



COP28UAE

BCG

Principal Strategy & Action Partner

COP28

STRONG PROGRESS FROM
DUBAI AND THE ROAD AHEAD

DECEMBER | 2023



Preface

COP28 was the **most important COP since the Paris Agreement in 2015**. 2023 is the year of the Global Stocktake, halfway to 2030. Progress to date has clearly been inadequate on all fronts across countries, the private sector, technology and finance, so there is **an urgent need to go faster, starting now**.

To address the Stocktake and these challenges, the COP28 President, Dr. Sultan Al Jaber, set an ambitious "Action Agenda" across **energy, finance, lives and livelihoods, and inclusion**. The COP28 Presidency mobilized countries to operationalize and seed the loss and damage fund with 792M USD and this COP **finally includes bolder direct statements about the energy transition and fossil fuels in the final text**, something the prior 27 COPs had failed to achieve. The results across both the Action Agenda and the final negotiated statement (the **"UAE Consensus"**) have **exceeded virtually all incoming expectations** and lay the foundation for accelerated progress in the years ahead to tackle climate change and attempt to limit temperature increases to 1.5°C.

BCG has been a partner to the Presidencies for COP 26, 27, and now 28. This year we served as the **Principal Strategy and Action partner**. BCG supported COP28 by providing strategic insight and analysis, sectoral and technical expertise and action agenda implementation support across a number of topics including **renewables, hydrogen, climate finance, green capital markets, decarbonization of heavy emitting sectors, food system transformation, nature, adaptation, and more**. It has been a privilege for us to contribute to the COP Presidency and to participating countries, businesses, and NGOs around the world to make the most of this COP, with **60+ BCGers involved in various COP-related efforts**.

This document is intended to provide a summary overview of what has been achieved, what it means, the challenges ahead, and where you can learn more on particular topics of interest. We hope you find this helpful, along with the links to the many other reports embedded in the document.



Christoph Schweizer
Chief Executive Officer



Rich Lesser
Global Chair

COP28 in pictures and numbers

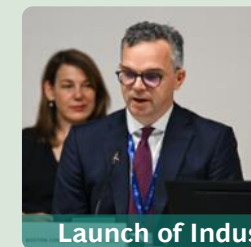
~97,000 Attendees

198 UNFCCC Official Parties

150+ Heads of States and Government

~14,000 NGO Observers

~4,000 Media



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1. Context of COP28
2. Action Agenda
3. Negotiated Outcomes
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- Deep Dives:
COP28 Action Agenda Outcomes

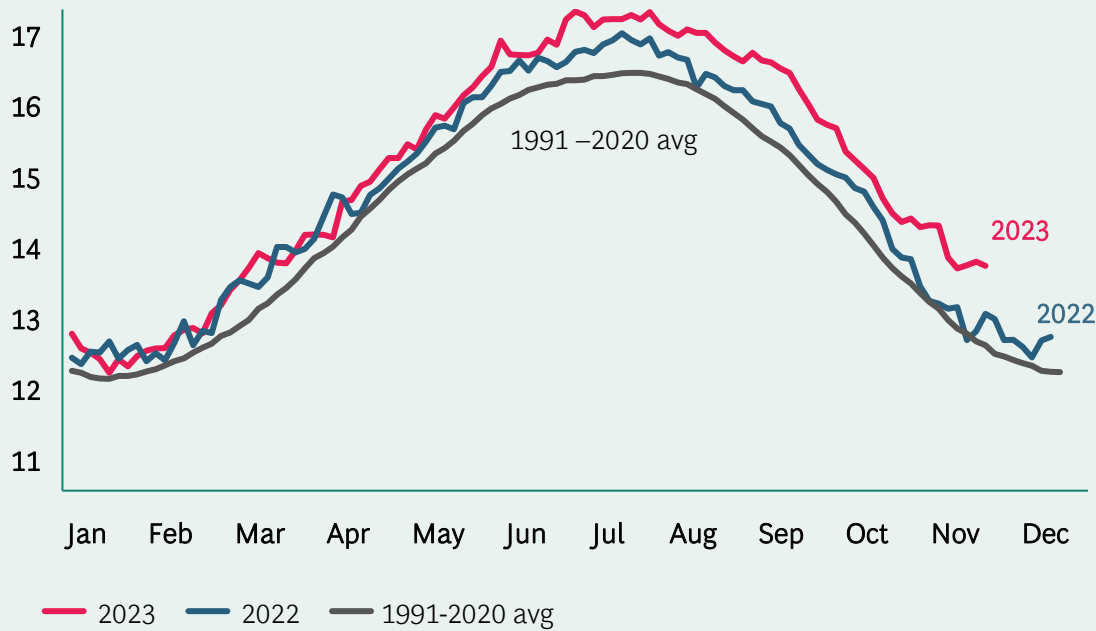


Climate change is the defining challenge of our time

2023 will be the hottest year on record, and we are significantly off track from a 1.5°C trajectory

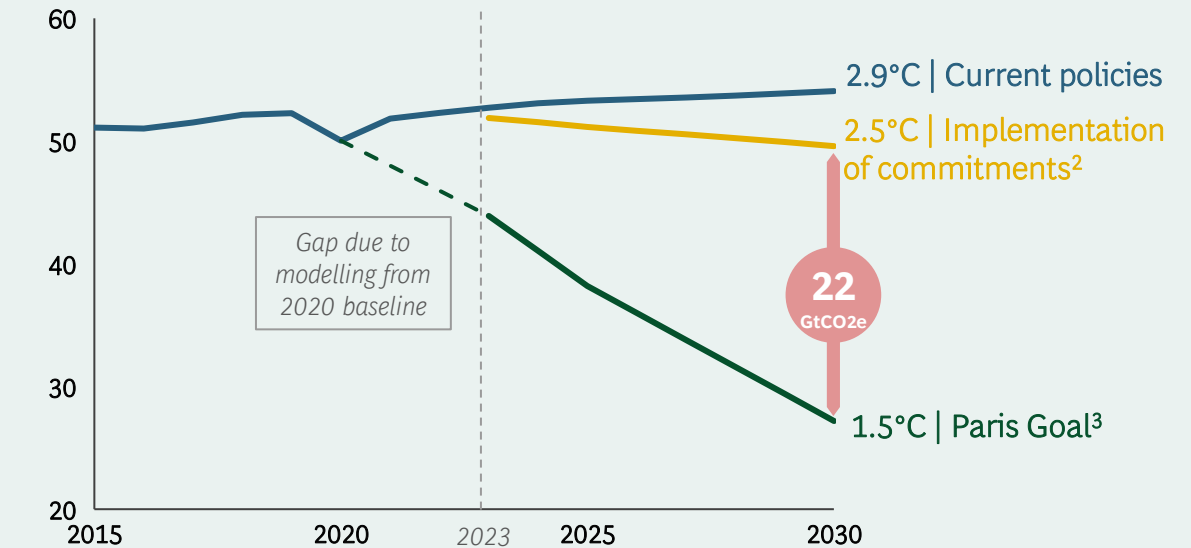
Global average temperatures reached 1.46°C above pre-industrial levels in 2023

Surface Air Temperature¹ (°C)



Current policies put us on track for 2.9°C – we need a 43% emissions reduction by 2030 to reach 1.5°C

