

CER Demand, CDM outlook and Article 6 of the Paris Agreement

CDM Training Workshop for DNAs and Stakeholders in Pakistan
Islamabad, Pakistan, 21+22 August 2017



Outline

- **Status of the CDM and current CER demand**
- **Future of the CDM**
- **Paris agreement – overview, objectives and status**
- **NDCs and market mechanism**
- **Contribution of Article 6**
- **Status of the negotiations / Outlook**



Clean Development Mechanism (CDM)



The Clean Development Mechanism funds programs such as the Lages Methane Avoidance Project, which teaches children to grow vegetables using biomass ashes as fertilizer.

The **clean development mechanism** was designed to meet a dual objective:

- to help developed countries fulfil their commitments to reduce emissions, and
- to assist developing countries in achieving sustainable development.

CDM projects earn **tradable, saleable certified emission reduction (CER) credits** that can be used by industrialised countries to meet a part of their emission reduction targets under the Kyoto Protocol.



Diversified CER Demand

Voluntary demand



Compliance demand



Industrialized countries

Developing countries

Diversified CER Demand

Voluntary
demand

Climate funds



Compliance
demand

Aviation



Industrialized countries

Developing countries

CER Demand

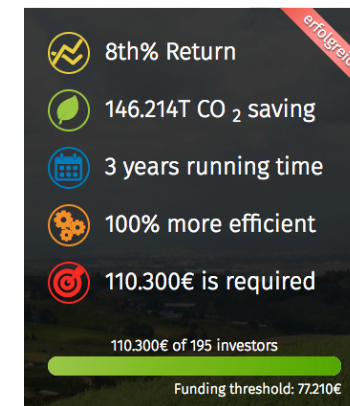
Call for CERs by German Government



The German Environment Agency has issued a call to acquire 203,630 high-quality CERs from registered CDM projects to offset climate-damaging emissions



Crowdfunding Success



Developers successfully used a crowd funding platform to raise funds for two CDM landfill gas projects in Colombia. The funding goal was reached in 13 hours!

CORSIA

ICAO's 39th Assembly recognized the **privileged eligibility** of emission units generated from UNFCCC mechanisms – CDM and Article 6.



CDM: current market situation



- ❑ UN offsets (CER & ERU) issued to date:
~2.5 billion tCO₂eqv
- ❑ Remaining compliance demand: ~0.1 Gt CO₂eqv
- **Kyoto compliance as source of CER demand almost exhausted**

- ❑ CDM in principle able to issue 3.5 Gt CO₂eqv from 2016 to 2020
- ❑ Due to lack of demand and prevailing prices more likely to be in the range 300-600 Mt CO₂eqv.
- ❑ Supply can change rapidly if new demand appear
- ❑ CER price currently around USD 0.4/CER (open) and USD 1-5/CER (VC Platform)



Compliance demand



Compliance demand for CERs

EU ETS

- Largest source of demand for CERs but largely exhausted:
 - Quota of ~1,514 million units to use
 - Approx. 1,481 million used
- only 32.6 million demand for 2017-2020 (= 8 million per annum)



- Post-2020 EU-ETS (Phase 4: 2021-2030) still envisions zero international unit use

EU member States

- BNEF estimates government demand from EU member states at 285 million units (with an additional 60 million for Norway)



Carbon Tax with Offsets – Colombia



Colombia Carbon Tax:

- Introduced a tax on fuel producers and importers, commencing 1 January 2017, on the carbon content on fossil fuels equivalent to USD 5 per tCO₂e
- On 1 June, passed law allowing fuel producers and importers to offset 100% of tax liability on a tonne-for-tonne basis
- Eligible offsets cover a broad criteria that includes CDM and non-CDM
- Current registered Colombian PAs and PoAs could supply approx. 7 million CERs/yr



Carbon Tax with Offsets – South Africa



South Africa Carbon Tax:

- A tax of ZAR 120 per tonne (eqv. to €8/t) of liable emissions will be imposed on all entities, companies and installations that emit >100,000 t/yr.
- Able to use between 5%-10% eligible domestic offsets to reduce tax liability
- Eligible offsets must be from South African hosted projects and may include CDM projects and possibly also VCS and Gold Standard projects
- ZA National Treasury estimates offset demand at 17.5 MtCO₂e/year, registered PAs and PoAs could supply approx. 11 million CERs/year
- Implementation delayed until 2018 at the earliest



**Governments and funds –
CER purchase programmes**



Governments and funds – CER purchase programmes

- 2 German calls (offsetting travel emissions)
- Interest from Climate Change Center, Korea (cookstove projects in certain countries)
- The Norwegian Ministry of Finance has signed an agreement with NEFCO to purchase carbon credits in the second commitment period of the Kyoto Protocol (2013-2020). Through this agreement Norway will purchase carbon credits from stranded UN-approved projects facing a risk of discontinuation due to the low prices on Certified Emission Reductions (CER).



Governments and funds – CER purchase programmes

World Bank Pilot Auction Facility:

- Uses the CDM to fund methane or N₂O emissions abatements achieved (pay-for-performance)
- Price set by auctioning “put options” for emission reductions (successful bidders have a right to sell units at the auction final price)
- To incentivize investment in new projects and assist in sustaining the operations of existing emission reduction projects by undertaking a price guarantee for the future sale of CERs via an auction.
- eligible methodologies and countries are made available in advance of each auction.
- The PAF is backed by several government donors and has a capitalization target of \$100 million.



Government and funds – CER purchase programmes

World Bank Pilot Auction Facility:

- 1st Auction: Methane from CDM only = 8.7 million @ \$2.40 each over 2016-2020
 - 2nd Auction: Methane from CDM, VCS or GS = 5.7 million @ \$3.50 each over 2017-2020
 - 3rd Auction: N₂O abatement from Nitric Acid from CDM or VCS = 6.2 million @ \$2.10 each over 2017-2020
-
- Total so far: 20.6 million units over 2016-2020 for \$53.85 million
 - The cycle for the 2018 PAF auction is expected to begin in September of 2017.



