



ICAO

ENVIRONMENT

An introduction to market-based measures (MBMs)

Environment Branch, Air Transport Bureau
International Civil Aviation Organization (ICAO)

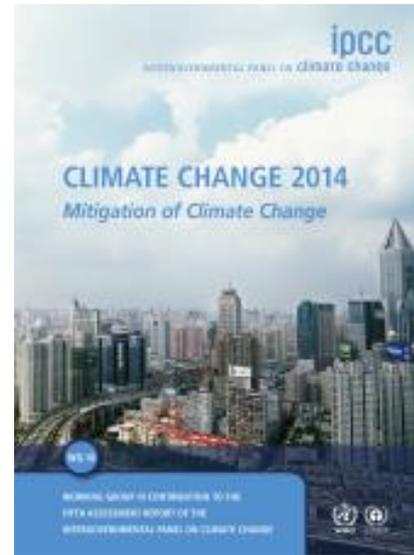
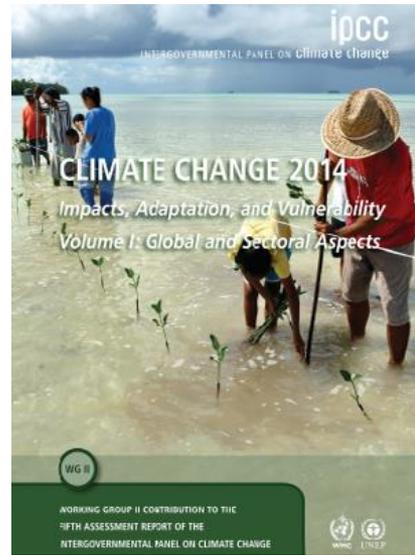
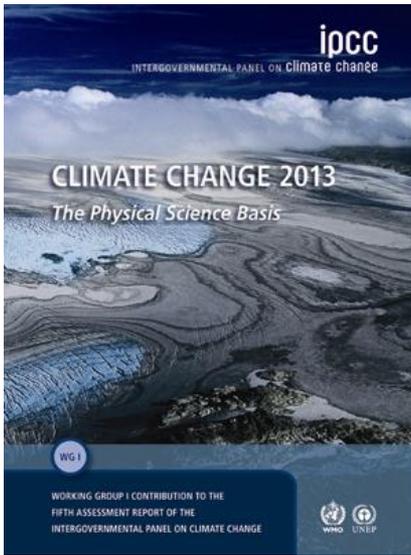


1. The climate change challenge
2. What are market-based measures (MBMs)?
 - a. The three main types of MBMs
 - b. Examples of MBMs
3. ICAO and future work
 - a. Global MBM
 - b. Voluntary use of MBMs in the context of national action plans



Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), 2013-2014

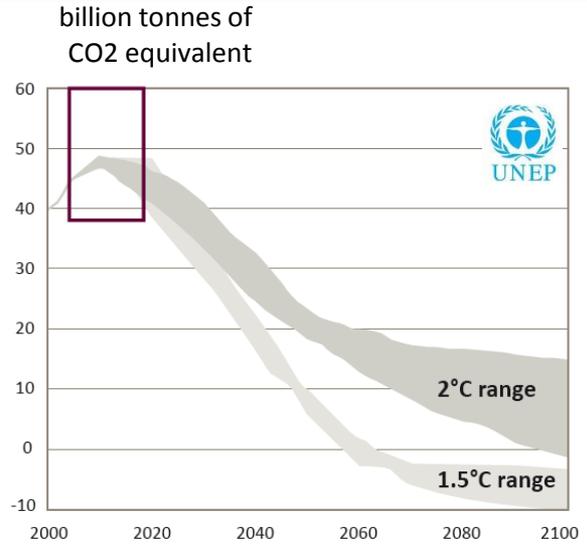
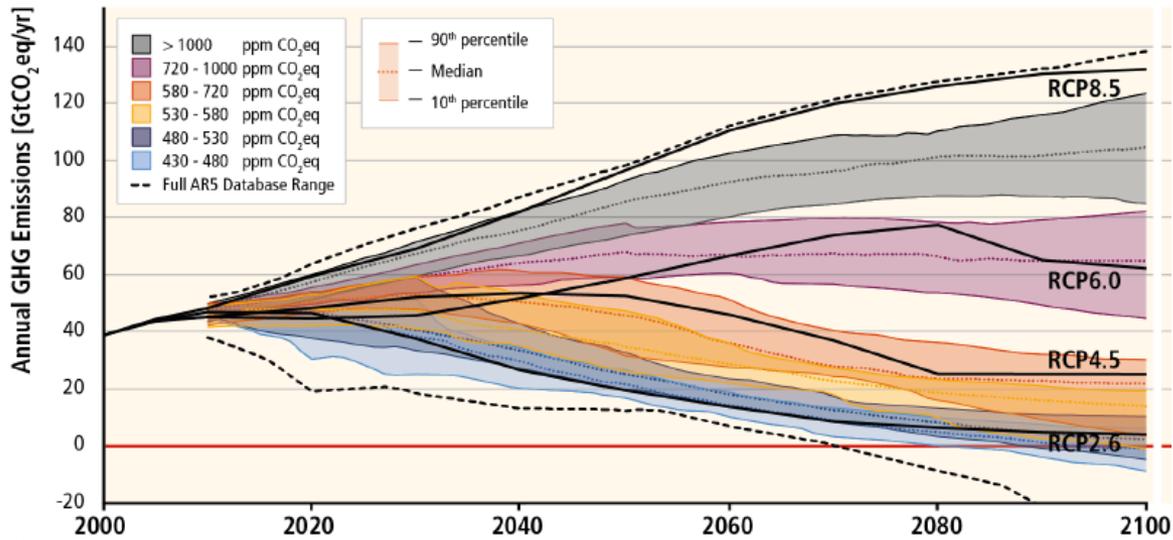
- “Warming of the climate system is unequivocal”
- “Human influence on the climate system is clear”
- “It is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century”