GtCO₂e

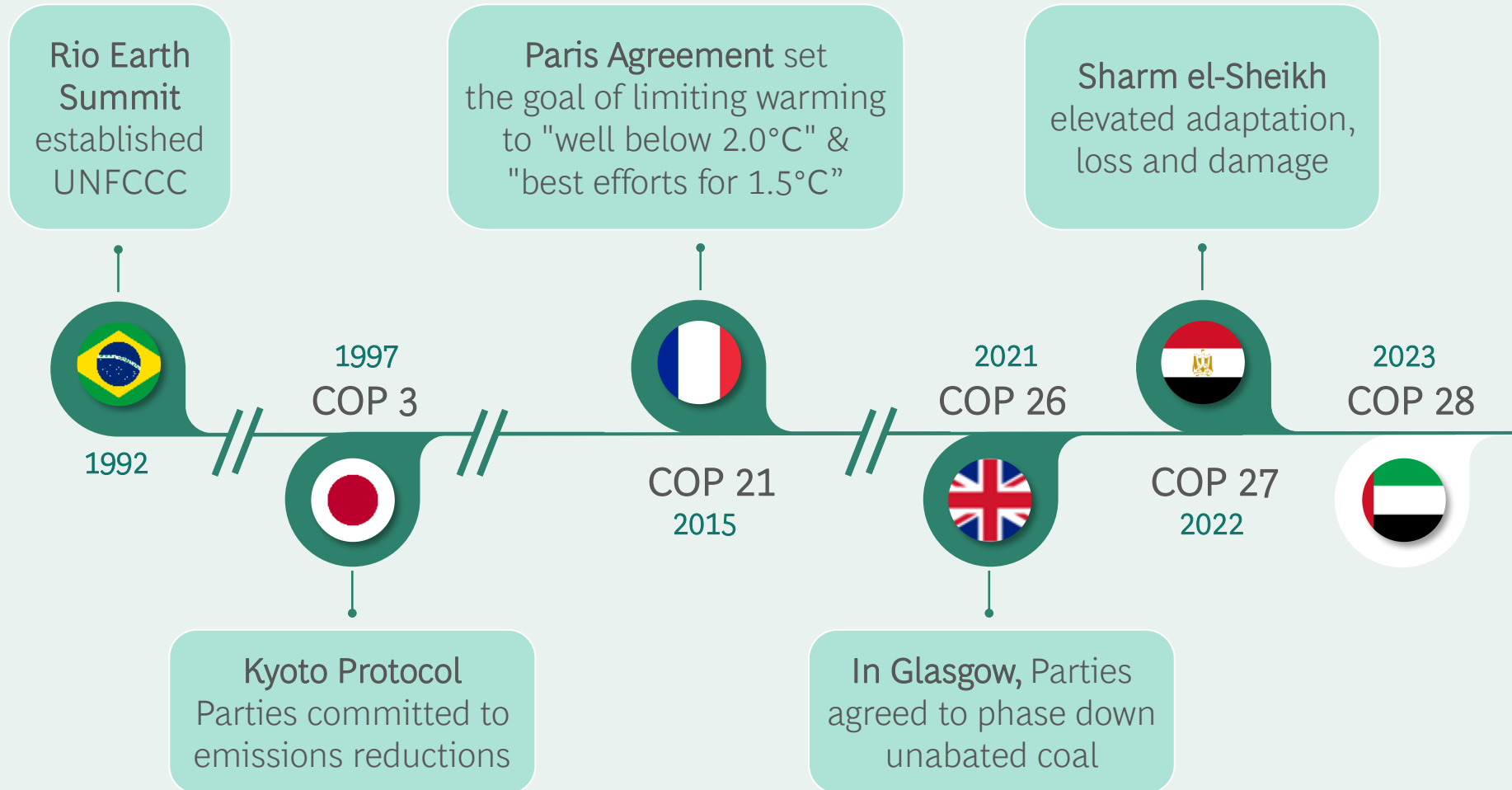


1. Surface Area Temperature refers to temperature measured at 2 meters above the surface; 2. Based on NDCs submitted to UNFCCC. 3. Modelling conducted from 2020 baseline using projected 2020 emissions.

Note: Emission gap for 2°C pathway estimated to be ~14 GtCO₂e (UNEP Emissions Gap Report 2023).

Source: ClimateReanalyzer.org; Climate Change Institute; University of Maine; Climate Action Tracker

A quick recap of milestone COPs



COP28 is a critical milestone. It is the year of the Global Stocktake, which is the midway point between the Paris Agreement and 2030.

COP28 delivered a bold Action Agenda and a landmark negotiated outcome



Action Agenda

Action Agenda delivered commitments and progress from high ambition countries, businesses & civil society organizations across the climate agenda.

Formal Negotiations Agenda

The Negotiated Agenda delivered a comprehensive roadmap intended to keep 1.5C within reach. This roadmap is known as the "UAE Consensus", agreed by 198 Parties.

Note: COP28 held the World Climate Action Summit on 1-2 December 2023. Thematic days ran from 3-10 December with a rest day on 7 December. December 11-12 had no themes
1. The thematic days spanned the following topics: Health, Relief, Recovery & Peace; Finance, Trade, Gender Equity, Accountability; Energy, Industry, Just Transition and Indigenous People; Multilevel Action, Urbanization and Built Environment, Transport; Youth, Children, Education and Skills; Nature, Land Use, and Oceans; Food, Agriculture and Water

5 Areas of Decisive Progress

COP28 Action Agenda

01

Renewables and Energy Efficiency (RE & EE)

New sectoral target rallying global action to accelerate deployment

- 130+ countries (2/3 of GDP) committed to triple RE capacity and double EE improvements globally by 2030
- Countries commit to reflect this goal in their own actions and NDCs
- The Global Stocktake saw 198 parties agree to contribute to the global targets

02

Methane (Oil & Gas)

Broad commitments, funding & technical support to accelerate abatement

- 50 companies, representing 40% of oil production, committed to near-zero methane by 2030 and net zero for Scope 1&2 emissions by 2050 or earlier
- ~1.2B new funding announced for methane abatement, including \$255M for World Bank fund

03

Heavy Emitting Sectors (HES)

Substantial progress towards scaling supply and demand of decarbonized solutions

- Launch of Industrial Transition Accelerator, first ever cross-sectoral initiative that aims to accelerate decarb of HES
- Represented by ~50% of cement & aluminum, ~80% steel, ~40%+ power production, ~80%+ air traffic
- Governments, for the first time ever, agreed to new green procurement commitments through UNIDO IDDI

04

Food and Agriculture

Raised ambition for food system transformations supported by business and finance

- 150+ countries committed to food targets in climate planning, with \$200M in new technical support
- 25+ leading agriculture orgs committed to transition 160M hectares to regenerative ag by 2030 accompanied by \$2.2B investment

05

Finance

Over \$85B new funding raised, including innovative private finance at scale

- Launch of ALTÉRRRA, \$30B climate fund with \$5B risk mitigation capital, aiming to mobilize \$250B by 2030
- The World Bank unlocks \$14B for climate and clean energy in Africa
- Parties pledged \$792M in Loss & Damage funding ahead of the opening of the negotiations

5 Areas of Growing Momentum

COP28 Action Agenda

06

Nature and Water

COP28 increased momentum on Nature-based Solutions for climate

- \$2.9B of new funding for Nature-based Solutions and Water projects worldwide
- 37 countries joined the Freshwater Challenge, a country-led initiative to protect & restore freshwater ecosystems
- 150 businesses and Financial Institutions engaged in discussions to develop nature positive plans

07

Health

Momentum built on Climate & Health (C&H), via Pledge and funding announced

- 144 countries signed the Declaration on C&H, which seeks to incorporate health considerations in the context of the relevant Paris Agreement & UNFCCC processes
- 41 organizations endorsed Guiding Principles for Financing Climate & Health solutions

08

Climate Adaptation and Resilience

Public & private sector call to action on significance of Adaptation & Resilience (A&R)

- 74 countries committed to enhance A&R efforts and access to finance
- Private financing opportunities in A&R highlighted in PREPARE call to action
- Financial architecture reform, including new MDB commitments on A&R finance and climate-resilient debt clauses

09

Voluntary Carbon Markets

Progress on defining unified standards to ensure credibility and transparency

- New Integrity Framework by coalition of standard bodies to accelerate unified and clear standards
- Launch of Energy Transition Accelerator: carbon finance platform to catalyze private finance to developing countries
- Launch of clean coal credit initiative to support early retirement of coal plants

10

Hydrogen

Unlock of international hydrogen trade to enable growth in demand

- Launch of new ISO specification (ISO/TS 19870) to calculate low carbon H2 GHG emissions, which can enable universal emission standards for low-emission hydrogen market
- 37 countries endorsed Declaration of Intent on mutual recognition of low-carbon hydrogen certification schemes

A Breakthrough Year for the COP Negotiation Agenda

Outcome



Mitigation (under the GST decision)

Parties agreed on the main building blocks of global energy transition including tripling renewables, doubling energy efficiency and transitioning away from fossil fuels¹

See next slide



Global Goal on Adaptation

Parties agreed sector-specific resilience objectives, urged development national adaptation plans by 2030, and called for doubling of adaptation funding to close finance gap.



