The Emissions Gap Report 2012

Where do we need to be in 2020 and beyond?

What do countries need to do to make it happen?

Side Event: The Emissions Gap and its Implications

Doha UN Climate Change Conference COP 18

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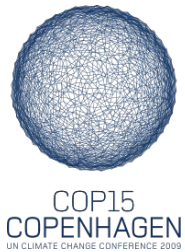
Moving forward on global climate policy



Three policy developments …

- ✓ **A target (or limit) …**
  Staying below an increase of 2 degrees Celsius (1.5^0 C)
- ✓ **A means to get there …**
  > 30 states/countries pledge to control emissions (pegged to 2020)
- ✓ **Durban: A plan for a climate treaty –** agreed to by 2015; into effect by 2020

Three questions …

- ✓ **Is there a gap** between …
  What we are aiming for … and where we are heading ?
- ✓ **Can the gap be bridged** – and what will it take?
- ✓ **Can we wait until 2020** to start stringent emission reductions?

The Emissions Gap reports

2010 Cancun Climate Summit
UNEP “Emissions Gap” report

United Nations Environment Programme with the European Climate Foundation & National Institute of Ecology, Mexico

2011 Durban Climate Summit
UNEP “Bridging the Emissions Gap” report

United Nations Environment Programme with the European Climate Foundation & Ministry of Environment, South Africa

2012 Doha Climate Summit
UNEP “Emissions Gap 2012” report

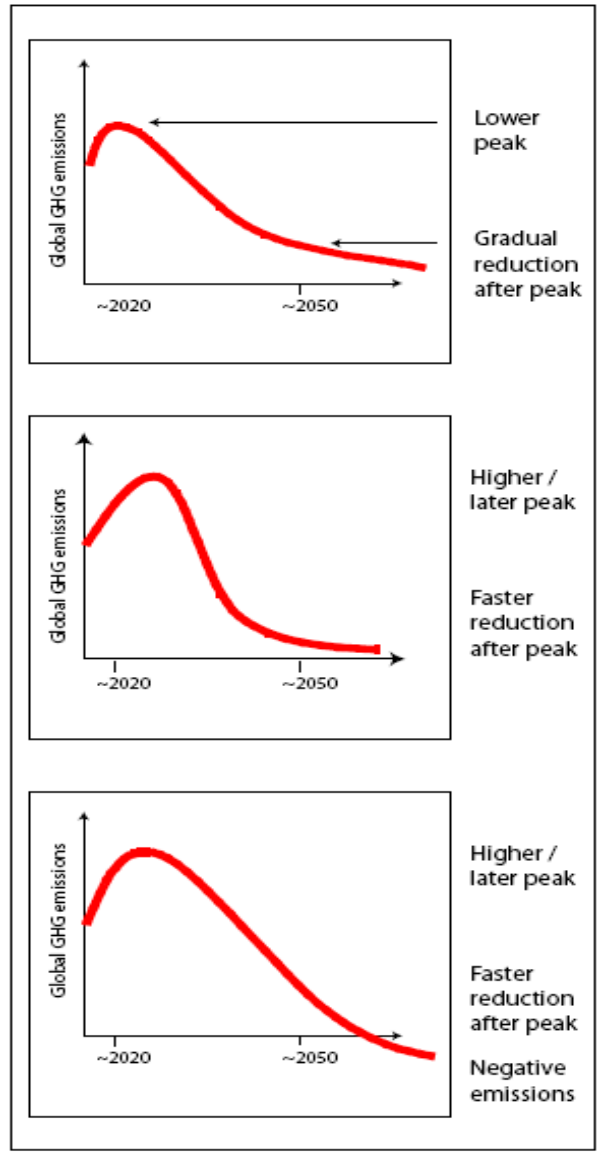
United Nations Environment Programme with the European Climate Foundation