Synthesis report
to be finalized in
October/
November 2014



Global emissions pathways

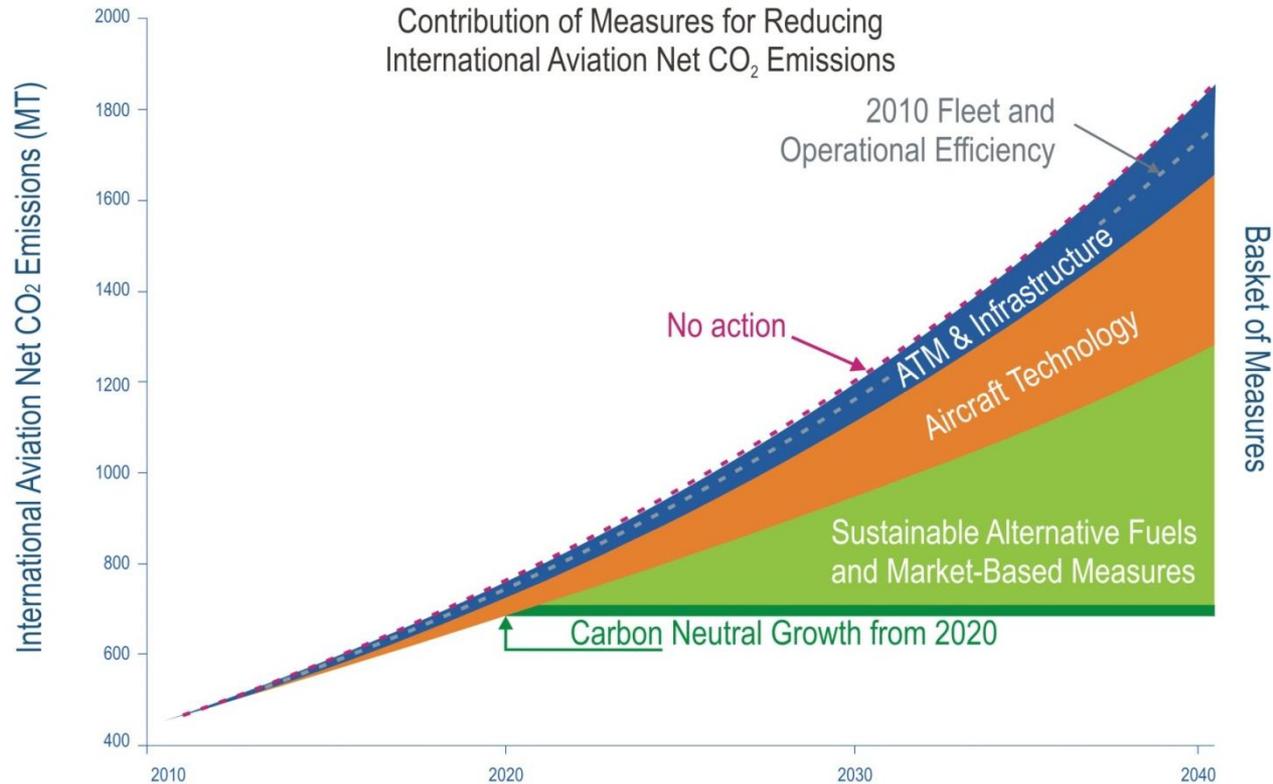


Global emissions are approximately 49 billion tCO₂e / year

To limit the global temperature increase above pre-industrial levels to a maximum of 2°C, global emissions need to peak by 2020 and scale down significantly by the end of the century

Aviation currently represents approximately 2% of global emissions – but traffic is growing rapidly





Aspirational goal: carbon neutral growth from 2020

To be achieved through various measures, including market-based measures



- ❑ Market-based measures (MBMs) can help meet climate goals through a more flexible approach than traditional regulatory measures (“command-and-control”)