Nationally Determined Contributions (NDCs)

Parties agreed that the next round of NDCs should cover all emissions, sectors and categories. Next round of NDCs will have targets for 2035 and are due by end 2024¹



Loss & Damage

Parties agreed to operationalize a Loss & Damage Fund that was approved in principle at COP27. \$792M has been committed for capitalization and administration.^{1,2}

Implications



- Greater clarity and confidence on the speed and shape of the energy transition
- Increased support and investment in key elements of the transition e.g., renewables, CCUS



- Quantity, quality and comparability of national adaptation planning will improve
- Better pipeline of adaptation projects and increased funding flows



- Comprehensive NDCs improve transition pathways and policy frameworks
- Increased clarity and confidence for business and investors



- Increased funding for losses and damages suffered in the most climate-vulnerable, least culpable countries

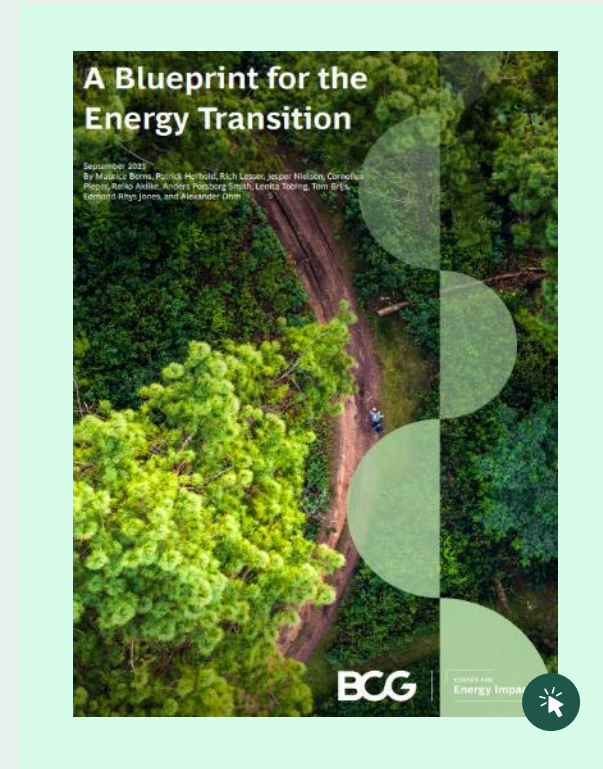
1. Matters relating to the global stocktake under the Paris Agreement. Draft decision -/CMA.5. Proposal by the President, UNFCCC 2023; 2. Operationalization of the new funding arrangements for responding to loss and damage and the fund established in paragraph 3 of decisions 2/CP.27 and 2/CMA.4, UNFCCC 2023; 3. Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3, UNFCCC 2023

The BIG win

This political consensus on energy must be delivered in line with the science

28. *Further recognizes* the need for deep, rapid and sustained reductions in greenhouse gas emissions in line with 1.5 °C pathways and *calls on* Parties to contribute to the following global efforts, in a nationally determined manner, taking into account the Paris Agreement and their different national circumstances, pathways and approaches:

- (a) Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030;
- (b) Accelerating efforts towards the phase-down of unabated coal power;
- (c) Accelerating efforts globally towards net zero emission energy systems, utilizing zero- and low-carbon fuels well before or by around mid-century;
- (d) Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science;
- (e) Accelerating zero- and low-emission technologies, including, inter alia, renewables, nuclear, abatement and removal technologies such as carbon capture and utilization and storage, particularly in hard-to-abate sectors, and low-carbon hydrogen production;
- (f) Accelerating and substantially reducing non-carbon-dioxide emissions globally, including in particular methane emissions by 2030;
- (g) Accelerating the reduction of emissions from road transport on a range of pathways, including through development of infrastructure and rapid deployment of zero- and low-emission vehicles;
- (h) Phasing out inefficient fossil fuel subsidies that do not address energy poverty or just transitions, as soon as possible;



Provides an evidence-based view of the crucial elements of the energy transition and the actions required of the key stakeholders

“
AN AGREEMENT IS
ONLY AS GOOD AS ITS
IMPLEMENTATION.
THIS HISTORIC
CONSENSUS IS ONLY
THE BEGINNING OF
THE ROAD ”



H.E. Dr. Sultan Al Jaber
President, COP28 UAE

Companies

- Deliver and expand existing commitments and initiatives
- Transparently report progress against commitment to global best practices
- Advocate with consistency for the **policy measures required** to accelerate
- Collaborate across value chains to support partners' decarbonization
- Invest in advanced technologies needed to reach net zero, alone or with others
- Consider **Nature Positive plans** to also reflect impact on nature`

Governments

- **Revise NDCs** in line with 1.5°C based on robust national pathways across all sectors and considering food systems
- Implement **robust policy measures** to enable investment in climate, drive market signals, remove market frictions (e.g., permitting, rules), and embed price of carbon
- Drive demand through **green procurement** e.g. green steel, cement
- Increase **investment in adaptation**

MDBs, IFIs, FIs, and Philanthropy

- MDBs/IFI: Accelerate reforms to **unlock deployment** of capital; Launch new **new instruments** to finance all climate needs, including adaptation
- FIs: **Increase share of portfolio** focused on **climate** finance
- Philanthropy: Deploy **grant and catalytical capital** in support of energy transition, adaptation and wider low-carbon transition efforts



Appendix

Deep Dives - COP28 Action Agenda

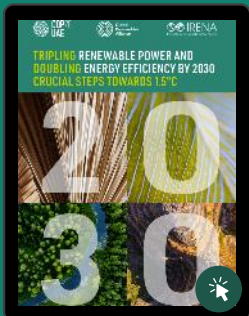
RE & EE | 130 governments commit to triple renewable capacity and double the rate of energy efficiency gains by 2030

Key facts

Commitment addresses at least 41% of the abatement required by 2030². To keep 1.5° in reach we need to:

- Grow RE capacity from 3.6 TW to 11TW by 2030¹
- Increase EE improvements from ~2% p.a. annual to 4% by 2030¹
- Investment in grids needs to at least match that in new generation
- Investment of \$29.5T required to 2030; private sector can fund share if new policy measures enacted¹
- 2x capital costs threatens energy transition in developing countries²

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Read more on the roadmap to triple RE and double EE, published by COP28, IRENA, and GRA with BCG support

Key takeaways from COP28

- **COP28 Presidency prioritized renewables and energy efficiency** in the run-up to COP28 in response to the clear recommendations of the IPCC, IEA and GST Technical Report that these are critical abatement levers this decade
- As part of Action Agenda, the Presidency **partnered with the EU to encourage countries to commit** to 1.5°C aligned target, alongside commitments to new policy measures and progress reporting; 130 endorsers representing over 2/3 of global GDP
- Energy Transitions Commission estimated the mitigation impact of this initiative to be **6 – 9 Gt by 2030³**
- Momentum carried into negotiations with a matching commitment from all 198 parties in the **Global Stocktake**