55 scientists, 43 institutions, 22 countries

What are we aiming for?
Pathways to stay within the 2ºC target

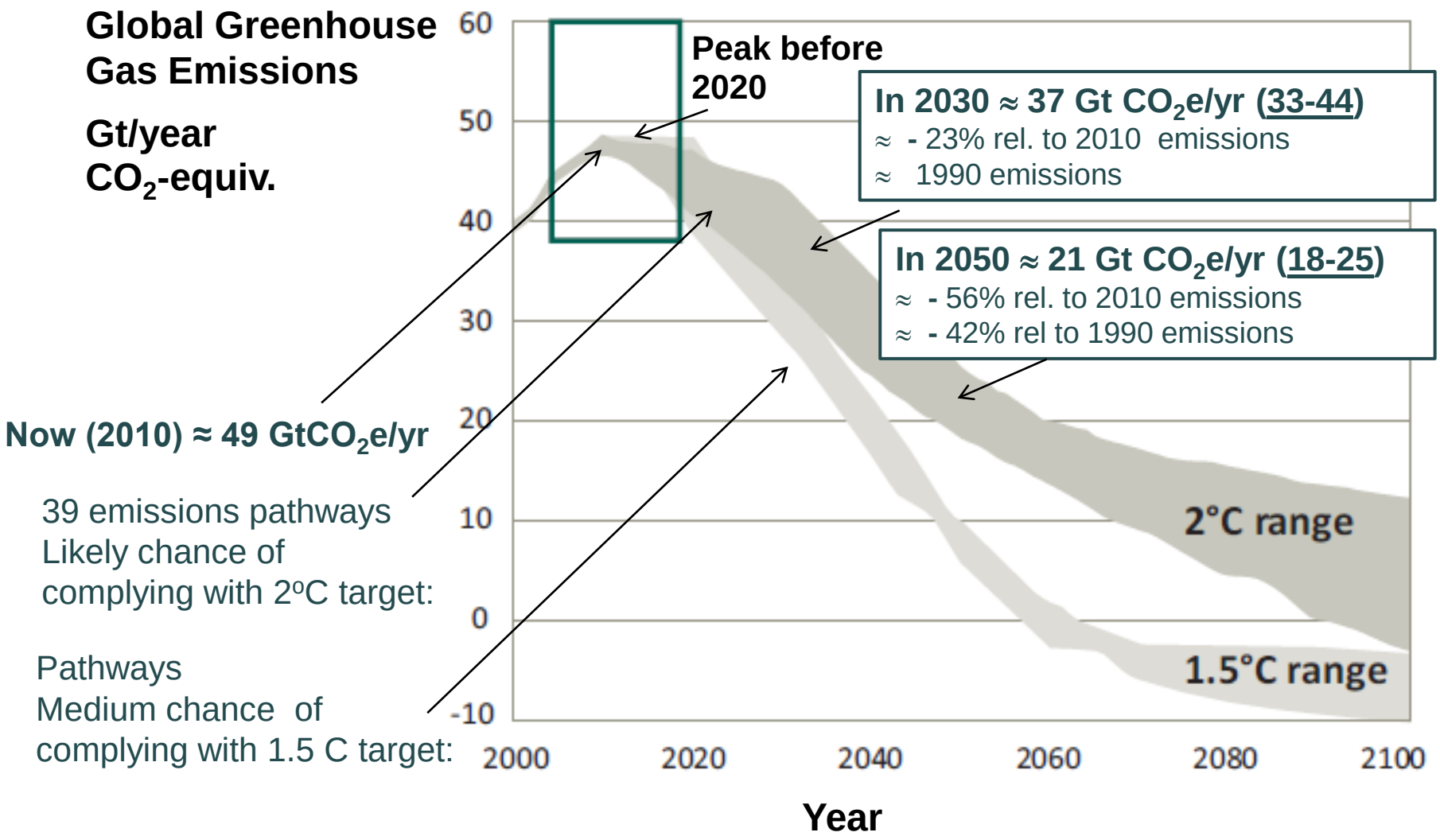
1. Meeting a temperature target depends largely on *cumulative* emissions

