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# **Sustainable Development in a Fallen World**

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Réseau des scientifiques évangéliques

Nyon 2017

Dominic Roser

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# Industrialization

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Switzerland in the 19th century:

- Poorer than Mozambique today
- Famines
- 13-hour days in factories
- Life expectancy: 40 years

# Industrialization

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***“There shall be  
no peer among you.”***

***Deuteronomium 15***

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# Industrialization

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Yes, industrialization is a gift from heaven...

but it comes with two flaws:

- Side-effect climate change
- Unfair split

...



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change

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# Flaw 1: Side-Effect Climate Change

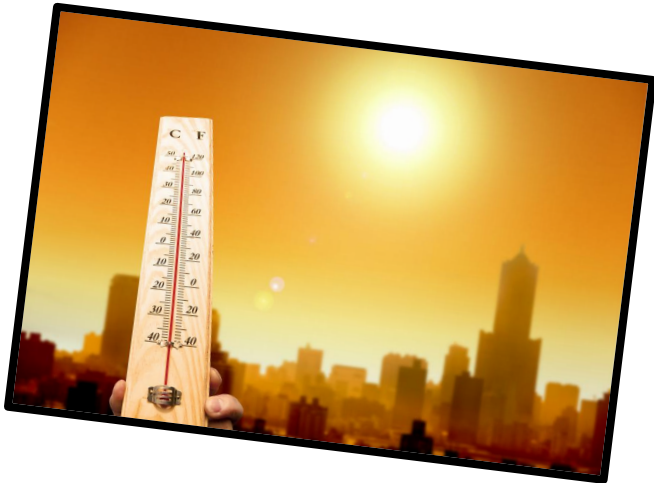
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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

Heat



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

Flooding



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Drought**





# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Crop Failure**



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Malaria**



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Variability**



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Conflict**



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

Migration



# Flaw 1: Side-Effect Climate Change

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Industrialization ↪

Greenhouse gases ↪

Climate change ↪

**Poverty**





# Flaw 1: Side-Effect Climate

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There is much uncertainty about the *magnitude* of the effect.



However, this is no reason for inaction:

- Very little uncertainty that the *most likely case* is seriously harmful
  - Uncertainty means both: it could be better *or* worse than most likely case
  - Trivial ethics: You *don't need 100%* – not even 50% – certainty to prevent it.
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# Flaw 1: Side-Effect Climate Change

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The impact of my emissions is long-term and global.

We are unprepared for this

- psychologically
- politically





# Flaw 1: Side-Effect Climate Change

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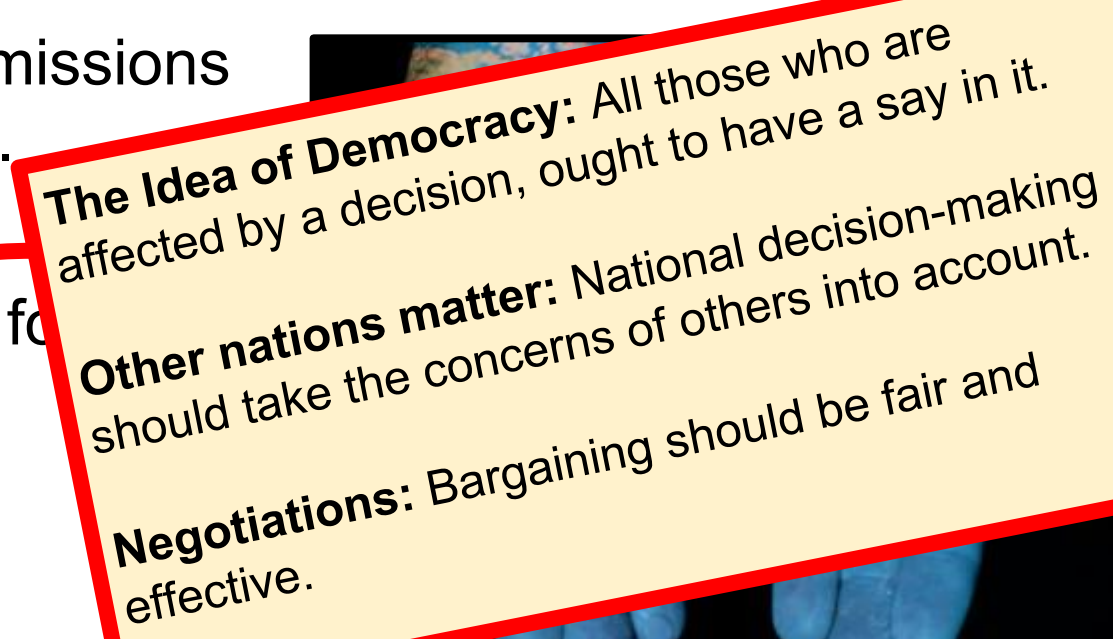
# Flaw 1: Side-Effect Climate Change

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The impact of my emissions is completely global.