Key Announcements @ COP28

1

Renewables & Energy Efficiency Pledge

- Commits to triple RE installed capacity to 11,000 GW by 2030
- Commits to double EE improvements from 2% to 4% per year and make it ‘first fuel of choice’
- Commits to taking comprehensive action including reflecting this in NDCs and adopting ambitious policy
- Recognizes the key enablers including permitting, grids, supply chains, market design, and efficiency initiatives
- Recognizes the need for international collaboration, esp. financing, supply chains, inter-connections
- Commits to review progress on an annual basis

[Read the COP28 declaration](#)

2

Renewables finance

announcements of €2.3B by European Commission for the energy transition and \$568M by the US for clean energy and supply chains⁶

Private sector actors also announced new financing, including Copenhagen Infrastructure Partners' \$3B fund for clean power in emerging markets⁵

3

The Global Stocktake called on Parties to contribute to the global effort **of tripling renewable energy capacity** globally and **doubling the global average annual rate of energy efficiency** improvements by 2030

1. Tripling Renewable Power and Doubling Energy Efficiency By 2030 Crucial Steps Towards 1.5°C, COP28, IRENA, GRA 2023; 2. Net Zero Roadmap A Global Pathway to Keep the 1.5 °C Goal in Reach, IEA 2023; 3. COP28: A High-Level Assessment of Mitigation Proposals, Energy Transitions Commission; 4. GRA; 5. Press reports; 6. COP28;

RE & EE | Governments and businesses must collaborate to accelerate renewable energy and energy efficiency improvements

Implications for leaders



Increased policy support for RE & EE deployment may be paired with local content requirements; as full localization is difficult, regional diversification will become more important



Power price volatility, particularly in markets with high share of variable RE, weak grids, and limited balancing opportunities via interconnections



Value of demand side flexibility will increase massively over time



Risk of stranded assets due to decline in demand for fossil fuels from rising renewables share and improved efficiency



Pressure on supply-chains and competition for critical minerals and skilled labor as rapid deployment accelerates demand

Actions to take



Renewables supply chain players should embrace policy maker engagement to:

- Improve competitiveness of regional manufacturing
- Drive for regional diversity of full supply chain
- Create demand needed signals for build out



Energy Efficiency solution providers should aim to:

- Industrialize building stock modernization and build heat storage and networks
- Electrify industry and transport, and leverage AI-based optimization



Policymakers should enable scaling by:

- Accelerating permitting
- Redesigning energy markets to accelerate and de-risk buildout
- Triggering anticipatory investments into grid build out
- Driving for transparent standards and accountability
- Reexamining fossil fuel subsidies and ensure energy prices reflect pollution and climate costs



Read more on BCG's blueprint for the global energy transition



Read more on transitioning to a sustainable power system



Read more on the outlook for the wind energy supply chain

02

Methane (O&G) | Governments implement new regulation and 50+ O&G companies commit to near zero methane by 2030

Key facts

- CH4 is 80x more potent than CO2, accounts for ~30% of global warming to date
- Anthropogenic emissions must fall by 30-60% by 2030 for 1.5°C
- Key sources are energy (37%), agriculture (40%), waste (20%)
- Over 75% methane from O&G industry can be abated with existing well-known technology, majority with positive NPV

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Read BCG's blueprint that outlines how to scale new low-carbon technologies, the global implications of the shift, and actions for all stakeholders

Key takeaways from COP28

COP28 accelerated the growing momentum on abating methane from O&G ops., building political commitment and cooperation

Governments step-up policy and regulation to incentivize and accelerate methane abatement:

- The USA EPA announced regulation to cut methane emissions by 80% over 15 years
- The EU adopted its first methane regulation to report and avoid emissions
- Canada announced regulation to reduce methane by 75%+ from 2012 levels by 2030
- China recently announced plan to monitor, report & verify methane emissions, and establish policies, technology and standards

New industry commitments and financial support:

- Companies made new commitments, and \$1B in new methane abatement funding was announced (see below)

Enhanced international collaboration including key new countries:

- 7 countries³ joined Global Methane Pledge taking total to 155 countries committed to 30% methane emissions cuts by 2030
- US and China demonstrated their new cooperation on methane at COP28 Methane Summit, following agreement to cooperate on technical solutions, policy and capacity building
- The COP28 Presidency called for NDCs to include methane targets

Key Announcements @ COP28

1 Industry steps up: Launch of Oil & Gas Decarbonization Charter

30 NOCs and 20 IOCs representing 40% of oil production committed:

- Near zero methane by 2030, vast majority doing so for the first time
- Eliminate routine flaring by 2030, 35 doing so for the first time
- Net Zero Scope 1/2 emissions by 2050, 36 doing so for the time

2 Tracking: Full launch of MARS¹ and expansion of SMC

UNEP shared data from MARS pilot, demonstrating potential of this platform to revolutionize methane accountability

- 1,500 plumes identified in year 1
- 127 notified to authorities

OGCI expanded its Satellite Monitoring Campaign (SMC) to new countries and assets

3 Finance Commitments from countries and companies

Announcement of ~\$1.2B mobilized for methane action since COP27 from countries and industry


Includes: \$255M for launch of World Bank Global Flaring and Methane Reduction Partnership (GFMR)


Sources: IEA; Environmental Defense Fund; Zero Carbon Analytics; 1. Methane Alert and Response System; 2. Satellite Monitoring Campaign; 3. Including Turkmenistan, Kazakhstan


02


Methane (O&G) | O&G companies must launch robust methane abatement and make zero methane ops. a competitive advantage

Implications for leaders

 **Regulatory pressure to accelerate methane abatement** especially in Global Methane pledge countries, OGDC companies, and countries with new regulations/fees (e.g., US IRA)

 **Zero-methane operations is becoming the new license-to-operate and a source of competitive advantage** in many markets


 **Finance available** for eligible methane emitters in developing countries, e.g., tax credits for low methane emissions gas

 **Demand to increase** for methane emissions detection, measurement, identification and abatement solutions e.g., third party certification of hydrocarbons' emissions, suppliers with zero methane equipment and services

Actions to take

 **Countries to implement policy and regulation to accelerate methane abatement**

- Develop robust sector-specific standards and rules
- Establish and implement monitoring, reporting and scrutiny
- Facilitate access to funds, collaboration (e.g., sharing equipment), transfer of lessons learned and know-how

 **Oil and Gas producers to put in place a robust methane abatement program at corporate and asset-level that accelerates no regret actions; e.g.,**

- Create a reliable baseline and technology strategy
- Replace equipment that vents CH4 by design; e.g. high bleed pneumatics
- Install equipment that captures gas otherwise vented or flared; e.g. VRUs
- Put in place an advanced "leak detection and repair" program
- Launch zero methane ops. program tackling workflows, incentives, culture

 **Investors and suppliers must adapt framework to methane abatement projects**

- Adapt expected return to what methane abatement projects can deliver
- Work closely with O&G companies to pilot solutions in the field
- Build flexible solutions to accommodate fast technology evolution



Read more about the new paradigm for Oil and Gas decarbonization, and how to accelerate abatement in a cost-effective way



Read more about methane's potency as a greenhouse gas, and the solutions readily available



Read more about the power of cutting methane emissions in fighting climate change

03

Heavy-Emitting Sectors | Continued progress on existing initiatives and launch of the Industry Transition Accelerator

Key facts¹

- Heavy Emitting sectors¹ represent ~30% global GHG emissions
- Emissions projected to grow 32% by 2050³
- \$15T needed to 2050 to decarbonize³
- 50% of abatement to 2050 relies on technologies not yet at scale⁴

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Cornelius Pieper moderating the Industrial Transition Accelerator Presidency Roundtable

Key takeaways from COP28

COP28 saw the **expansion of existing initiatives** launched since COP26

- Breakthrough Agenda to accelerate decarbonization of key sectors. Concrete & Cement Breakthrough initiative launched at COP28
- First Movers Coalition(FMC) leverages the collective purchasing power of its members to stimulate demand in 7 high-emitting sectors FMC added three members, totaling 90+ members, with \$15B annual clean demand by 2030
- Green Public Procurement (GPP) Pledge, sets timebound commitments to procure low-emission steel, cement and concrete. UNIDO IDDI added four new government joiners, published blueprint for accounting standards