2. Different pathways of annual emissions can lead to same cumulative emissions

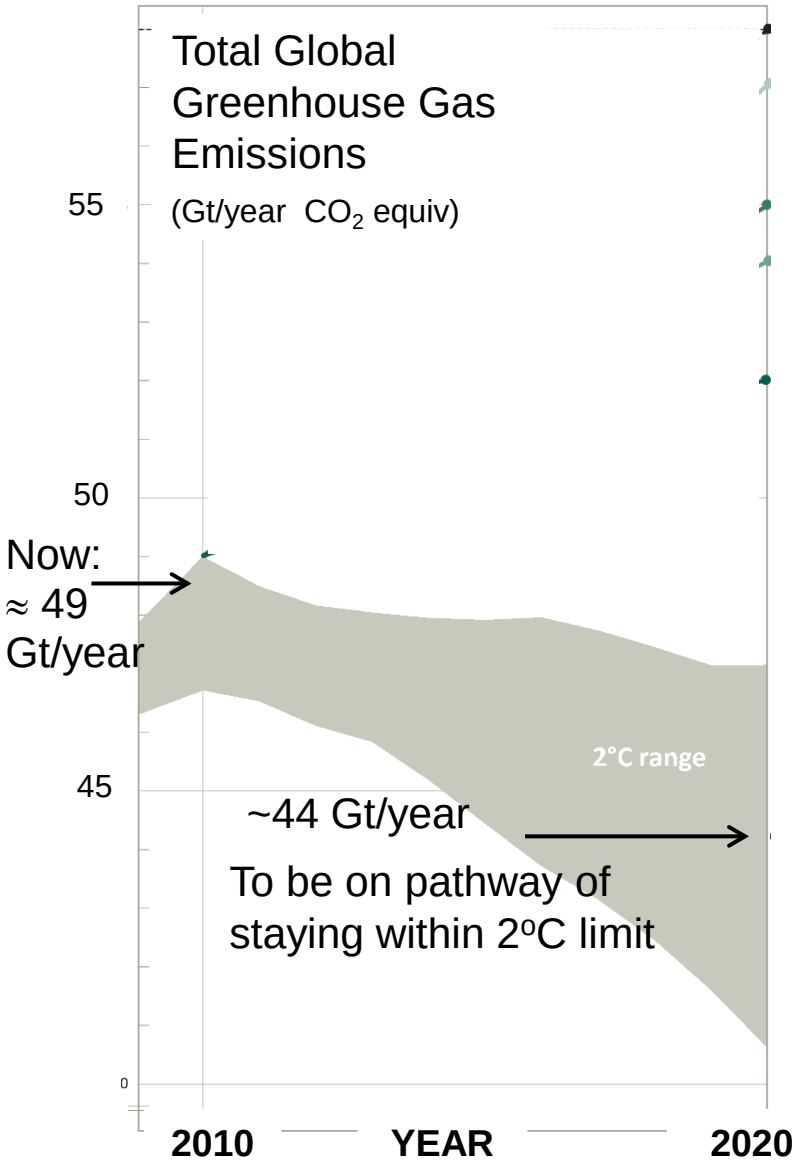


What are we aiming for?

Post-2020 goals for staying within 2°C target



Is there a gap -- between what we are aiming for and where we are headed in 2020?



Under Business-as-Usual
Gap = 14 $GtCO_2e/yr$

Under different cases of country pledges:
Gap = 8 – 13 $GtCO_2e/yr$

Under the most ambitious case:
Gap = 8 $GtCO_2e/yr$

Pledges not enough to meet the 2°C climate target *according to current scenarios*

We cannot wait until 2020 to begin stringent emission reductions.

What happens if we don't close the gap in 2020?

- ✓ If countries do not increase their pledges: trajectory to ≈ + 2.5 to 5.0°C
- ✓ What if we start later to meet the 2.0 °C target?