We are unprepared for

- psychologically
- politically



**The Idea of Democracy:** All those who are affected by a decision, ought to have a say in it.

**Other nations matter:** National decision-making should take the concerns of others into account.

**Negotiations:** Bargaining should be fair and effective.

# Flaw 1: Side-Effect Climate Change

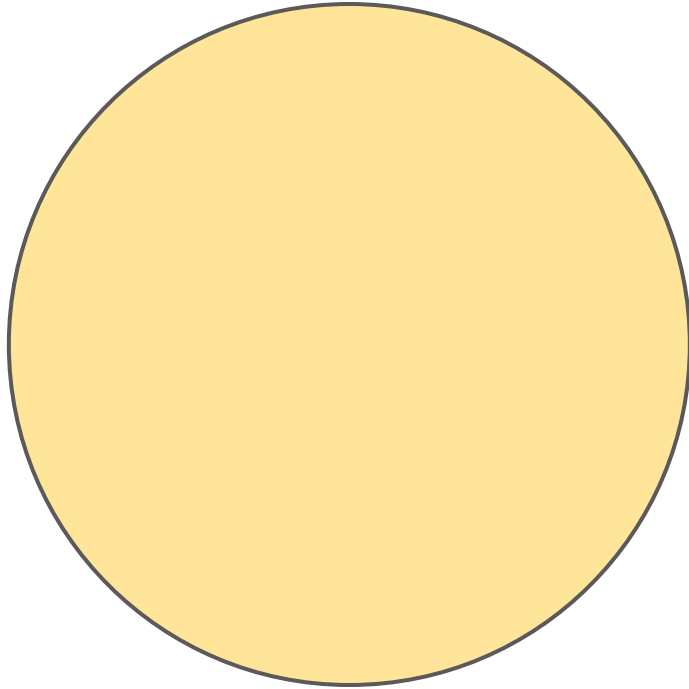
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Climate change affects people in the South harder.



# Flaw 2: Unfair Split

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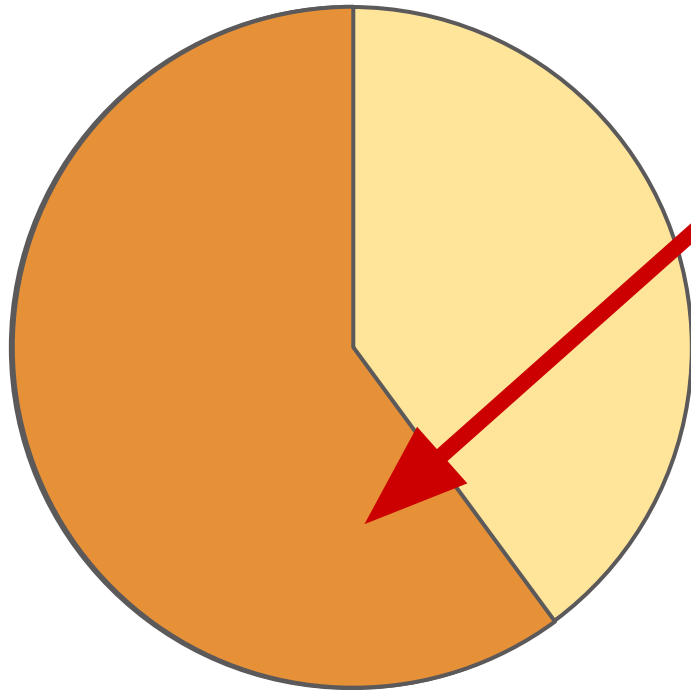
**1000 Gigatonnes**

The amount of carbon dioxide humanity can emit to avoid the worst risks.