Result-based Finance



Carbon Initiative for Development (CiDev):

- Kenya: SimGas Biodigesters = 500,000 CERs
- Madagascar: Ethanol Cookstoves = 1,100,000 CERs
- Ethiopia: Biogas = 1,100,000 CERs
- Ethiopia: Off-Grid Renewable Energy = 800,000 CERs
- Senegal: Rural Electrification = All CERs to end 2024
- Mali: Rural Electrification = 400,000 CERs
- West Africa Biodigesters = 540,000 CERs
- Uganda: Rural Electrification = 990,000 CERs

Total of 5,430,000 CERs

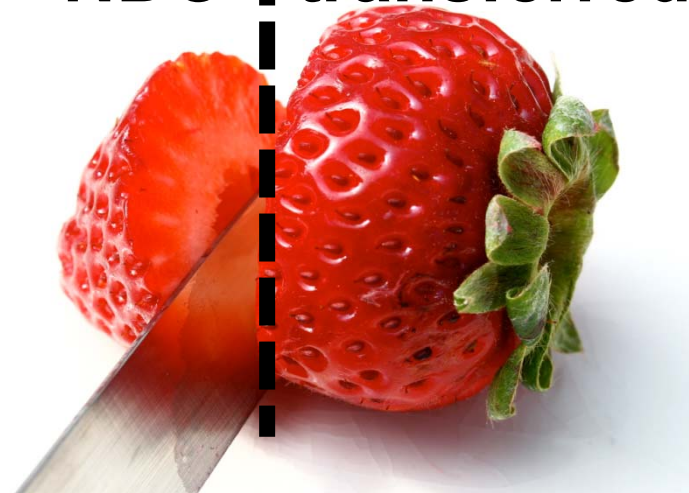


Result-based Finance

World Bank Transformative Carbon Asset Facility (TCAF)

- Will support different types of direct and indirect carbon pricing efforts by paying for verified carbon assets that result from these actions.
- Objective: Generate carbon assets that have strong environmental integrity and a high likelihood of being compliant in a future international regime
- Purchase a portion of the carbon assets (mitigation outcomes) from the programs, leaving the remaining available for host country use in achieving their NDC targets
- Funding target of US\$500 million

Own | **Sold /**
NDC | **transferred**



Voluntary use of CERs



Voluntary use/cancellation of CERs

CERs are accessible to all:

(CERs are not restricted to uses under the Kyoto Protocol)

- ✓ National and regional governments
- ✓ Companies
- ✓ Development banks
- ✓ Individuals
- ✓ Climate funds
- ✓ Events

CER uses: for BOTH compliance and voluntary purposes

- ✓ **Voluntarily offsetting** (to show leadership)
- ✓ Converting funds into verified mitigation action
- ✓ CERs use with carbon pricing instruments

Offset

Set up funds

Price carbon



Voluntary cancellation of CERs

1 January – 1 June 2017

- 62,027 CERs cancelled in the voluntary cancellation platform, at an average price of USD 2.10.
- A total of 1.4 million CERs are now available from 49 projects in the Platform, at prices between USD 0.41 and 5.00.
- 4.6 million CERs voluntarily cancelled directly in the CDM Registry.
- Some 2.9 million CERs of these assessed to be cancelled with the aim of achieving climate neutrality, mainly in the private sector.
- 600 percent increase since the same period in 2016.
- Information about CERs cancelled in national registries is not available since the registries do not share such information.





Climate Neutral Now

Climate change affects us all.
Be part of the solution.



What ?

-Climate neutrality is achieved by balancing the amount of emissions your day-to-day activities or business operations generate, with the same amount being reduced (offset) elsewhere in the world.

-Climate neutrality is not about zero emissions.

-It is about reducing current emissions to the point where we reach the ultimate balance between emissions and the absorptive capacity of the Earth.



Climate Neutral Now

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Business and sector organizations

