SIDE EVENT - FIRST PART

Equity-based study of the current NDCs

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Objectives

• To analyze the part of the Remaining Global Carbon Budget that will be released into the atmosphere from 2020 to 2030 when implementing the NDCs presented as at 31 July 2021.

• To make an equity-based study on the distribution among different groups of countries of the cumulative emissions that NDCs implies from 2020 to 2030.
The Remaining Global Carbon Budget

• The term **Global Carbon Budget** refers to the maximum amount of cumulative net global anthropogenic CO₂ emissions that would result in limiting global warming to a given level with a given probability.

• The **Remaining Global Carbon Budget** is the total quantity of CO₂ emissions, or cumulative emissions, that could still be emitted while keeping warming below a specific temperature level.

• According to the Sixth Assessment Report published by the IPCC, the global carbon budget compatible with the goal of limiting the global temperature increase to 1.5 °C, with a 67% probability, amounts to **400 GtCO₂**.
The NDC context

1. We analyse the ambition of the aggregated effect of the NDCs by comparing the cumulative emissions they imply with the remaining global carbon budget.

2. We present our equity based analysis comparing the share of the remaining carbon budget that the NDCs of different groups of countries imply.
Consumption of the GCB by 2030

Cumulative CO$_2$ emissions that will be released into the atmosphere between 2020 and 2030, according to:

- NDCs: 401 GtCO$_2$
- ICAO: 7 GtCO$_2$
- IMO: 7 GtCO$_2$

415 GtCO$_2$
Equity in mitigation

Key dimensions of equity in mitigation (AR5, IPCC 2014)

- **EQUALITY**: The same emissions per capita for everybody
- **RESPONSIBILITY**: The historical contribution to the problem
- **CAPACITY**: We demand more from those who can do more
- **THE RIGHT TO SUSTAINABLE DEVELOPMENT**: All countries must meet their basic requirements. Climate change should not be a threat for their sustainable development
Equity-based analysis of the current NDCs

1. How are these 401 GtCO$_2$ distributed among different groups of countries?

   - NDCs
   - 401 GtCO$_2$

2. Can we consider the distribution of the cumulative 2020-2030 emission distribution equitable?

   - Percentual distribution of the 1990 - 2018 historical emissions
   - Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs
   - Share in the 2020 global population

Three groupings of countries

- According to their income level: Annex I versus Non-Annex I
- Geographical location (continent)
Grouping with respect to the income level

- **High income**
- **Upper middle income**
- **Lower middle income**
- **Low income**

**Percentual distribution of the 1990-2018 historical emissions**
- High income: 42.1%
- Upper middle income: 38.5%
- Lower middle income: 16.4%
- Low income: 3.1%

**Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs**
- High income: 25.5%
- Upper middle income: 45.1%
- Lower middle income: 25.8%
- Low income: 3.7%

**Share in the 2020 global population**
- High income: 15.2%
- Upper middle income: 33.3%
- Lower middle income: 42.9%
- Low income: 8.6%
Grouping with respect to the income level

**Equity-Based Analysis of the Current NDCs**

1. **Percentual distribution of the 1990-2018 historical emissions**
   - High income: 42.1%
   - Upper middle income: 38.5%
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2. **Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs**
   - High income: 25.5%
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   - Lower middle income: 25.8%
   - Low income: 3.7%

3. **Share in the 2020 global population**
   - High income: 15.2%
   - Upper middle income: 33.3%
   - Lower middle income: 42.9%
   - Low income: 8.6%

**Equality:** Emissions per capita
Grouping with respect to the income level

The comparison between historical and future emissions allows us to visualize the evolution on the share of emissions according to current NDCs.
Grouping with respect to the income level

- **Percentual distribution of the 1990 - 2018 historical emissions**
  - High income: 42.1%
  - Upper middle income: 38.5%
  - Lower middle income: 16.4%
  - Low income: 3.1%

- **Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs**
  - High income: 25.5%
  - Upper middle income: 45.1%
  - Lower middle income: 25.8%
  - Low income: 3.7%

- **Share in the 2020 global population**
  - High income: 15.2%
  - Upper middle income: 33.3%
  - Lower middle income: 42.9%
  - Low income: 8.6%

**HISTORICAL RESPONSIBILITY:** Cumulative emissions per capita
Grouping with respect to the income level

The comparison between historical and future emissions per capita allows us to visualize to which extent current NDCs address historical per capita liability.
Grouping with respect to the income level

**Percentual distribution of the 1990 - 2018 historical emissions**
- High income: 42.1%
- Upper middle income: 38.5%
- Lower middle income: 16.4%
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**Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs**
- High income: 25.5%
- Upper middle income: 45.1%
- Lower middle income: 25.8%
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**Share in the 2020 global population**
- High income: 15.2%
- Upper middle income: 33.3%
- Lower middle income: 42.9%
- Low income: 8.6%
Annex I vs Non-Annex I groups

Percentual distribution of the 1990 - 2018 historical emissions

- Non-Annex I: 56.2%
- Annex I: 43.8%

Percentual distribution of the 2020-2030 cumulative emissions according to unconditional NDCs

- Non-Annex I: 75.0%
- Annex I: 25.0%

Share in the 2020 global population

- Non-Annex I: 82.8%
- Annex I: 17.2%
Grouping with respect to the continent

Percentual distribution of the 1990-2018 historical emissions

- Oceania: 1.5%
- North America: 20.1%
- LAC: 9.7%
- Europe: 17.8%
- Asia: 43.6%
- Africa: 7.2%

Percentual distribution of the 2020-2030 cumulative emissions according to inconditional NDCs

- Oceania: 11.1%
- North America: 7.5%
- LAC: 9.1%
- Europe: 62.4%
- Asia: 8.8%
- Africa: 8.8%

Share in the 2020 global population

- Oceania: 4.8%
- North America: 8.4%
- LAC: 9.7%
- Europe: 59.3%
- Asia: 17.3%
- Africa: 0.5%
Final remarks

• The share of the carbon space used by the most developed countries decreases. But there is not compensation for the poorest countries in accordance with their development needs.

• The low share of future cumulative emissions of poorer countries could seriously affect their development, considering the lack of some basic infrastructures and also the adaptation challenges that these countries have to face.
Final remarks

• In order to meet the Paris Agreement mitigation objective, the current NDCs should be revised by increasing their level of ambition. This revision should also be done in the light of equity.

• The poorest countries could increase the carbon space they use to meet their development needs in line with their share of the global population.
Final remarks

• In a hypothetical call for revision of the current NDCs, the total amount of the cumulative CO$_2$ emissions that the NDCs will imply must be reduced about 45%.

• According to equity, developed countries must reduce the share of the carbon space they are taking by more than 45% whilst developing countries could increase it.

• A sufficient share of the remaining global carbon budget must remain at disposal of developing countries to guarantee their right to development.
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