- ❑ MBMs provide flexibility to emitters by giving them alternative methods of reducing emissions
- ❑ In aviation context, three main types of MBMs:
 - ❑ Levies
 - ❑ Emissions trading
 - ❑ Offsetting



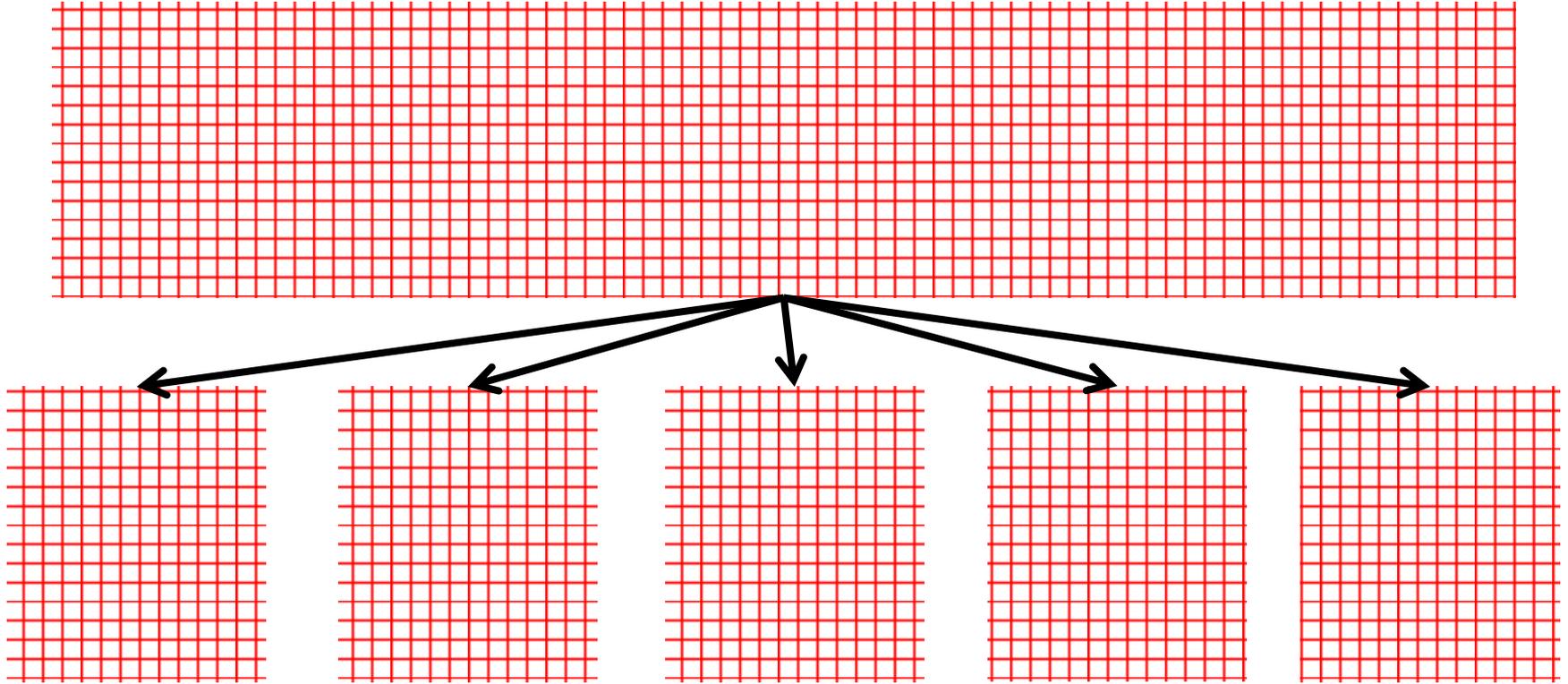
- ❑ A “levy” is a measure for collecting revenue arising from a specific activity
- ❑ A levy can fall into one of two categories
 1. A “tax” raises revenue from an activity, and this revenue is then pooled into general revenue
 2. A “charge” raises revenue from an activity for the purpose of paying the costs of providing facilities and services relating to the activity itself
 - ❑ Examples: airport services, navigation services