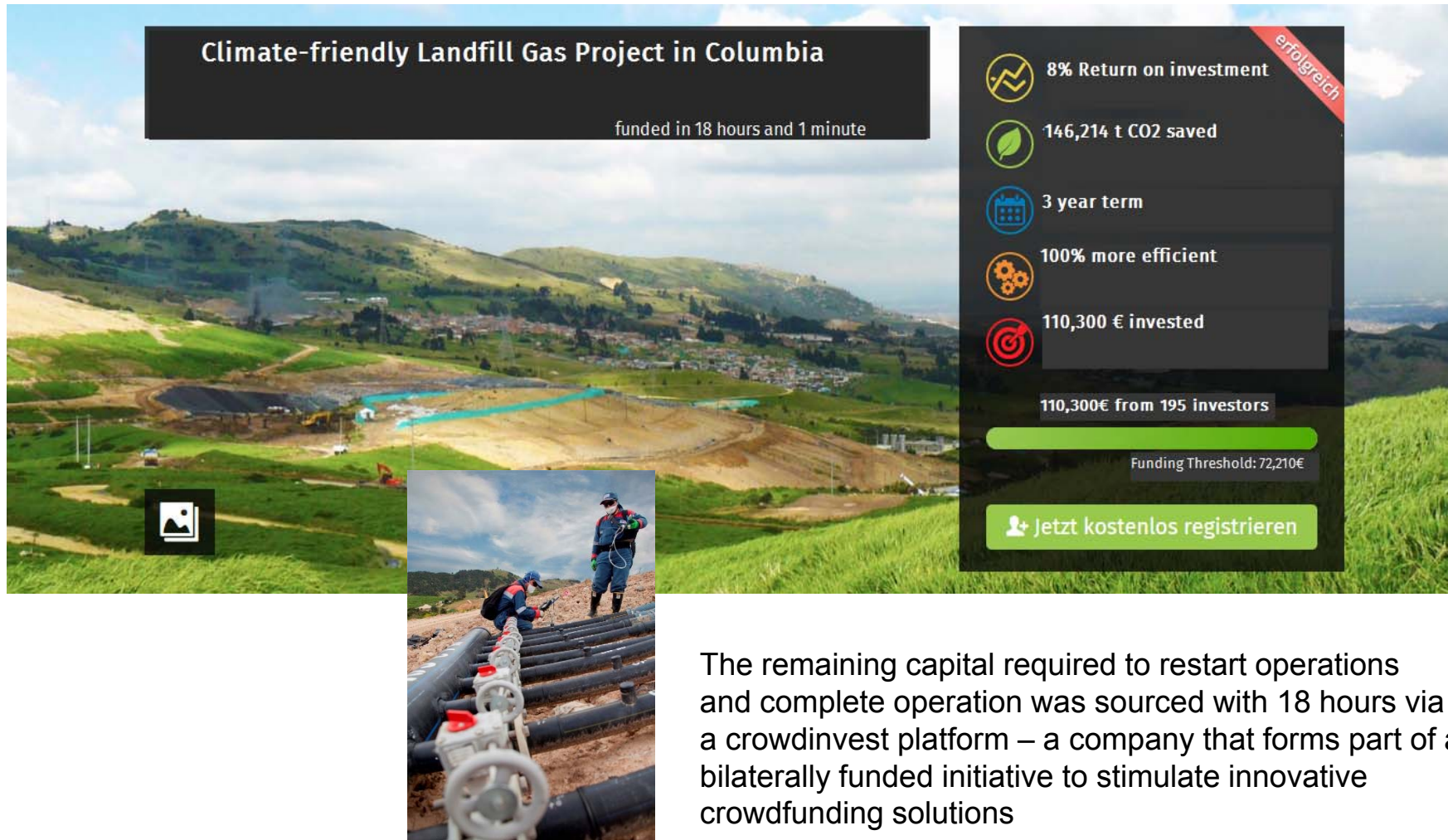


- Continuous outreach under Climate Neutral Now
- Some 500+ companies contacted
- Examples of new signatories include SAP, City of Arendal (Norway), LB Bank (Sri Lanka) and Ticket Master (Finland)
- Cooperation with Airport Council International has recently seen the airports of Abidjan, Athens, Lyon, Gatwick, Mumbai, Munich and Schipol going climate neutral.

- EB 93 requested the secretariat to explore options for cooperation with online travel & hotel booking companies to link bookings with voluntary cancellation of CERs in the VC Platform. This is more time consuming than expected and is still ongoing.



CDM projects already crowd invested



Climate-friendly Landfill Gas Project in Columbia
funded in 18 hours and 1 minute

8% Return on investment

146,214 t CO2 saved

3 year term

100% more efficient

110,300 € invested

110,300€ from 195 investors

Funding Threshold: 72,210€

Jetzt kostenlos registrieren

The remaining capital required to restart operations and complete operation was sourced with 18 hours via a crowdinvest platform – a company that forms part of a bilaterally funded initiative to stimulate innovative crowdfunding solutions

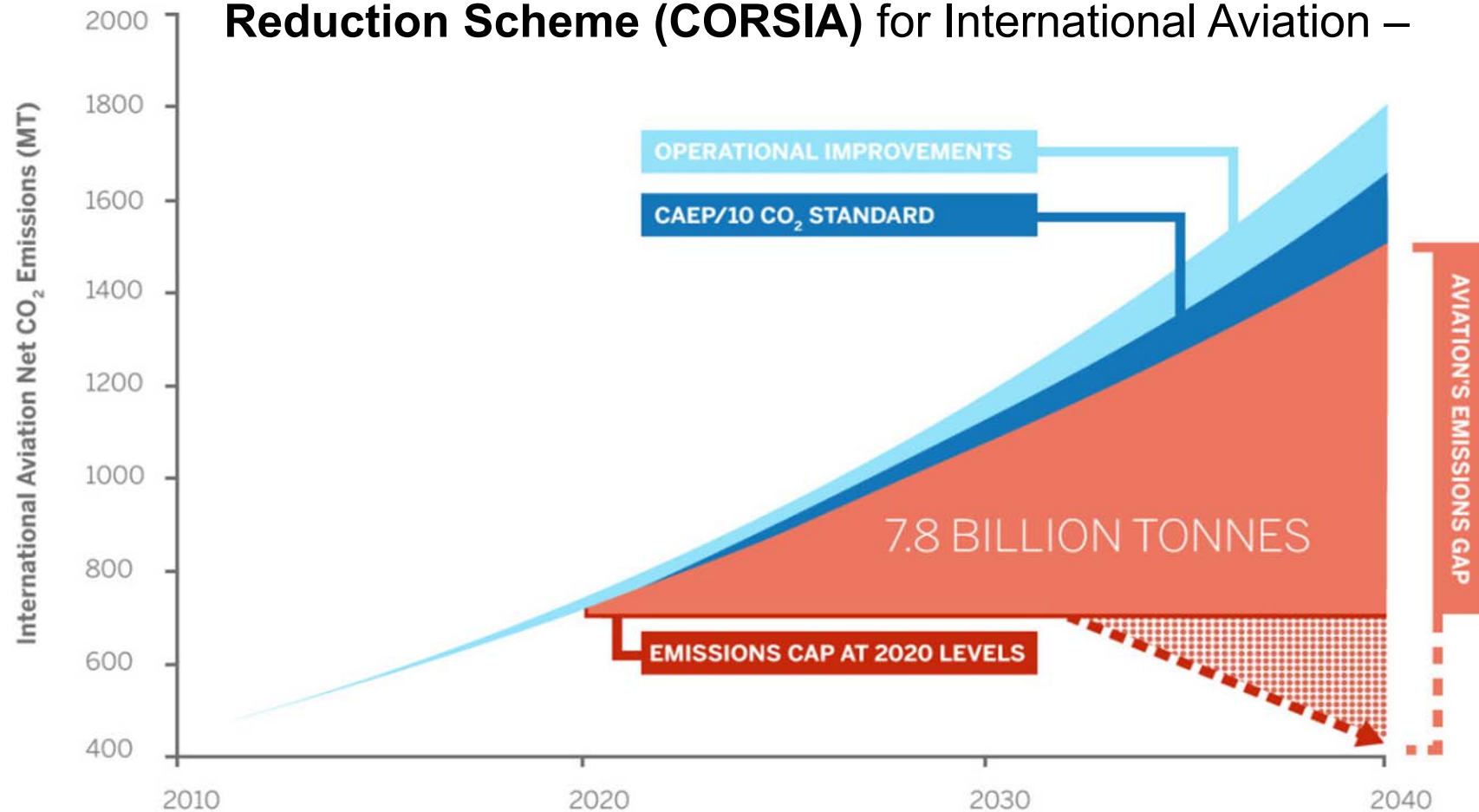


**International sectors
(aviation and shipping)**



GHG emissions from international aviation

Decision by ICAO's 39th Assembly: To achieve **carbon neutral growth from 2020**: Establish the **Carbon Offsetting and Reduction Scheme (CORSIA)** for International Aviation –



SOURCE: ICAO. "Overview of Environmental Work." Singapore GLADs, 2015.

Aviation: CORSIA

Schedule

3 Phases: Pilot phase (2021-2023) - voluntary
1st Phases (2024-2026) - voluntary
2nd Phases (2027-2035) - Member states with more than 0.5% of global Revenue-Tonne-Kilometer (RTK).

