a quantity of greenhouse gases (**ACC label**)
- achieved Environmental No-Net Harm (**E+ label**)
- achieved Social No-Net Harm (**S+ label**)
- achieved UNSDG (**SDG+ label** and **sub-labels**)
- achieved CORSIA (**C+ label**)



SUSTAINABLE DEVELOPMENT GOALS



Climate Change & Sustainability - Sector Opportunities

- There are wide range of employment and business opportunities to work and contribute to the Clean Energy, Climate Change, Sustainability sector
- Employment in the field of Climate Change offers diverse opportunities for a wide combination of skills and education levels.
- Also, along with the traditional work, there are many new business opportunities are coming up in the climate change sector
- **Green skills are essential to the transition towards a green economy, with the ILO estimating 24 million jobs worldwide could be created by the green economy by 2030.**
- A shift towards green jobs is underway, with LinkedIn jobs data showing in 2015 the ratio of US oil/gas jobs to renewables/environment jobs was 5:1, but by 2021 this was 2:1.
- We are seeing green jobs span a wide range of industries, from obvious ones like renewables, to more unexpected ones like finance, fashion technologies and transport.
- Climate Change jobs that are in demand are, energy and environmental engineers, environmental lawyers, urban planners, sustainability professionals conservation scientists and renewable energy installers.





Thank You

Hemant Nandanpawar

Senior Director – Climate Finance & Policy

Global Carbon Council (GCC)

Doha – Qatar

Email – h.nandanpawar@globalcarboncouncil.com