  "Later action scenarios": Higher emissions over near term, require sharper reductions afterwards → Lower short-term costs, but …

  A bigger risk …
  - Greater climate impacts
  - Higher total costs of mitigation
  - Greater reliance on un-proven technology → *Negative emissions*

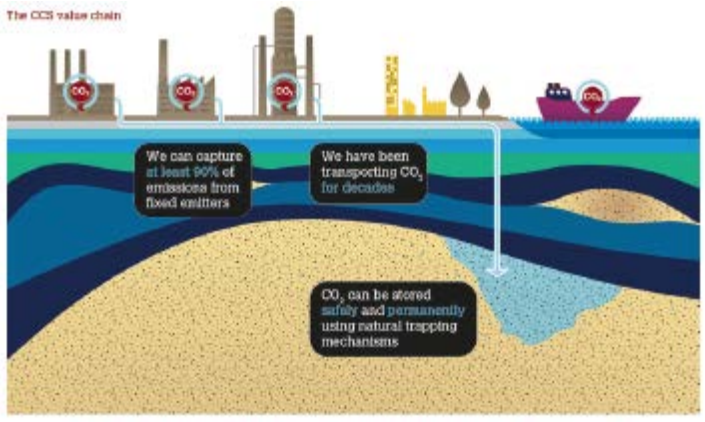
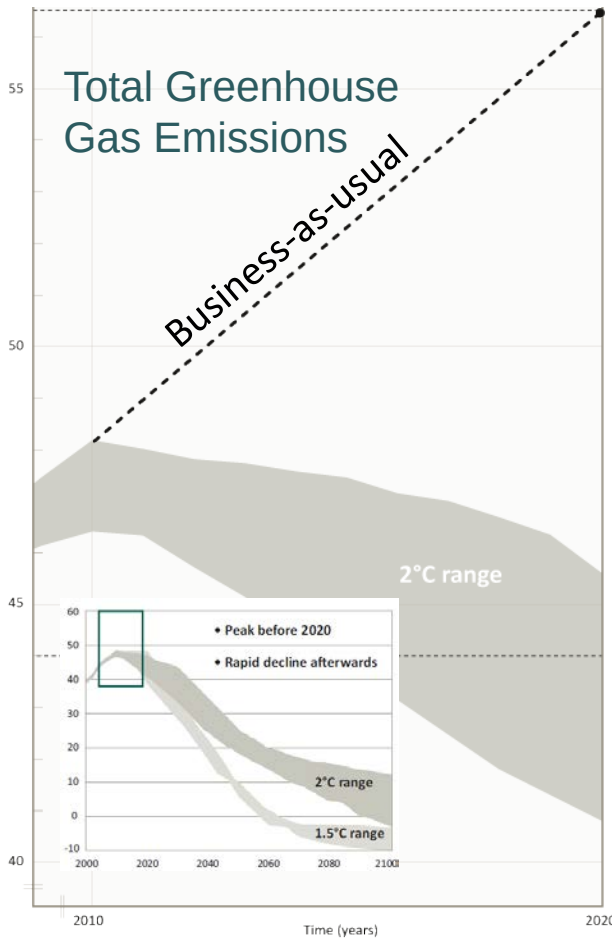


FIGURE 1 CCS IS THE ONLY LARGE-SCALE TECHNOLOGY THAT CAN ABATE 90% OF CO_2 EMISSIONS FROM THE WORLD'S LARGEST EMITTERS

Negative emissions through Bioenergy + Carbon Capture and Storage

How can the 2020 gap be bridged?
Bottom-up sectoral studies



Emission reduction potential in 2020 (Gt/year equivalent CO_2)

Power	2.2 – 3.9
Industry	1.5 – 4.6
Transport	1.7 – 2.5
Buildings	1.4 – 2.9
Waste	≈ 0.8
Forestry	1.3 – 4.2
Agriculture	1.1 – 4.3

Total Emission Reduction Potential = **17 ± 3** Gt/year CO_2e

The Gap in 2020 = **14** Gt/year CO_2e
(relative to business-as-usual)

Potential in sectors big enough to bridge the gap.