- ❑ A cap (i.e. maximum limit) is placed on aggregate emissions within a country, a sub-national jurisdiction, a sector, etc.
- ❑ Units (1 unit = 1 tCO₂e) are created equal to the size of the cap, and these units are then distributed to emitters
- ❑ Each emitter needs to obtain and redeem units to cover its emissions, typically on an annual basis
- ❑ Emitters can trade units among themselves → for example, an emitter which reduces its emissions can sell its surplus units for profit
- ❑ As long as the cap is consistent, the system's environmental objective is attained



System-wide cap



Emitter
#1

Emitter
#2

Emitter
#3

Emitter
#4

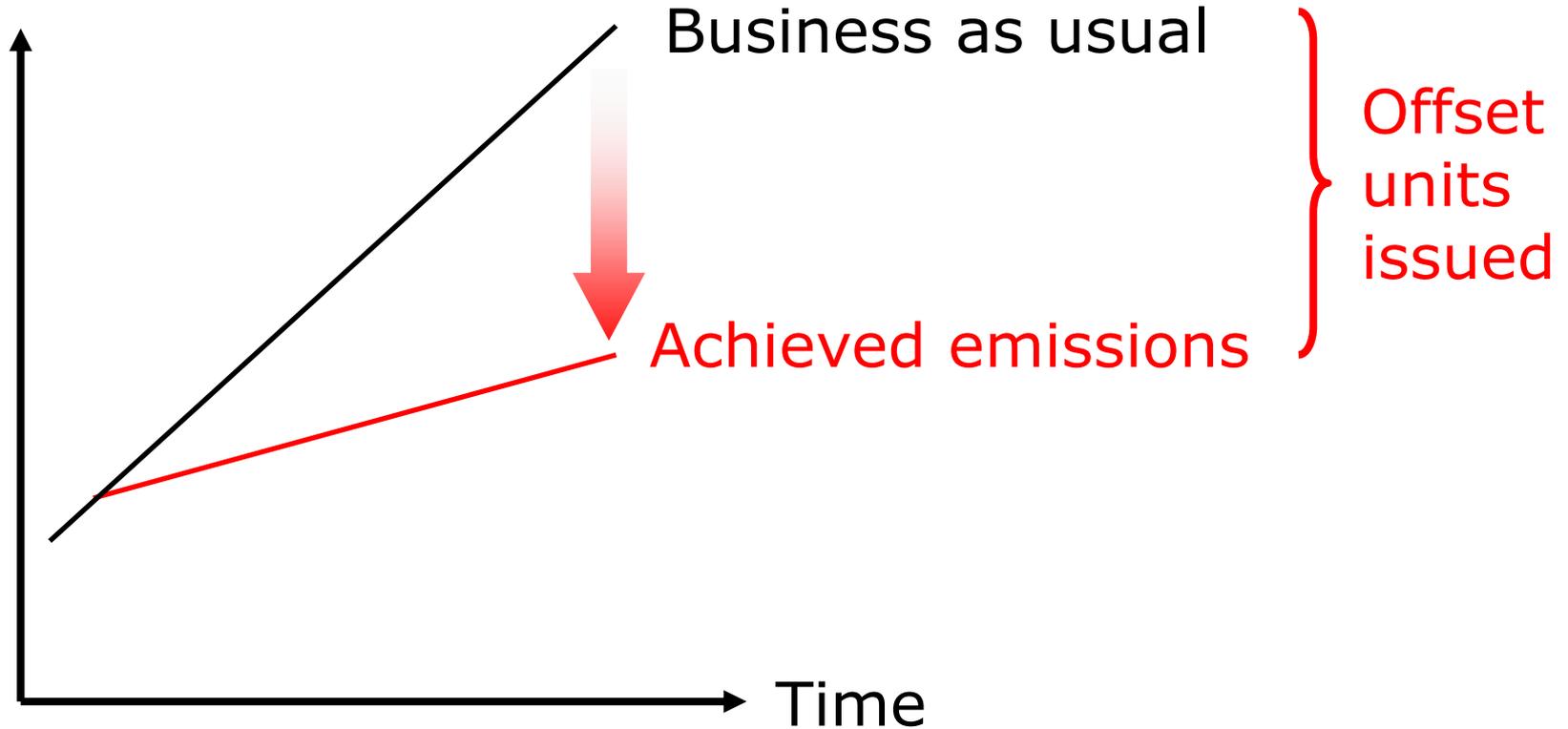
Emitter
#5



- ❑ Offsetting is the concept of reducing emissions in another sector or location, rather than reducing an emitter's own emissions
- ❑ From a climate perspective, the origin of the emission reductions is irrelevant → what matters is that emissions are reduced somewhere
- ❑ Offsetting may be more cost-effective than reducing an emitter's own emissions → particularly in aviation
- ❑ Quality standards are essential to ensure that emissions are actually being reduced in the other sector or location and are not “double-counted” against multiple targets
- ❑ Typically also requires the use of units (1 unit = 1tCO₂e)