Despite progress made and presence of several decarbonization initiatives in previous COPs, **further action required across decarbonization of supply, acceleration of green demand and definition of standards for decarbonized products**

COP28 Presidency supplemented these initiatives by: I) launching **Industrial Transition Accelerator** to accelerate HES decarbonization II) building on **green procurement commitments** III) supporting launch of **low carbon steel standards** IV) supporting UAE in co-launching **Cement & Concrete Breakthrough initiative** alongside Canada

Heavy emitting sectors were a central part of the Energy and Industry Day at COP28


Key Announcements @ COP28


<p>1</p> <p>Industrial Transition Accelerator (ITA)</p> <ul style="list-style-type: none"> • First ever cross-sectoral initiative to enable policy, financing, tech required to accelerate decarbonization of heavy emitting sectors • 38 companies committed to net zero targets, 2030 target, decarb plans, emissions disclosure • Endorsed by partners and industry associations representing ~50% of cement & aluminum, ~80% steel, ~40%+ power, ~80%+ air traffic • Led by COP28 Presidency, Bloomberg, UNFCCC 	<p>2</p> <p>Demand Signaling</p> <p>Green Public Procurement of low-carbon cement & steel: UK, Canada, USA, Germany for the first time, commit to IDDI's procurement pledge. UAE, Japan made statements-of-Intent</p> <p>First Movers Coalition: Coca Cola, Volvo cars, Ball joined</p>	<p>3</p> <p>Launch of the Steel Standards Principles, calling for common methodologies for measuring GHG emissions the iron and steel sector to accelerate the near-zero transition</p>	<p>4</p> <p>Canada & UAE launched Cement & Concrete Breakthrough initiative to share priority actions to drive policy reforms to decarb industry</p>
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Source: 1. Heavy Emitting Sectors include Cement, Steel, Aluminum, Shipping, Aviation, Land Transport, Chemicals. 2. IEA analysis under Stated Policies Scenario, BCG analysis 3. Mission Possible Partnership 4. 2021 IEA NZE; First Movers Coalition


Heavy-Emitting Sectors | Decarbonization solutions, green demand, policy and finance needed to accelerate the transition to net zero

Implications for leaders

 **Increased cross-sectoral collaboration** between heavy emitting sectors across key enablers, and shift towards decarbonization solutions and technologies at scale

 **Pressure and proposals for policy and standards** for low-carbon products (e.g., through Breakthrough Agenda)

 **Increased demand for green products** from signatories to the GPP and FMC

 **Broader alignment on how to define low carbon products**, e.g. steel, enabling cross-border movement of green technologies & products, and investments in clean tech

Actions to take

 **Heavy Emitting Sector producers must address regulation and market pressure:**

- Proactively assess implications and define business opportunities stemming from new regulation (e.g., IRA, CBAM)
- Work closely with offtakers to finance large scale decarbonization projects
- Join the Industrial Transition Accelerator to collaborate with producers from other heavy emitting sectors globally, and leverage lessons learned across sectors

 **Buyers of Heavy Emitting products:**

- Take part in innovative business models, including purchasing clubs, such as the First Movers Coalition, to create early markets for innovative clean technologies, supporting securing supply of low-carbon products in the longer term

 **Governments must deploy policies for supply decarbonization and green demand:**

- Define policies to incentivize long term investment from producers, buyers and financiers in HES supply and demand
- Commit to UNIDO IDDI's Public Procurement Pledge to signal commitment to green procurement to private sector and incentivize long term investment in the country



Read more accelerating Green Demand through Green Public Procurement: Catalyzing the Net Zero Economy



Read more accelerating Green Demand through First Movers' Coalition



Read more about IDDI's report on Greenhouse Gas Accounting System, supported by BCG



Read more about BCG's report on Green Awakening on Decarbonized Products



Read more about CDP and BCG's report on transitioning from grey to green in hard to abate

04

Food & Agriculture | Governments raise ambition for food system transformation, supported by non-state actor action and ~\$3B funding

Key facts

- Food production contributes to 33% of greenhouse gas emissions, and a 1C additional warming by 2100 from food systems is expected
- 720 million people are today undernourished; 30% of food production is lost or wasted
- Today, climate change has caused a 21% decrease in ag productivity

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Shalini Unnikrishnan BCG Global Lead for Sustainable Food, Agriculture & Nature and Co-Chair of the COP28 Action Agenda on Regenerative Landscapes moderating the launch of the initiative ambition

Key takeaways from COP28

- Building on COP27 Agriculture Day and CDB COP15's focus on sustainable food systems, **Food & Agriculture was one of the COP28 Presidency's priorities** and given a prime spot during Day 1 of the World Climate Action Summit
- Increased political focus and momentum seen via **COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action**, asking governments to commit to embed food and ag targets into climate planning tools
- **Farmers placed central of the food transformation**, with consultations with farmers guiding both public (e.g., Declaration) and private sector (e.g., COP28 Action Agenda on Regenerative Landscapes) narratives and action of food systems
- Private sector stepped forward to turn commitments to action focusing on projects on the ground, with a **call to increase collaboration across the value chain** including businesses, financiers, civil society and local governments
- Elevated focus placed on 1) **unlocking public and private finance** (~\$3B mobilized) for food system transformation and 2) **accelerating innovation and research** for adaptation & resilience, particularly in the Global South

Key Announcements @ COP28

<p>1</p> <p>COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action: 150+ Heads of State endorse, mandating inclusion of food targets into climate planning¹ accompanied by \$200M in technical support</p> <p>Read the COP28 declaration</p>	<p>2</p> <p>COP28 Action Agenda on Regenerative Landscapes: 25+ leading organizations accelerate transition to regen ag, covering 160M ha², 3.6M farmers and \$2.2B in future investment, an initiative co-chaired by BCG, WBCSD, COP28 Presidency & UNHLC</p>	<p>3</p> <p>Accelerated innovation (incl. \$200M mobilized): a) new partnership between UAE and BMGF³ to identify, fund and scale ag innovation in selected countries and b) increased funding to CGIAR⁴ for adaptation focused ag R&I⁵ from the UAE & BMGF</p>	<p>4</p> <p>Financing the Future of Food (F3): Creation of new blended finance mechanism to accelerate and de-risk private sector investment into food systems in the Global South (\$500M bond issuance announced supported by the World Bank Treasury)</p>
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1. Nationally Determined Contributions, National Adaptation Plans, National Biodiversity Strategic Action Plans 2. 3x the land area of France 3. Bill & Melinda Gates Foundation; 4. Consultative Group on International Agricultural Research 5. R&I = Research & Innovation

Food & Agriculture | Opportune time to tap into government and MDB focus placed on transforming food systems

Implications for leaders



Greater focus from governments on defining and refining food in national climate plan, accompanied by increased funding



Positive nature and people impact from transformed agricultural practices as we pivot to regenerative ag at scale



Use case examples and best practices emerging from successful and scalable regen ag projects across geographies and crops



Consumer and investor pressure to adopt regen ag practices and for transparency on corporate action and impact



Growing financier (incl. MDBs) appetite to invest in and fund concrete projects, incl. regenerative ag, and research and innovation

Actions to take



Governments:

- Include **food targets** in national climate plans and develop a **project pipeline** of policy, investable / non-bankable projects
- Coordinate policy and financing to **incentivize the transition**



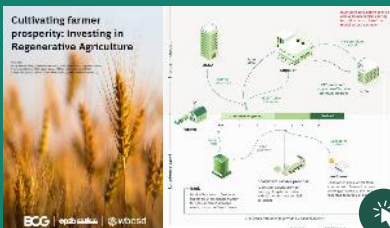
Businesses:

- Join the **COP28 Action Agenda** on Regenerative Landscapes
- Develop regen ag strategies, **plan and landscape-level projects**
- Set targets to **measure impact** incl. Scope 3, implement MRV
- Collaborate with **value chain adjacent players** (incl. farmers)
- Simplify **understanding and access** to 'financing stack' needed by farmers, particularly smallholders
- Explore **innovative financing offerings** that de-risk investments
- Invest in **ag innovation start-ups** to unlock larger funding pools

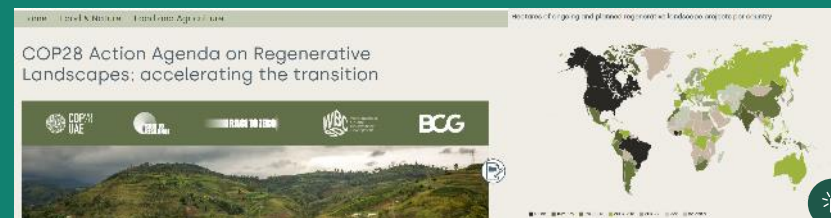


Multi-laterals

- Support to **align policy** with needs, **increase blended financing**



Read about what is needed to make regenerative agriculture profitable for farmers, covering both financial and non-financial levers. Co-authored by OP2B, BCG and WBCSD



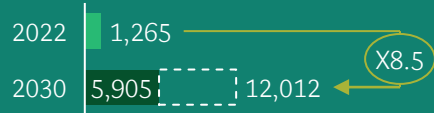
Visit the [COP28 Action Agenda on Regenerative Landscapes](#) website to learn more about the initiative and view a global mapping of existing and planned regenerative landscape projects

05

Finance | COP28 delivered \$85B of new climate finance and limited support for a set of principles to unlock much more

Key facts

- Estimated global investment need to transition to the low-carbon economy (\$T p.a.)



- 70%+ climate finance targets energy, leaving a shortfall for sectors like industry (\$8.5B vs. \$70B required)
- 13x increase needed for EMDEs (excl. China) to reach \$2.4T/yr.

BCG@COP28



Wendy Woods and Amine Benayad, with Stefan Wintels, CEO of KfW, launched a report on how DFIs can better partner with private sector finance to unlock climate financing

Key takeaways from COP28

- COP28 UAE Declaration on Climate finance**, set out guidelines for actors in the finance ecosystem – public & private finance, philanthropy - to drive a sector transformation, and address the climate finance challenge especially for EMDEs
- Yet while the **declaration's intent was acknowledged by some Heads of State / Government**, the limited number of signatories (13) suggests **more is required to build traction after COP28** ahead of the 2024 finance forum
- The UAE demonstrated its support for the new guidelines through a broad action agenda, including the **launch of Altérria, AED 1T in sustainable finance issuances, global climate finance hub** based in the UAE, and the **first Business and Philanthropy Climate Forum**
- Strong fund mobilization at COP28 (>\$85B)** including >\$30B from MDBs and donors, >\$3.5B for the GCF leading to the largest capitalization ever (\$12.8B) drove optimism that climate finance can flow and be fixed. Yet, this is still a fraction of need, even as questions on how to raise the trillions required remain open

Key Announcements @ COP28

<p>1</p> <p>COP28 UAE Declaration on Climate Finance</p> <ul style="list-style-type: none"> 10 principles to seize growth opportunities, mobilize funds, improve finance accessibility and affordability Report back framework in a Climate Finance Forum in 2024 	<p>2</p> <p>Launch of ALTÉRRIA</p> <ul style="list-style-type: none"> A \$30B innovative catalytic climate fund with a risk mitigation capital Potential to mobilize up to \$250B in developed and developing countries 	<p>3</p> <p>IFIs/MDBs to rethink finance sector</p> <ul style="list-style-type: none"> >\$14B+ from the World Bank; 3x climate finance from IDB; \$10B for the Philippines from ADB World Bank, IDB, EIB, EBRD, AfD announced Climate Resilient Debt Clauses; UAE contributed \$200M SDRs 	<p>4</p> <p>UAE positioned itself as a new Climate Finance Hub</p> <ul style="list-style-type: none"> Global Climate Finance Centre to support greening fin. markets Banking sector committed to \$270B sustainable finance by 2030 \$4.5B Africa Green Investment Initiative \$500M Climate Tech ecosystem
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[Read the COP28 declaration](#)

1. Global Landscape of Climate Finance 2023 – Climate Policy Initiative

Deep-dive

Finance | Launch of ALTÉRRRA, an innovative \$30B global climate fund with a risk mitigation capital to mobilize private capital at scale

Key facts¹

- 50% of global climate finance is generated by the private sector. The IMF estimates that climate finance must increase from 40 to 90% of the total in EMDEs by 2030
- <2% climate finance is generated by institutional investors and funds; commercial banks and corporates dominate private finance

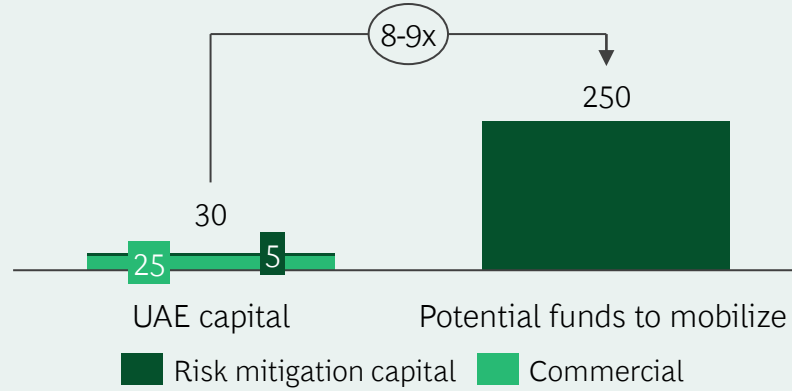
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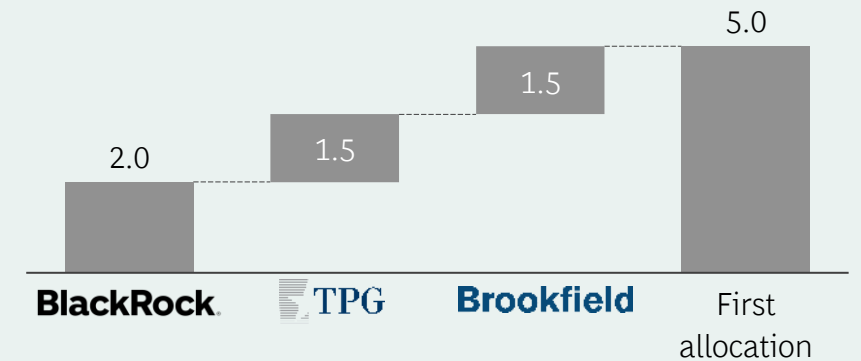
Nili Gilbert, BCG Senior Advisor, moderated the Financing the New Climate Economy event which featured discussions with Larry Fink, James Coulter, Bruce Flatt, and other key global asset managers on ALTÉRRRA's innovative approaches to unlock capital flows at scale

ALTÉRRRA

A \$30B innovative catalytic climate fund, is the largest targeting both developed and developing markets



\$5B allocated in the initial round of partnerships



Implications

- The UAE plays a pivotal role in shaping the new global climate investment ecosystem by collaborating with global sophisticated GPs, institutional capital, philanthropic organizations, and established multilateral financial institutions
- Incentivizing global investors to develop strategies, teams, and capabilities focused on the nexus of climate and Emerging Markets and Developing Economies
- Blueprint designed for global replication and/or scale-up to address the climate finance gap

1. Global Landscape of Climate Finance 2023 – Climate Policy Initiative

Finance | Urgent imperative for accelerated, scaled-up, and collaborative actions from Governments, Private Sector, and MDBs

Implications for leaders



Government donors and recipients will be focused on freeing up fiscal space for development and climate action



Lenders will see **Climate Resilience Debt Clauses (CRDC) becoming standard** features in lending agreements