Emission coverage of CORSIA:

70 states out of 191 member states, representing more than 87.7% of international aviation activity intend to voluntarily participate in the CORSIA from its pilot phase (2021 to 2026)

Demand

The aggregated expected offset demand 2021-2035 from CORSIA is estimated at 2,510 to 2,742 million tCO₂e



UNFCCC Mechanisms and CORSIA

Decision by ICAO's 39th Assembly



Privileged eligibility of UNFCCC mechanism units:

- Emission Units generated from UNFCCC mechanisms
 - **Certified Emission Reductions (from CDM) and Article 6 units** are eligible for use in CORSIA if they meet the Emission Unit Criteria (double counting, time-frame & vintage);
- Guidelines and criteria to be developed in ICAO by 2018;
- Other emissions units have not been explicitly recognized in ICAO resolution;

First mover's comparative advantage taking into account low CER prices



Other developments



Other significant developments



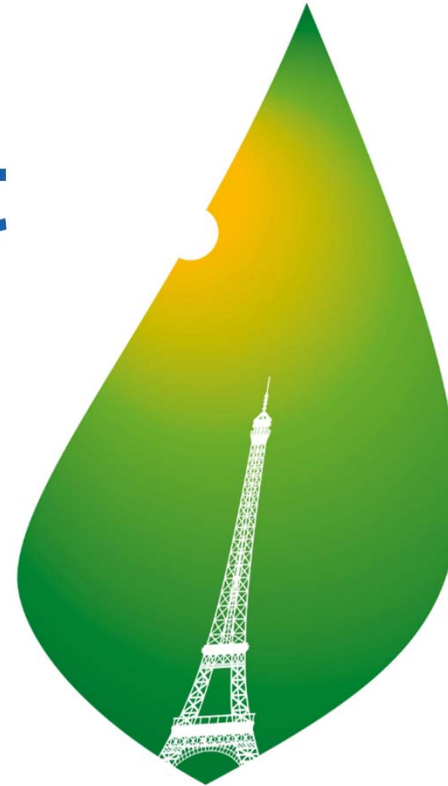
Adoption of the Kigali Amendment to the Montreal Protocol, adopting a plan to phase out production and use of HFC

In addition to that China has mandated that all HFC plants would be subjected to regulation to destroy the gas, so no units will be available for sale.



Paris Agreement

Overview | Objectives | Status



COP21 • CMP11

PARIS 2015



Objectives of the Paris Agreement

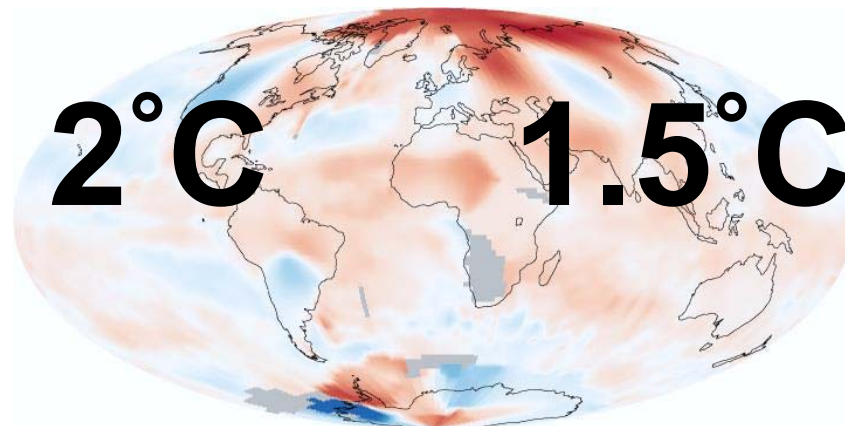
The Paris Agreement reflects global political acceptance of the scientific realities



Long-Term Goals of the Paris Agreement

Long-term goals:

- Limiting temperature increase to well below 2°C, pursuing 1.5°C (Article 2)
 - Aiming to achieve a balance between emissions by sources and removals by sinks of GHG in the second half of the century (Article 4.1)
 - Reducing aggregate emissions in 2030 to 40 Gt (1/CP.21, paragraph 17)
- All Parties have committed to limiting their aggregate long term emissions to achieve these long-term goals (expressed through NDCs)



Status of Paris Agreement: Ratification and Acceptance

159

parties to the Paris Agreement

out of 193 signatories
(out of 197 parties to the convention)

Six parties have submitted their
long-term low greenhouse gas emission development strategies
(United States, Mexico, Germany, Canada, France and Benin)