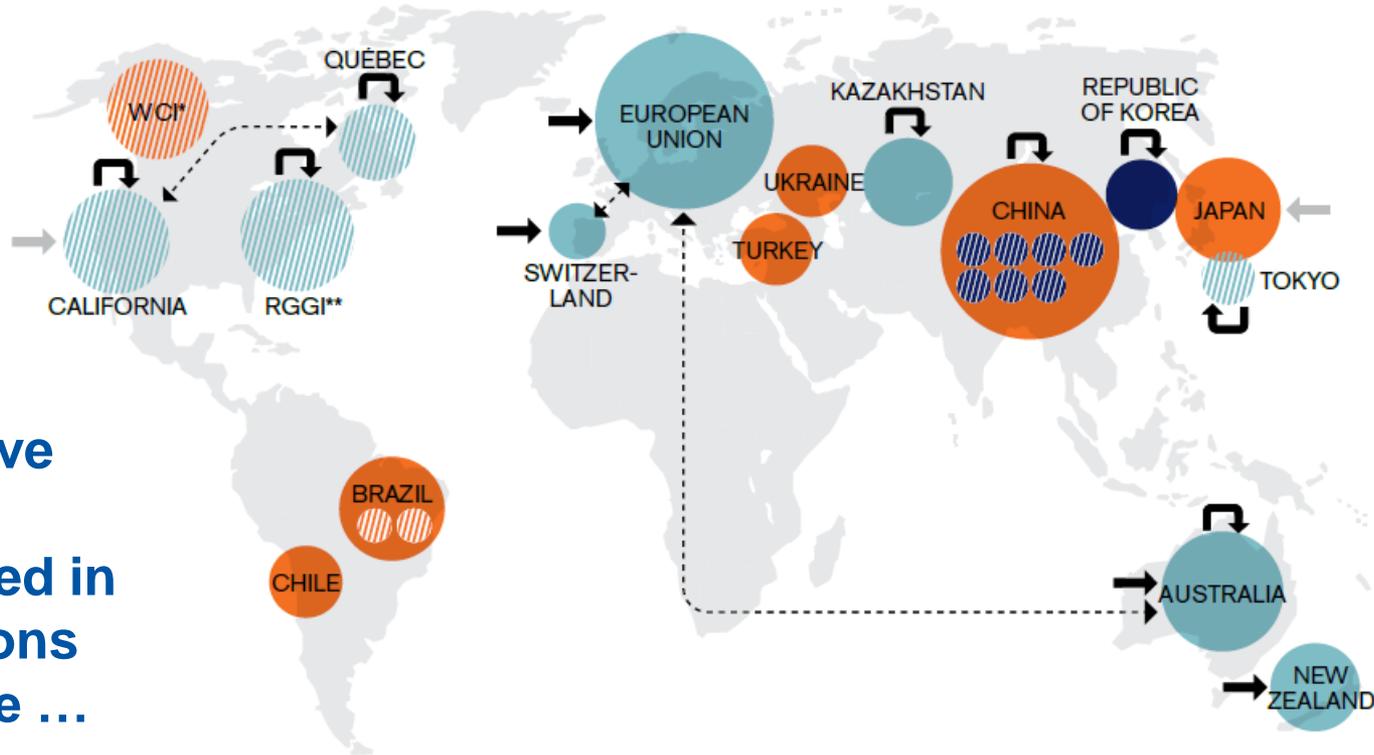


Cumulative emissions



The global use of MBMs (1)