Growing expectation that **rich countries and philanthropies support the climate transition** with development assistance funds



New funding opportunities for Private sector **in EMDEs and emerging sectors**



Additional MDBs funds for climate become available, particularly for adaptation and resilience



Green Finance Cluster is emerging in the UAE

Actions to take



Governments

- Accelerate the **roll-out of comprehensive policies and incentives frameworks to drive low-carbon 'transition'** ('IRA for every country')
- Donor countries need to **expedite debt restructuring, by** initiating a framework involving both public and private creditor, broadening the list of beneficiary countries and timeboxing restructuring discussions
- Donor countries need to **expand CRDC in future lending agreements**
- Donor countries need to **rethink ODA deployment** by identifying areas and models where private sector engagement can maximize the impact
- Recipient countries need to **develop platform sponsored by the highest level of the government** bringing together private sector and philanthropies



Private sector:

- Formulate an approach for the **new competitive space in private-led blended finance**, and speed-up **innovation of catalytic instruments and partnerships**
- Consider **Nature and Social aspects** of Just Transition



MDBs:

- Develop **platform for innovative catalytic instruments and joint action**



Read more about global best practices and policies for DFIs to unlock climate finance



Read more about why investing in adaptation is both a business imperative and an economic opportunity

06

Nature & Water | Nature and Water were key areas of focus for COP28, with ~\$2.9B in new funding announced

Key facts

- Nature-based Solutions (NbS) can help achieve ~30% of mitigation needed for 1.5°C by 2050
- Annual NbS funding to meet Rio targets needs a ~3x increase by 2030 (\$542B in 2030, vs. \$200B in 2022)
- By 2050, more than >50% of the global population will live in areas suffering from water scarcity

BCG@COP28



Torsten Kurth, Managing Director & Senior Partner, intervening on water resilience at a COP28 event co-organized with WWF and WFP

Key takeaways from COP28

- Nature was at the center of the COP28 Presidency's Action Agenda, with initiatives developed across all ecosystems (forests, oceans, mangroves, freshwater, etc.) and enablers (finance, policy alignment, etc.), and showcased on **COP28 Nature Day**
- Water was confirmed as a key topic for COPs, in the footsteps of COP27's first-ever Water Day, with an array of initiatives and commitments dedicated to **water-resilient food systems, water resilience in urban environments, and water scarcity**
- COP28 increased momentum on NbS & ecosystem restoration, and created a connection with food systems, with additional funding unveiled and policy discussions to put in place enablers for NbS

Key Announcements @ COP28

<p>1</p> <p>At-scale funding mobilized for nature & water</p> <ul style="list-style-type: none"> • ~\$2.9B announced for the protection & conservation of nature and for water initiatives, incl. \$1.1B in innovative financing packages for forest-rich countries, \$1.0B for a NbS Hub in Asia-Pacific (ADB¹), and \$200M for water security and urban water utilities 	<p>2</p> <p>Enhanced focus on water, oceans & coastal areas</p> <ul style="list-style-type: none"> • 37 countries joined the Freshwater Challenge, a country-led initiative to protect & restore freshwater ecosystems • 2 mangroves protection & restoration initiatives showed rapid growth since COP27: Mangrove Alliance for Climate², Mangrove Breakthrough³ 	<p>3</p> <p>Increased engagement of the private sector in nature-positive</p> <ul style="list-style-type: none"> • 150 businesses and Financial Institutions engaged in discussions to develop nature action plans, with commitments to set nature targets (SBTN⁴, SBTi FLAG⁵), to invest in NbS, and to disclose nature-related risks (TNFD⁶) 	<p>4</p> <p>New enablers for scaling up nature & climate action</p> <ul style="list-style-type: none"> • 18 countries affirmed their commitment to integrate their nature & climate plans (NDCs, NAPs, NBSAPs⁷) <p>Read the Joint Statement</p> <ul style="list-style-type: none"> • 15 countries agreed on a roadmap to scale high-quality and high-integrity forest carbon credits under the FCLP⁸ initiative
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1. Asian Development Bank; 2. 30 countries joined the Mangrove Alliance for Climate, led by the UAE and Indonesia; 3. 21 countries endorsed the Mangrove Breakthrough, led by the Global Mangrove Alliance; 4. Science Based Targets Network; 5. Science Based Targets initiative for Forest, Land and Agriculture; 6. Taskforce on Nature-related Financial Disclosures; 7. Nationally Determined Contributions, National Adaptation Plans, National Biodiversity Strategic Action Plans; 8. Forest and Climate Leaders' Partnership

Health | COP28 created strong momentum, but we need to build on this to translate it into new commitments and more targeted action

Key facts

- Climate change threatens progress in Global Health, specifically on malnutrition, vector-borne and water-borne diseases (e.g., malaria, cholera), and may likely exacerbate other illness (e.g., heat stress, respiratory illnesses)
- Increasingly frequent and severe climate-related weather events are also expected to impact health systems through physical damage, supply chain disruption, workforce disruption and system overload
- The health sector is also responsible for ~5% of global emissions, driven largely by manufacturing & transport of commercial biopharma players

BCG@COP28



Panel with members of the SMI Health Systems Task Force

Key takeaways from COP28

- COP28 helped build momentum on Climate & Health (C&H)** - many actors came together to recognize the importance of C&H and issue joint calls to action. Key moments included: first ever C&H Ministerial, attended by 110 health ministries, and 144 countries endorsing a Declaration on C&H
- Significant funding announcements were made across health¹:**
 - New funding was pledged to health: e.g., \$777M pledged to eradicate NTDs at the RLM Forum
 - Organizations committed to give existing health funding a climate lens: e.g., \$500M from Global Fund for Malaria efforts
 - Funds (new & existing) were committed to C&H initiatives: e.g., \$100M from Rockefeller, \$12M for Global Grand Challenges
- Funding announcements were accompanied by commitments to new mechanisms & programmes, and funding principles.** 41 organizations endorsed Guiding Principles for Financing Climate & Health solutions to protect health. The Green Climate Fund, UNDP & WHO partnered to develop a C&H co-investment facility to support 14 developing countries by deploying \$122M
- Global agenda-setting will be needed to ensure action on climate & health is focused on high-impact areas.** The nexus of Climate & health is broad (varied topics across the 150 events at COP28 reflected this). Ecosystem currently lacks clear priorities and roadmap, risking fragmentation. To ensure focus is on funding and action, we need to build greater coordination and consensus

Key Announcements @ COP28

1

144 countries signed the C&H Declaration, which seeks to incorporate health considerations in the context of the relevant Paris Agreement & UNFCCC processes

[Read the COP28 declaration](#)

2

Health was launched as part of the Sharm-el-Sheikh Adaptation Agenda, with 4 Outcomes by 2030 (health services, heat, Early Warning Systems & finance)

3

41 organizations endorsed Guiding Principles for Financing Climate & Health solutions, recognizing need for financing to prevent and protect against health risks of climate change

4

World Bank announced a new program to increase evidence on C&H and invest in country-specific solutions, and the co-convening of a working group of Development Banks for C&H Finance

5

SMI announced development of new green power sourcing deal in India & China and collaboration on a framework to measure environmental impact of medicines

1. The COP28 Press Release references \$1B of climate & health funding, including both existing funds and incremental / new funding; Sources: COP28 Website, Reuters, WHO, BCG Analysis

Adaptation and Resilience (A&R) | Urgency to act on A&R clear; public & private sector momentum building but funding gaps remain

Key facts

- 85% of countries have adaptation policies, laws, strategies, or plans
- 25% of businesses that disclose to CDP are recognizing material financial exposure to physical climate risks
- \$215-387B annual A&R needs in developing countries by 2030; yet only \$63B mobilized in 2021/22
- 10% of public climate finance directed to A&R – significantly falling short of Paris Agreement