How can the 2020 gap be bridged?
Some action on the ground

Transportation

Potential: - 1.7 to - 2.5 Gt CO_2e in 2020

Example policies:

Vehicle Performance Standards

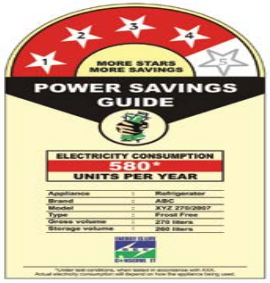
- Japan, EU, USA, Canada, China, Australia and South Korea:
- Light-duty fleets: > 50% reduction in GHG emissions by 2025 rel to 2000.

Bus Rapid Transit

- 16 countries
- GHG emissions in Mexico City: 143 kt CO_2e/yr avoided due BRT (Metrobus) system

These 2 policies: Reduce energy use, increase energy security, reduce air pollution, BRT alleviates traffic congestion

How can the 2020 gap be bridged?
Some action on the ground



Buildings

Potential: -1.4 to - 2.9 Gt CO_2e in 2020

Example policy:

e.g. Appliance Standards and Labels

- > 75 countries
- Reduce energy use and costs, enhance energy security
- Avoided GHG emissions ≈ 125 MtCO_2e/yr (2020) from SEAD* 17 states
- Potential global reductions GHG emissions: 0.7 Gt CO_2e (2020)

* Super Efficient Equipment and Appliance Deployment Initiative

How can the 2020 gap be bridged?
Some action on the ground

Forestry – Reducing deforestation

Potential: - 1.3 to - 4.2 Gt CO_2e in 2020

Many countries, including Brazil and Costa Rica

Example policies:

- **Protected areas** Brazil: 46% of Amazon, Costa Rica: 24% of land area.
- **Satellite-based monitoring** Brazil: compliance with deforestation policies
- **Economic instruments:** Costa Rica: Payments for ecosystem services

Preservation of indigenous cultures, ecotourism, biodiversity, watershed protection

Brazil: Avoided GHG emissions: ~ 2.8 Gt CO_2e (2006-2011) (partly due to lower commodity prices)

Costa Rica: Currently: Near zero deforestation & related emissions

Losing opportunities …

"Lock in" of high emission technologies, structures and processes

- Manufacturing energy-inefficient vehicles → still on the road in 2020
- Building power plants with combustion efficiency below what is technically feasible, and will have lifetime of >25 years
- Constructing energy-wasteful buildings → will last 100 years

Summing Up

New in this report

- Current global emissions; consequences of not closing the gap in 2020; and looked at goals beyond 2020, …

For a climate agreement that is planned to be adopted by 2015 …

To meet the two degree target:

- Global emissions in 2030 ≈ 1/4 below 2010 emission levels
- Global emissions in 2050 ≈ > 50% below 2010 emission levels

But cannot wait until 2020 for stringent emission reductions to begin.

To meet the two degree target:

- Global emissions must peak before 2020 → But current emissions already more than 10% above emissions level in 2020 consistent with 2°C target, and still growing
- Country pledges to reduce emissions up to 2020 not enough:
  Still emissions gap in 2020 → 8 - 13 Gt CO_2e

Summing Up

The Gap can be narrowed … with action in the negotiations

- If countries insist on strict rules for complying with emission pledges
- If countries pursue more ambitious emission reduction pledges

The Gap can be bridged … by realizing large potential in each sector

- Technical potential for reductions in 2020 (17 Gt CO_2e /yr) big enough to close the gap (14 Gt CO_2e /yr)
- Potential can be realized → Scaling up policies that fulfill local and national self-interest: Saving energy, saving costs, reducing traffic congestion, reducing air pollution **…**

But "locking in" high emissions → losing time & opportunities to close the gap.

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