INDCs / NDC - overview

190/196

countries have
submitted
their INDCs



152

Parties have
submitted their
first NDCs

Key features

Increasing ambitions; no backsliding

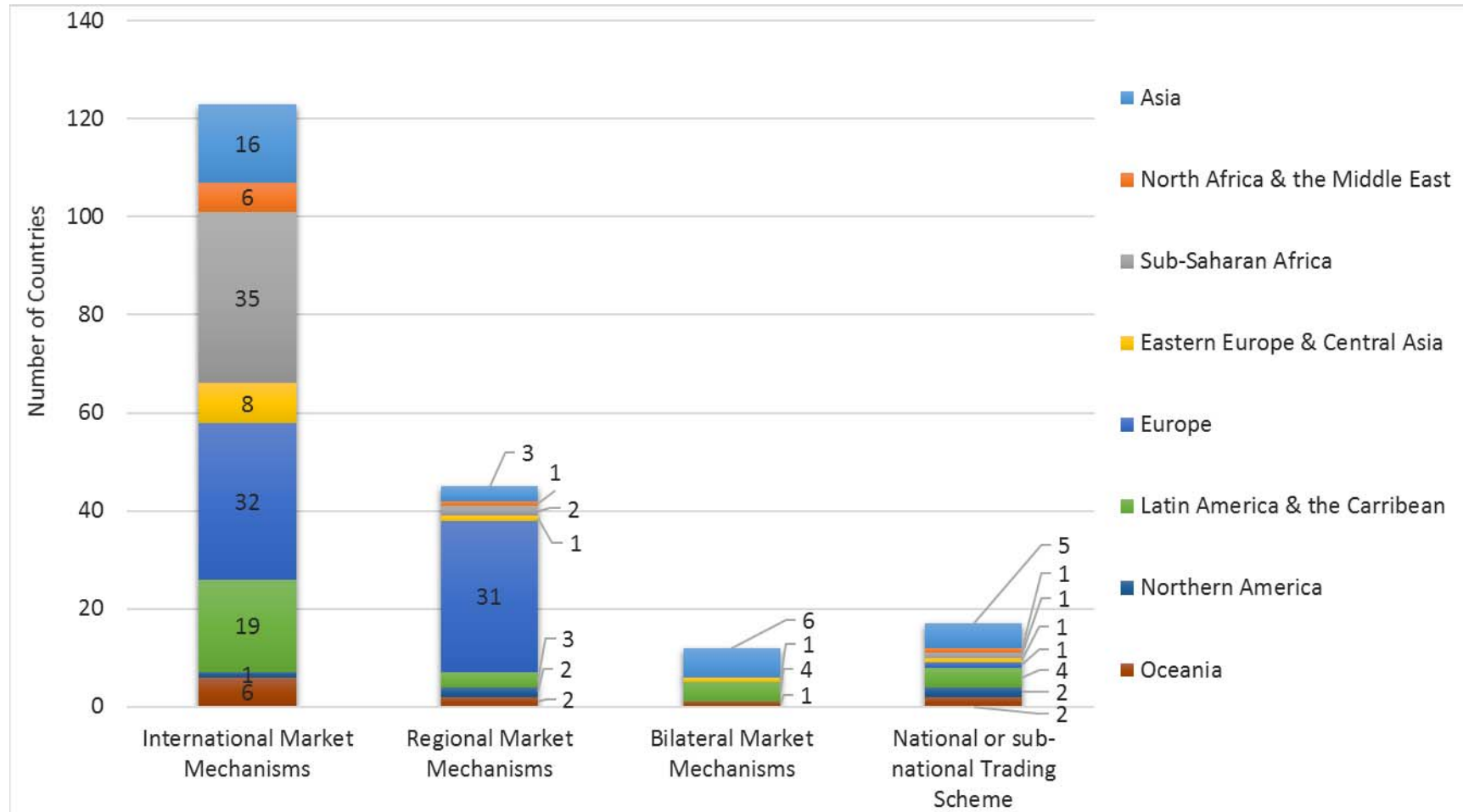
Actions updated every 5 years

Tracking progress

Support; not sanctions



Use of Market Mechanisms

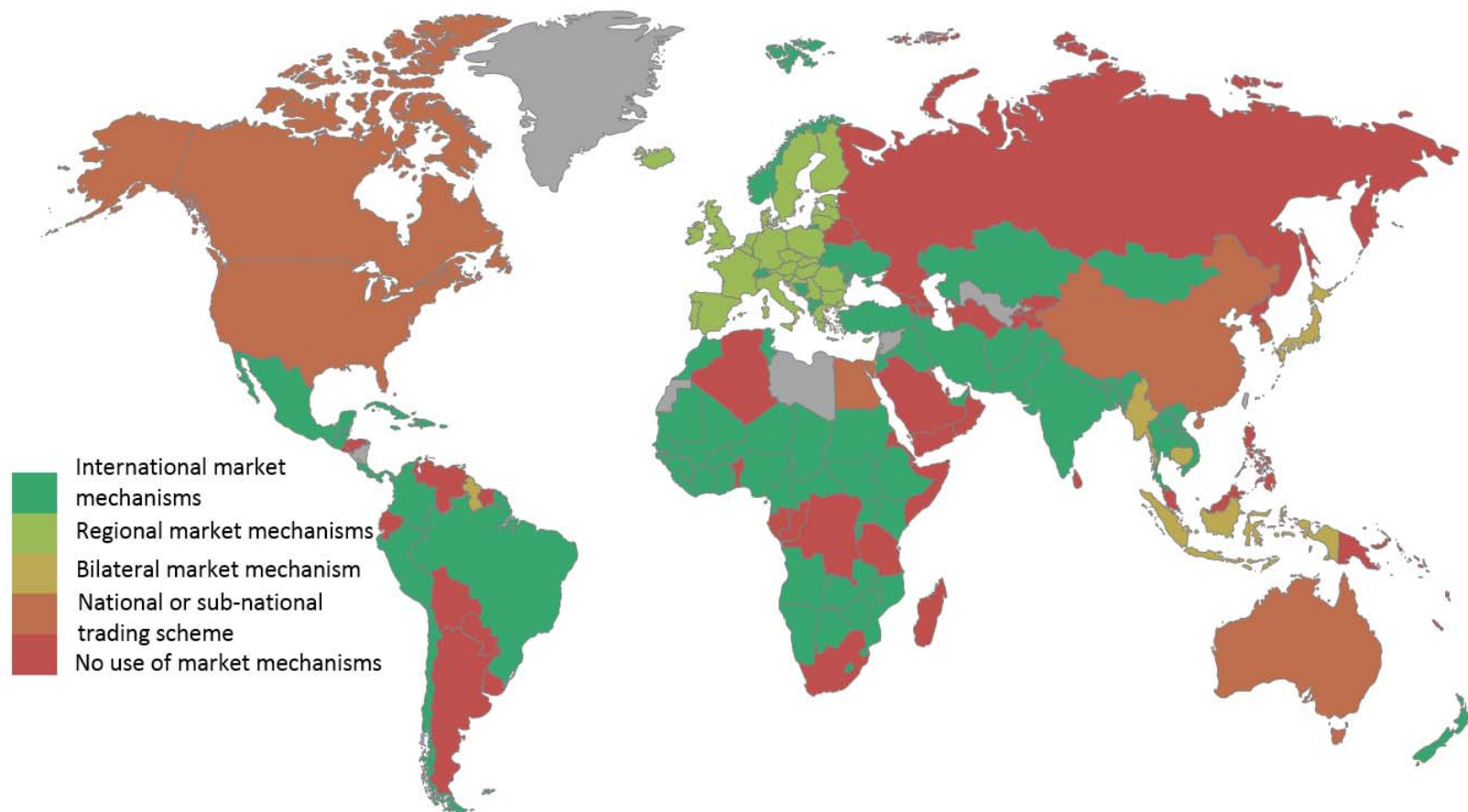


Source: IGES INDC & NDC Database, Version 3.1 (December 2016)



INDCs and Market Mechanism

Use of market mechanism by country



Source: IGES INDC & NDC Database, Version 3.1 (December 2016)



Article 6 of the Paris Agreement



Role of Carbon Market to Achieve NDCs

- The Paris Agreement does not mention the term “carbon market”, but the **provisions under article 6.2 and 6.4** are considered market based cooperation.
- The Paris Agreement however mentions:



(...) the important role of **carbon pricing** (giving a price signal on GHG emissions)