BCG@COP28



USAID-led PREPARE Call to Action launch event at the US Center, moderated by Qahir Dhanani with Secretary John Kerry and Administrator Samantha Power

Key takeaways from COP28

- **There was sustained momentum on A&R from COP27**, with action-oriented discussions held with key state and non-state actors. Public-private collaboration was a central theme; inclusivity and locally-led adaptation noted as critical in planning and implementing A&R
- **The Global Goal on Adaptation¹ was adopted as a framework to measure & track adaptation**, with resilience objectives per sector, urging countries by 2030 to develop national adaptation plans, including impact, vulnerability and risk assessments, and to progress implementation. Calls for doubling of adaptation funding from developed to developing countries, and seeks to close finance gap, though without a clear pathway.
- **A large financing gap remains but new financial commitments were made** including World Bank climate finance increase by 45% (\$9B to 2025) with half for A&R². A&R also benefits from GCF \$3.5B pledge and other MDB commitments to climate action
- **Private sector is stepping up involvement in A&R**. US Gov's PREPARE Call to Action driving major companies to commit to A&R and invest in innovation & protection. Private finance (incl. 400+ asset managers through IGGCC) issued a call to action
- **Some important sector-specific achievements**, including the Food Declaration (134+ countries signed) to include food and land use in NAPs by 2025, and the Climate and Health Declaration (123+ countries) to accelerate climate-resilient health systems

Key Announcements @ COP28

1

74 countries signed the **COP28 declaration on climate, relief, recovery, and peace** that aims to enhance A&R efforts and funding access, improve knowledge, and promote collaboration for conflict-afflicted areas

[Read the COP28 declaration](#)

2

Financial architecture reform, incl. new MDB commitments¹ on A&R finance and climate-resilient debt clauses, use of IMF Special Drawing Rights, and Joint MDB Long-Term Strategies & harmonizing A&R finance approaches

3

Climate Resilience Investment in Solutions Principles Framework launched to support investment managers by setting A&R technologies, products, and services as a thematic growth market

4

USAID-Led PREPARE Call to Action launched to mobilize private sector action on A&R across protection, participation in public sector implementation and growth of the market. 31 major corporations have made commitments

1. Replaces Sharm Adaptation Agenda. 2. World Bank announced to increase climate finance by 45% (translating to \$9bn addl. climate finance per year to 2025), with balanced allocation between mitigation and adaptation. 3. IDB aiming to triple climate lending to \$150bn. Adaptation Fund gained \$188m new pledges, though this is short of its \$300m target.

Voluntary Carbon Markets | Collaboration on standards pave the way to a more rigorous, transparent market

Key facts

- High-integrity carbon credits can play a supplementary role in helping companies deliver their climate ambition, on top of direct emission reductions, while also facilitating climate finance for countries and climate projects
- Article 6 of the Paris Agreement provides framework for countries to invest in projects abroad to count towards their own NDC (e.g. recent [Ghana-Switzerland transfer](#))

BCG insights



The voluntary carbon market is thriving



Climate needs and market demand drive future for durable CDR

Key takeaways from COP28

- **The VCM has evolved significantly**, with growing standardization, more rigorous verification processes, and growing participation. The role of technology in tracking and verifying emissions reductions is also increasing
- **However, there is increasing concern that there is not sufficient standardization, integrity and transparency** to ensure that projects truly achieve the emissions reductions they claim; conversations at COP28 focused on addressing these challenges
- **In the negotiations, no agreement on the operationalization on Article 6.4 of the Paris Agreement came to fruition**, further delaying trading under the mechanism. Once established, Article 6.4 will enable countries and the private sector to trade UNFCCC-approved credits. Pilots under Article 6.2, which creates framework for bilateral trade of credits between countries, are expected to continue despite lack of agreement on rules related to UN oversight of trade and host country authorization
- **Still, there was progress and cooperation between major standard bodies outside of the negotiations**, which supports many of the standardization challenges being faced, as well as innovation on types of credits – see announcements below

Key Announcements @ COP28

1

End-to-End Integrity Framework by GHGP, SBTi, CDP, VCMI, IC-VCM, and the We Mean Business Coalition underscores use of high-quality carbon credits as supplemental to own emissions reductions¹

2

Collaboration between major VCM standards—ACR, ART, Climate Action Reserve, Global Carbon Council, Gold Standard and Verra—to align on common principles for quantification and accounting

3

Launch of Energy Transition Accelerator Led by US State Dept, Bezos Earth Fund, and Rockefeller Foundation: innovative carbon finance platform to catalyze private capital to speed the just energy transition in emerging and developing countries

4

Launch of coal to clean credit initiative (CCCI) for early retirement of coal plants Driven by a consortium led by Rockefeller Foundation; scheme will launch through pilot in Philippines

5

Guidance for national regulators on VCMs from the International Organization of Securities Commissions (IOSCO), outlining 21 good practices to improve integrity, transparency, and enforcement

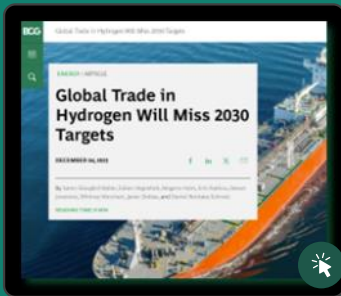
1. Greenhouse Gas Protocol, Science-based Targets Initiative, Carbon Disclosures Project (now CDP), Voluntary Carbon Markets Integrity Initiative, and Integrity Council for Voluntary Carbon Markets
Sources: COP28 Website, ICVCM, Reuters, Rockefeller Foundation, Verra, IOSCO BCG Analysis

Hydrogen | International cooperation and new standards to unlock international hydrogen trade

Key facts

- Scaling H2 production and shift to low-carbon H2 plays a pivotal role in Net Zero scenarios
- However, low-carbon H2 was <1% production in 2022, with 900M tCO2 produced by H2 industry
- By 2030, average emissions intensity of H2 must fall from 12-13.6 to 6.7-7.6 kg CO2/kg H2e
- In addition, over 20% hydrogen/derivates forecast to be internationally traded by 2030

BCG Insights



Read BCG's perspective on the challenges and solutions to unlocking cross-border Hydrogen trade

Key takeaways from COP28

Unlocking global low-carbon hydrogen trade is an important element of enabling the necessary demand growth for Hydrogen to reach 2030 targets forecast as necessary to keep 1.5C within reach. However, trade is currently limited as countries are developing their low-carbon hydrogen certification schemes in siloes and are not using common standards.

COP28's Hydrogen outcomes focused on overcoming these barriers to hydrogen trade and unlocking the global market, through development of universal standards for measuring emission intensity of hydrogen, and international recognition of low-emission hydrogen certification schemes

This came alongside other significant and relevant COP28 Action Agenda/other initiatives from countries and organizations to accelerate development of hydrogen technologies and roll-out of low-carbon hydrogen infrastructure

- COP28's Global Targets on tripling renewables capacity by 2030 have significance for scaling the hydrogen market: P2X is an important element of managing renewables intermittency in energy systems

Key Announcements @ COP28

1

Standards: Launch of ISO/TS 19870 for GHG emissions assessment of Hydrogen

New standard allows assessment of GHG emissions of hydrogen across the whole lifecycle, up to the point of consumption

Source: IEA

2

Certification: 37 countries signed COP28's Declaration of Intent, committing to work together to develop mutual recognition of their certification schemes

Countries will work together to ensure their certification schemes are not developed in siloes and are interoperable

[Read the COP28 declaration](#)

3

Trade corridors: Launch of the Public Private Action Statement

Countries and companies agreed to a complementary set of priorities for the public and the private sector to unlock cross-border trade

4

Projects: \$240M funding from Breakthrough Energy Catalyst for projects accelerating tech adoption at commercial scale

Includes for key hydrogen technologies, e.g., FlagshipONE (Ørsted) – largest e-Methanol plant in Europe

THANK YOU

For more information, please visit [BCG.com](https://www.bcg.com)