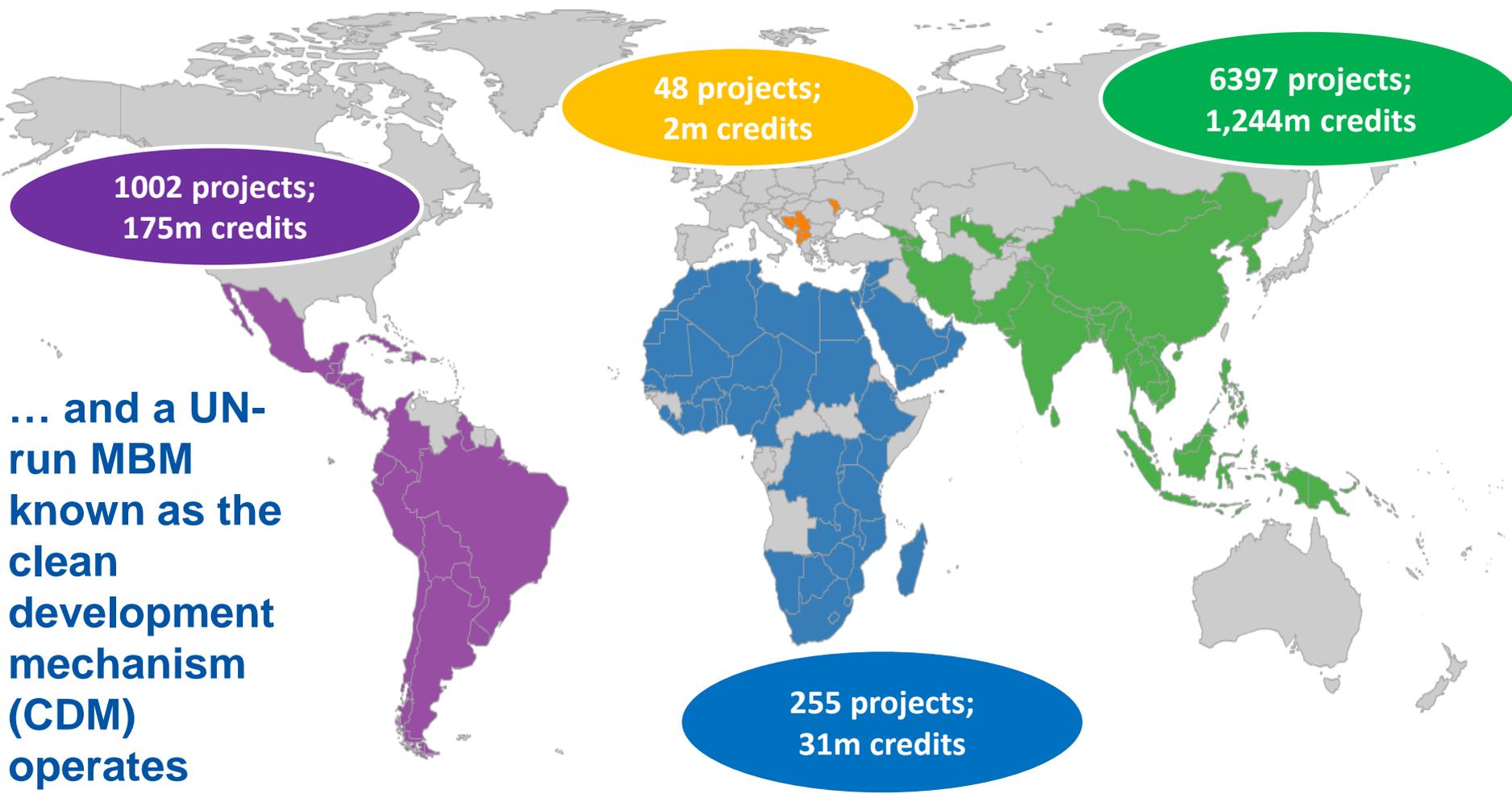
MBMs have been established in jurisdictions worldwide ...



World Bank (2013)



The global use of MBMs (2)



... and a UN-run MBM known as the clean development mechanism (CDM) operates worldwide



- ❑ Decided to develop a global MBM for international aviation (from 2020 onwards)
- ❑ Requested the Council, with the support of Member States, to:
 1. Finalize all preparatory work (technical, environmental and economic impacts, modalities of possible options)
 2. Organize seminars and workshops
 3. Identify major issues and problems, and make a recommendation for a global MBM that addresses them
 4. Report the results of the above work for decision at A39 (2016)



1. Council has created a high-level political body
 - Environment Advisory Group (“EAG”)
 - Responsible for overseeing the development of the global MBM
2. CAEP has also created a technical expert group
 - Global MBM Task Force (“GMTF”)
 - Responsible for considering unit eligibility and emissions measurement, reporting, and verification requirements
3. Analyses to be undertaken
4. Global Aviation Dialogues (“GLADs”) to be scheduled



- ❑ For the pre-2020 period, A38:
 - ❑ Recognized the use of voluntary offsetting
 - ❑ Invited States to encourage airlines to offset emissions, particularly with units from international MBMs such as the CDM
- ❑ In their Action Plans, member States could outline the role of offset units, particularly from MBMs like the CDM
- ❑ Over 130 developing countries have a “designated national authority” for the CDM (usually in environmental ministries)



- ❑ Action by all sectors is required to address the climate change challenge
- ❑ The aviation sector is faced with high costs for making in-sector reductions
- ❑ If the sector wishes to continue growing, it needs to explore all means of addressing emissions
- ❑ MBMs may present a cost-effective option for addressing emissions at a global level and at the lowest possible cost