Recognises that Parties may pursue **voluntary cooperation for achieving their NDCs** to allow for higher ambition in their mitigation and adaptation actions and to promote sustainable development and environmental integrity.



provisions under article 6.2 and 6.4 are considered market based cooperation



Contribution of Article 6

- Provides:
 - **Art. 6.2:** A basis for the voluntary use of **transferred mitigation outcomes** between authorizing Parties
→ *Perceived by many stakeholders as avenue for linking schemes (e.g. ETS) or perhaps using mechanisms in common*
 - **Art. 6.4:** A **mechanism** to contribute to mitigation and sustainable development
→ *Perceived by many as having similarities to CDM/JI – but could be broader and/or different on several aspects*
 - **Art. 6.8:** A **framework to allow for holistic integration** of differing aspects of action and support
- Provides Parties with tools for the achievement of the long-term goals of the Agreement



Article 6.2 - Cooperative approaches

- Voluntary
- Involve the use of internationally transferred mitigation outcomes (ITMOs) towards nationally determined contributions
- Shall promote sustainable development and ensure environmental integrity and transparency
- Shall apply robust accounting to avoid double counting

What it may mean

- Linkage of emissions trading schemes
- Facilitation of crediting mechanisms



Article 6.4 - The Mechanism (I)

- The mechanism is established under the authority and guidance of the CMA and will be supervised by a body appointed by the CMA (i.e. will have **international oversight**)

- The aims of the mechanism are to:
 - Promote **mitigation** while fostering **sustainable development**
 - Incentivize and facilitate participation by authorized public and private entities
 - Contribute to emission reductions in the host Party that can be **used by another Party to fulfil its NDC** (but if so used, cannot also be used by the host Party for its NDC achievement)
 - Deliver an **overall mitigation** in global emissions



Article 6.4 - The Mechanism (II)

- Emission reductions from the mechanism are to:
 - Be additional, real, measurable and long term from specific scopes of activities (not limited to projects and programmes)
 - Verified and certified by designated operational entities
- Share of proceeds & adaptation SOP
- The mechanism is global in reach and **all Parties can both host activities** and use emission reductions to achieve NDCs
- The mechanism is **not limited** to emission reductions that will be used for the achievement of NDCs (either of the host or another Party) only but can be **used for other purposes**, such as MRV of climate finance



Article 6.8 - Non-Market Approaches

- Framework for non-market approaches aim to:
 - Promote mitigation and adaptation ambition
 - Enhance public and private participation in the implementation of NDCs
 - Enable opportunities for coordination across instruments to enhance linkages and synergies

- Should incentivize and assist actors in implementation and recognize efforts and outcomes of a broad base of activities, approaches and actors, being not limited to particular activity types



Principles for PA Article 6 instruments

	Art 6.2	Art 6.4	Art 6.8
	ITMOs	Mechanism	Framework for non-market approaches
Common elements	<ul style="list-style-type: none"> ● for NDC implementation ● to allow for higher ambition ● promote SD and environmental integrity 		
Participation	voluntary		
	<i>unknown</i>	also public and private entities	...enhance public and private sector participation
	authorized by Parties	authorized by Parties	<i>unknown</i>
Administrative aspects	<i>unknown</i>	<ul style="list-style-type: none"> - Supervising body - Share of proceeds 	<i>unknown</i>
Transparency	Yes - including in governance)	Yes	<i>unknown</i>
Accounting	double counting avoidance		<i>unknown</i>
	Robust accounting	Overall mitigation in global emissions	

Markets and Mechanisms

Global Overview



Fundamental of Carbon Markets

- Markets mechanisms provide **flexible** and **cost-effective** means of abating emissions.
- Through **trading**, emitters/compliance entities can access **lowest-cost mitigation opportunities**.
- By **expanding the range of mitigation opportunities** and allowing mitigation to be achieved at the lowest cost, market mechanisms can enable Parties to be **more ambitious**.
- The scale and the cost-effectiveness of mitigation action through carbon markets are very dependent on smooth functioning of such markets: **environmentally robust** , **linked** and **liquid carbon markets** provide the best conditions.



Role of Carbon Market to Achieve NDCs

- Based on experience from Clean Development Mechanism (CDM), the carbon market also offers:
 - Private sector participation
 - Financing low carbon technologies and development
 - Technology transfer
 - Sustainable development

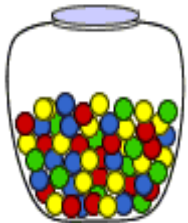


Why cooperation



Cost saving: World Bank report finds that collective / flexible achievement of mitigation could cut cost by up to 33% by 2030 (and 50% by 2050)

- Savings by accessing lower cost mitigation options
- Savings by sharing instruments