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## Flaw 2: Unfair Split

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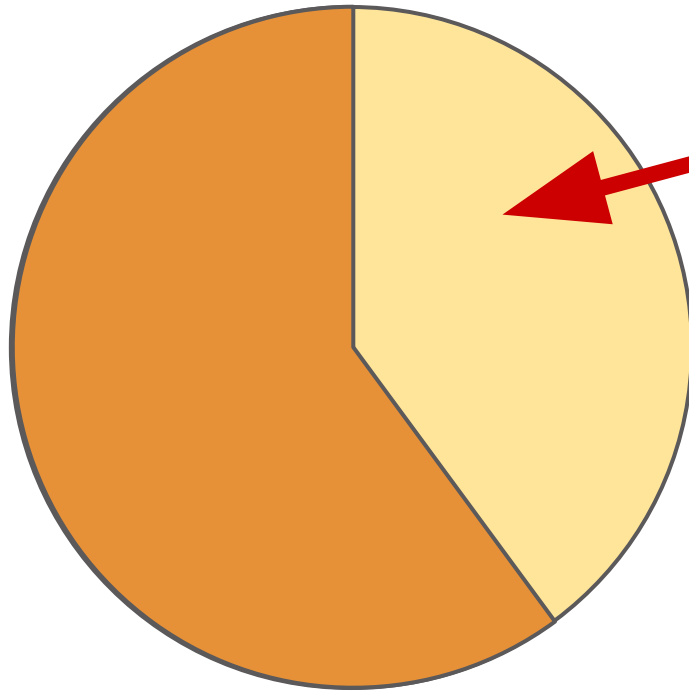
**600 Gigatonnes**

Used up since the beginning  
of industrialization.

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## Flaw 2: Unfair Split

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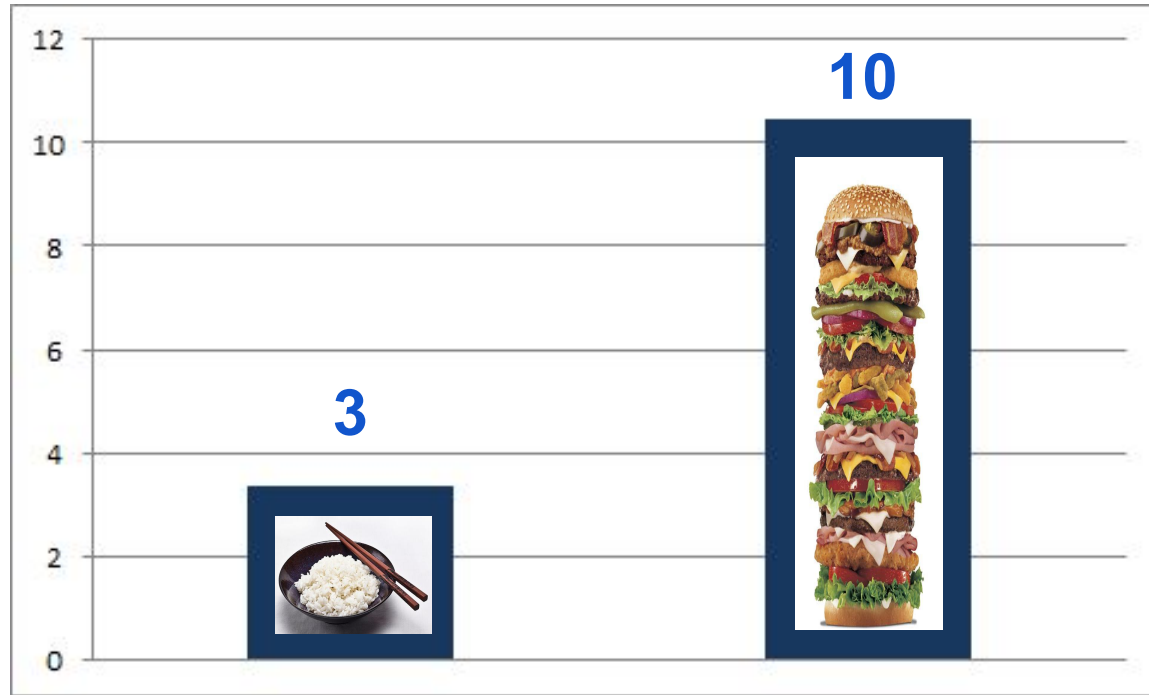
**400 Gigatonnes.**

The amount we can still emit.