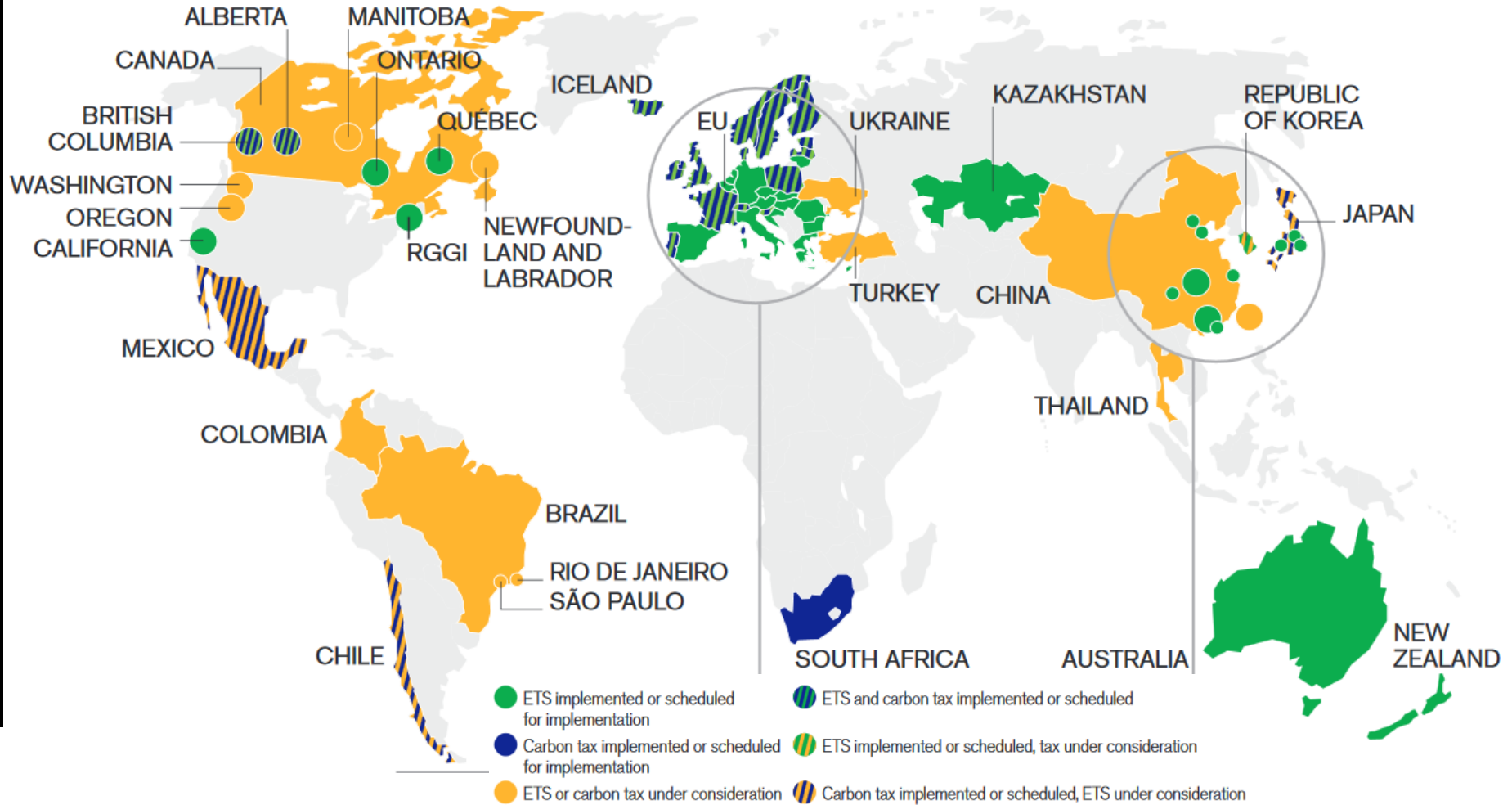


Flexibility: more mitigation options if the abatement potential is pooled

- Countries with limited/costly mitigation potential: can find abundant and lower cost mitigation options
 - Countries with large and low cost mitigation potential: benefits from green investments
- } Win-Win

Status of Carbon Pricing (ETS and Carbon Tax)

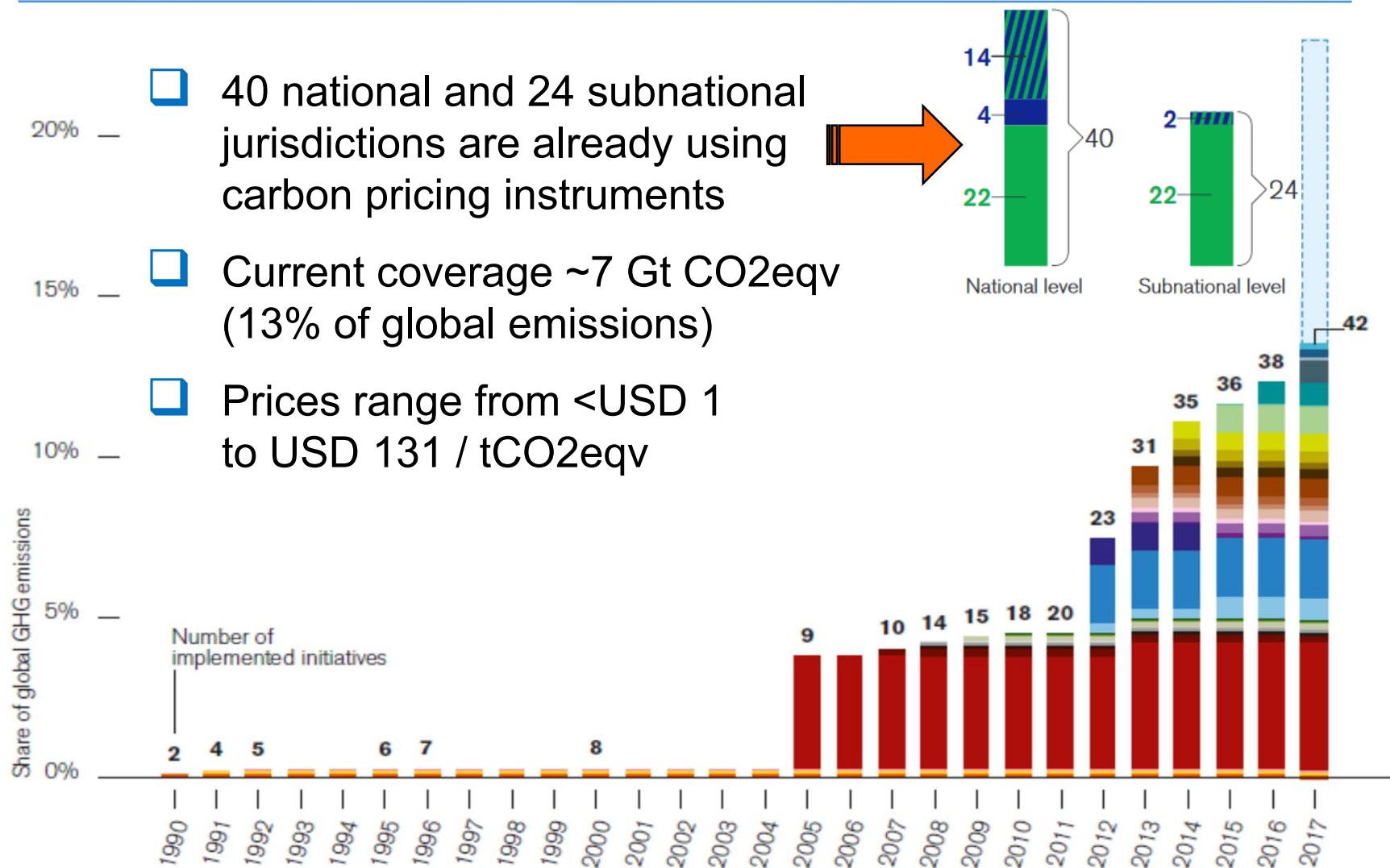
Existing, emerging and potential regional, national and subnational carbon pricing initiatives



Source: State & Trends of Carbon pricing, World Bank, October 2016

Status of Carbon Pricing (ETS and Carbon Tax)

- 40 national and 24 subnational jurisdictions are already using carbon pricing instruments
- Current coverage ~7 Gt CO₂eqv (13% of global emissions)
- Prices range from <USD 1 to USD 131 / tCO₂eqv

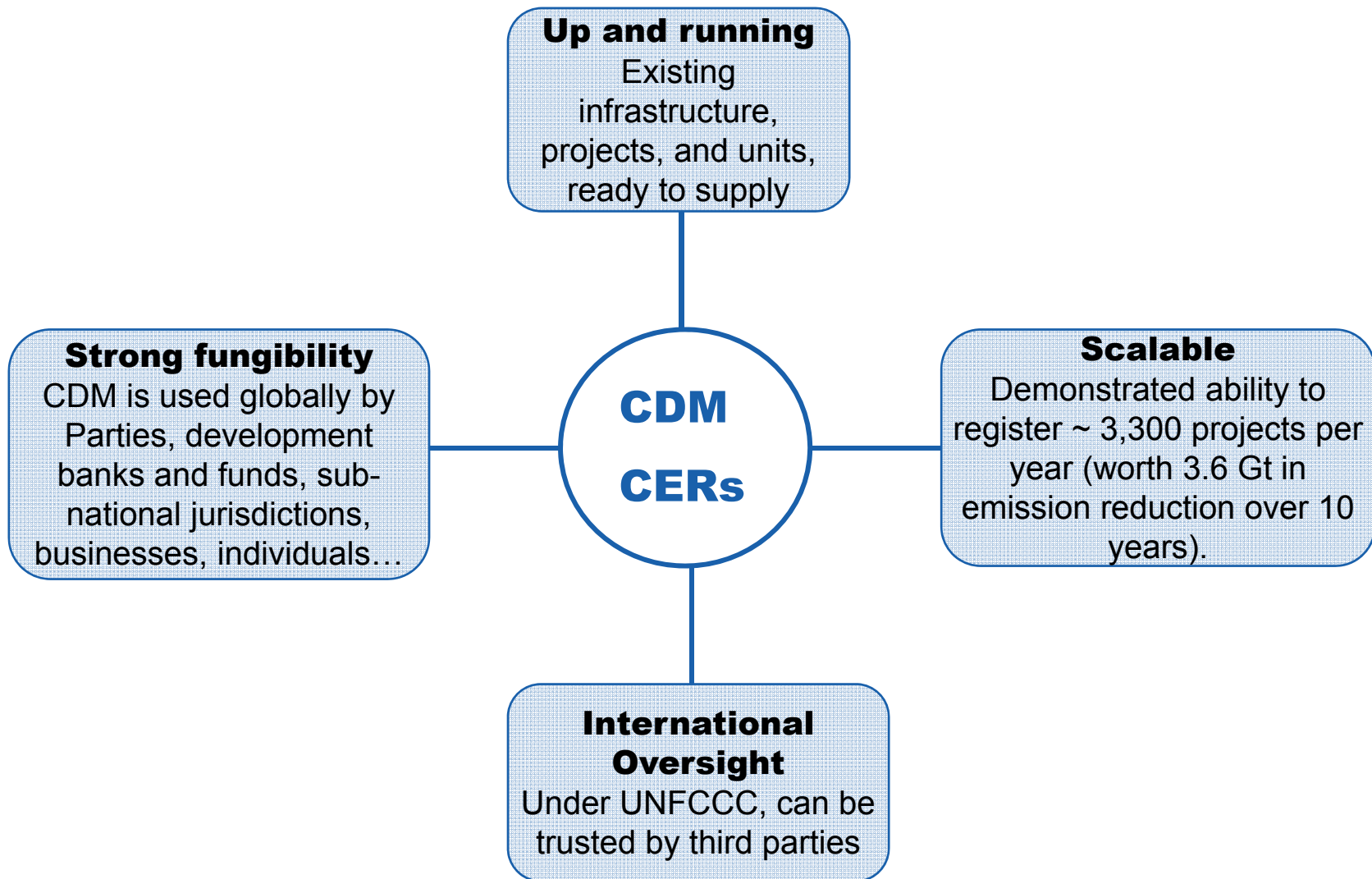


Source: State & Trends of Carbon pricing, World Bank, October 2016

**What is next for
the CDM?**



CDM Advantages: Why CDM CERs?



Future of the CDM

- The secretariat will continue to serve the CDM until the KP2 true-up (in 2023)
- The Doha Amendment of the Kyoto Protocol ensures that CERs exist until 2022
 - During this time, CERs can be “used” for achieving net emission reductions through the voluntary cancellation procedure
- Parties (negotiators) to decide what to do (no decision? Decision? Which one?)
 - realization that Article 6 is not yet operationalized
 - first informal discussions on future of CDM



Future of the CDM

- Academics reflecting on possible future of CDM (*speculatively*)
- Presentation on the topic during SB46 side-event noted following possible pathways (credits to: Daniel Rossetto)
 - *Full Repeal of the Clean Development Mechanism and Replacement with Article 6*
 - *Independent Development of Article 6 and Effective Abandonment of the Clean Development Mechanism*
 - *Retain the Clean Development Mechanism in Parallel to Article 6*
 - *Managed Transition into Article 6 of the Paris Agreement*



**UNFCCC Regional
Collaboration
Centres**



RCC Bangkok – Activities Related to Market Mechanism

- Support to CDM projects and programmes in the region/under-represented countries
- Regional workshop on “Integrating Market Mechanisms to the Implementation of INDCs/NDCs” on 16 February 2016 (Bangkok)
- “Asia-Pacific non-state actor dialogue on Article 6 of the Paris Agreement” on 9 June 2016 (Bangkok)
- Facilitate the distribution of the NDC survey and the matchmaking between the needs of developing countries and the support provided by NFP partners



RCC Bangkok – Activities Related to Market Mechanism

Carbon Pricing Initiative



Objective: Assist Parties in the development of carbon pricing approaches for implementing their Nationally Determined Contribution under the Paris Agreement

Scale:

- Support to ten countries over two years
- Possibility to scale-up with more contributing partners

Focus: Introduction of instruments such as

- Carbon markets
- Carbon taxes
- Domestic carbon fund
- Other mitigation instrument with strong Monitoring, Reporting and Verification

Key Outputs: Proposals for carbon pricing and/or cooperative instruments

- to implement NDCs or go beyond
- to channel climate finance



Thank you!

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