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# Flaw 2: Unfair Split

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**Emissions per capita: Poor vs. Rich**

(CO<sub>2</sub> from energy consumption 2011: Non-OECD vs. OECD; Source: <http://goo.gl/pTIE0Q>)

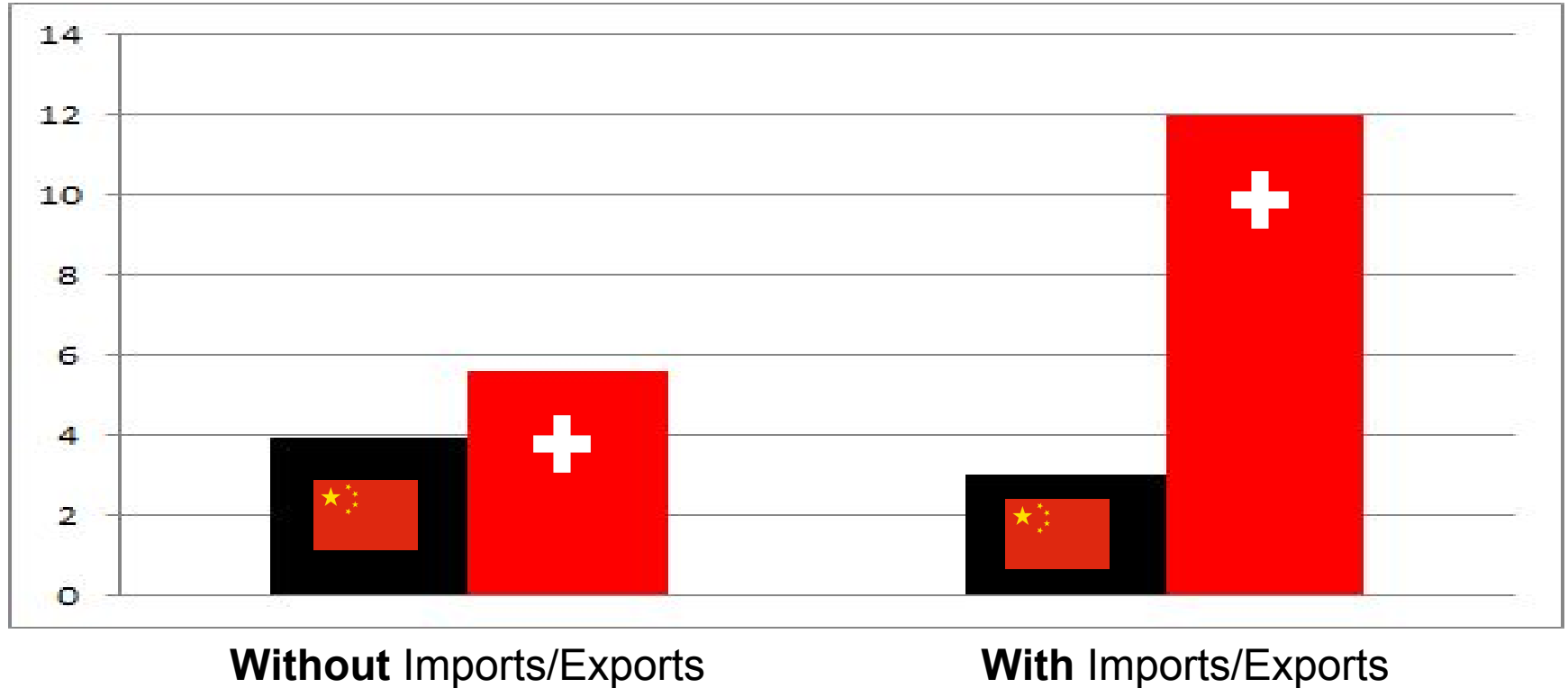
# Flaw 2: Unfair Split

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- Is  greener than developing countries?
- No! Example  :
  - China produces emissions for our goods





# Flaw 2: Unfair Split



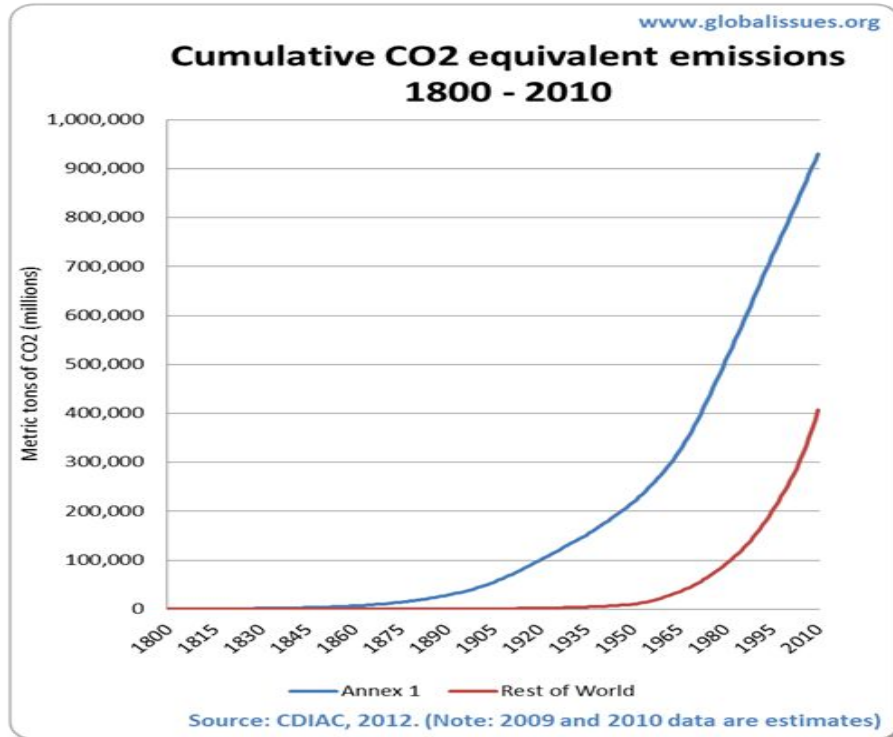
# Flaw 2: Unfair Split

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# Flaw 2: Unfair Split

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# Flaw 2: Unfair Split

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- Is  greener than developing countries?
- No! Example  :
  - China produces emissions for our goods
  - We already had our share of emissions

...and: other developing countries have much lower emissions than China.

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# Summarizing

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“The double injustice”

- Benefits of industrialization:      North > South
  - Costs of industrialization:          North < South
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# A Good Way Forward

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The recipe for a good way forward needs three ingredients:

- Acknowledge wrongs
- Make up for wrongs
- Stop the wrongs



# A Good Way Forward

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The recipe for a good way forward needs three ingredients:

- **Acknowledge wrongs**
- Make up for wrongs
- Stop the wrongs

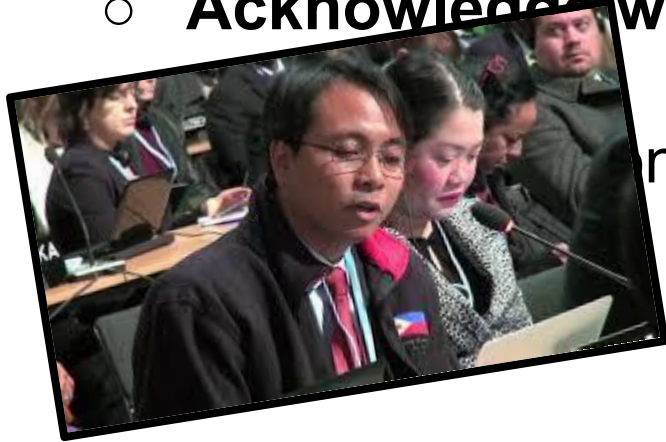


# A Good Way Forward

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The recipe for a good way forward needs three ingredients:

- **Acknowledges wrongs**





# A Good Way Forward

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The recipe for a good way forward

- Acknowledge wrongs
- **Make up for wrongs**
- Stop the wrongs

Pay for:

- **Adaptation**
- **Compensation for Loss & Damage**



# A Good

The recipe

- Ack

- Make

- **Stop the wrongs**

We often have a misleading image of emission reductions.

- Prioritize “cleaning up your own house”
- Prioritize lifestyle changes



# A Good

The recipe

- Ack

- Make

- **Stop the wrongs**

Reducing emissions **at home** through **lifestyle** changes is important.

But it is even much more important to **facilitate deep global decarbonization through a radical technological push.**



## A Good

The recipe

- Ack

- Make

- **Stop the wrongs**

Objection: Isn't this  
a techno-fix?



# A Good Way Forward

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The recipe for a good way forward needs three ingredients:

- Acknowledge wrongs
- Make up for wrongs
- Stop the wrongs



# Should we cultivate hope?

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- Realism and Hope are both important
    - Realism: belief about the most likely outcome
    - Hope: deep desire for a good outcome within the possible range
  - Hope is a key feature of God's children!
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# Climate Change and Justice

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Questions, ideas, and comments  
– as well as requests for references for numbers and claims –  
are very welcome!

dominic.roser@unifr.ch 

@dominicroser 

