What have countries promised at Paris?

What are INDCs and do they achieve 1.5C target?

Tomi J Lindroos, tomi.j.lindroos@vtt.fi
VTT Technical Research Centre of Finland

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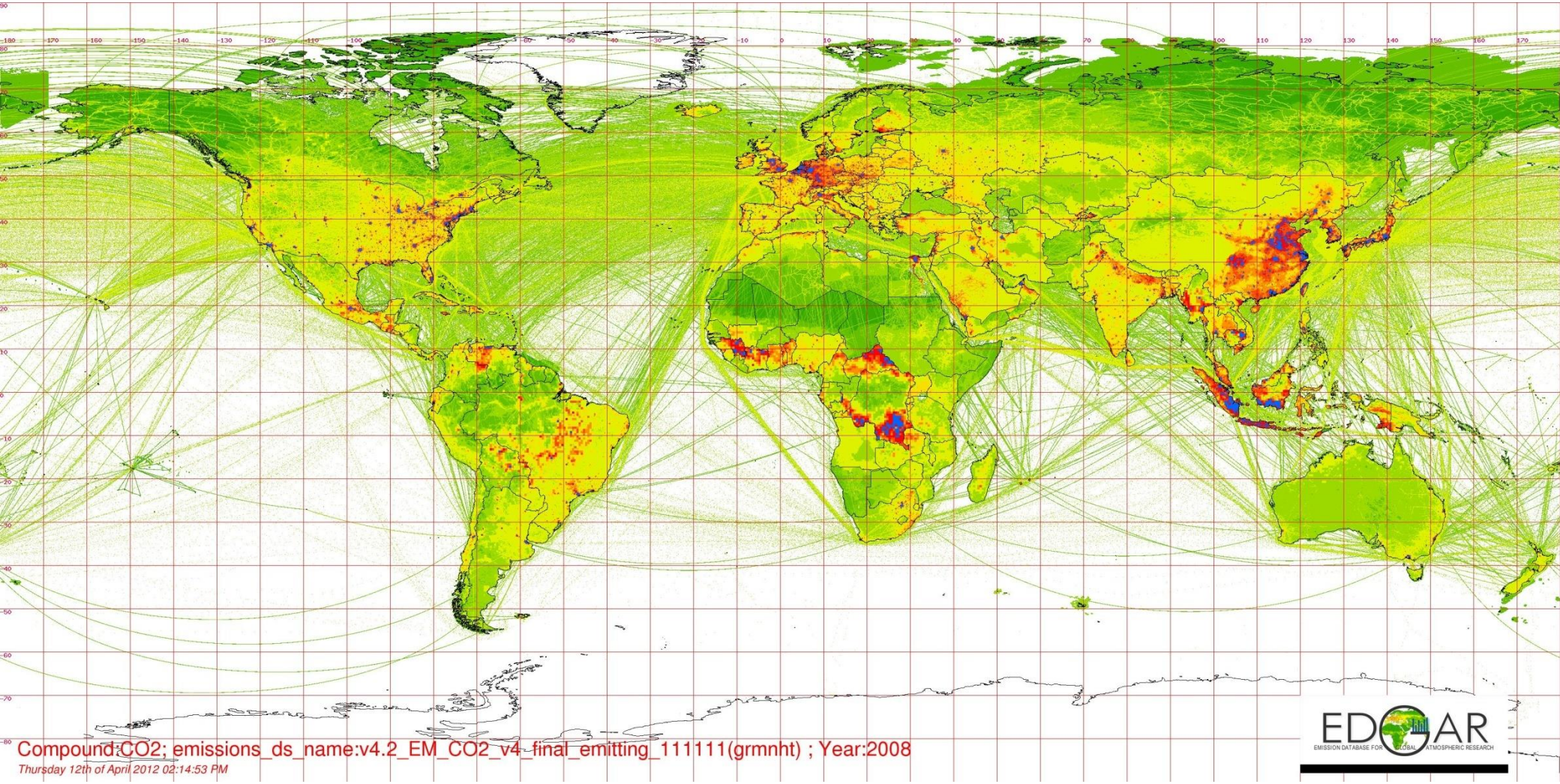
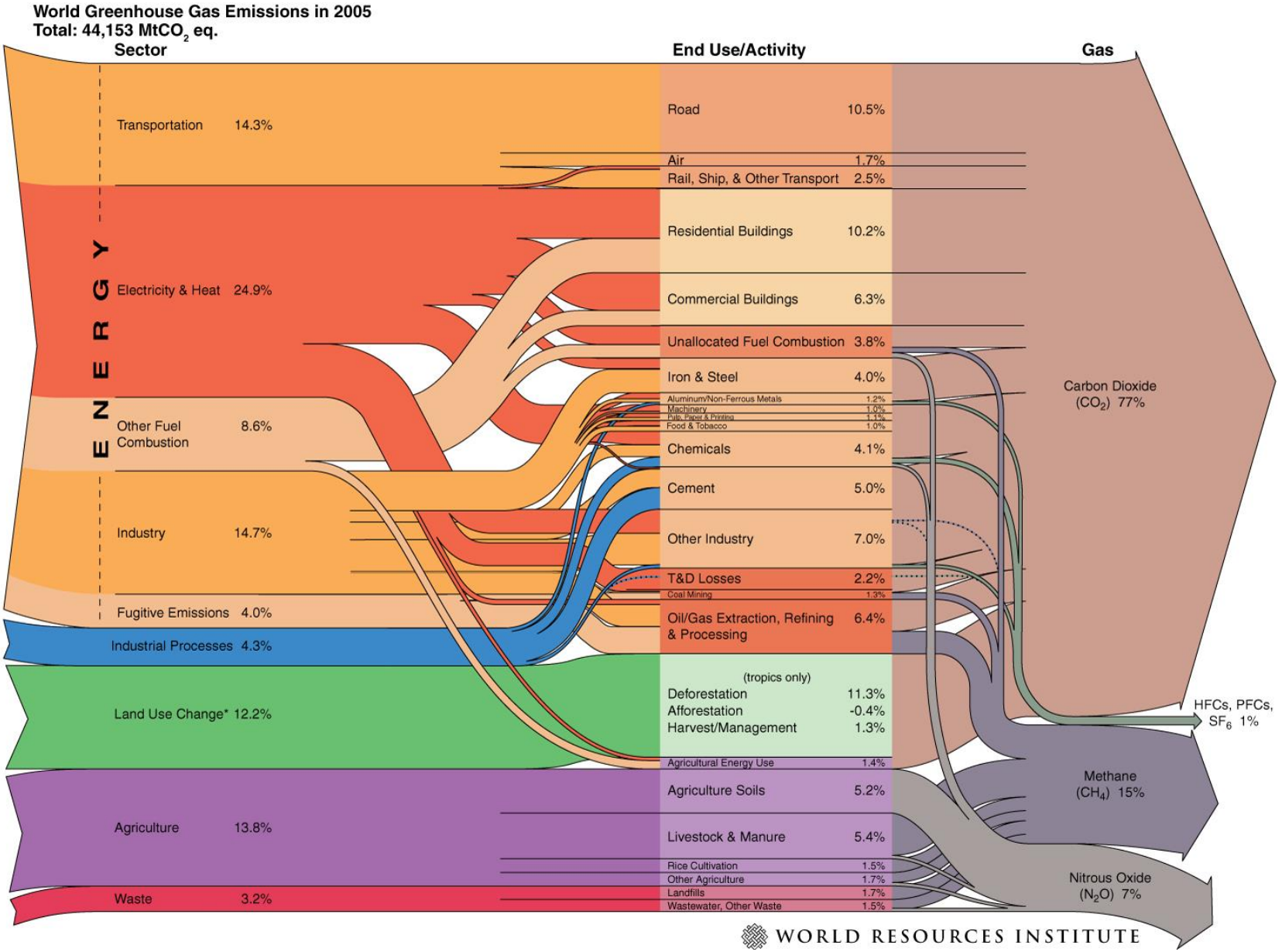
Content

1. Where do global emissions come from?
2. What did countries promise at the Paris COP21?
3. Is that enough for 2 degree or 1.5 degree target?
4. Who should do more?

Global CO_2 emissions



Global GHG emissions by sector



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Ukraine's INDC

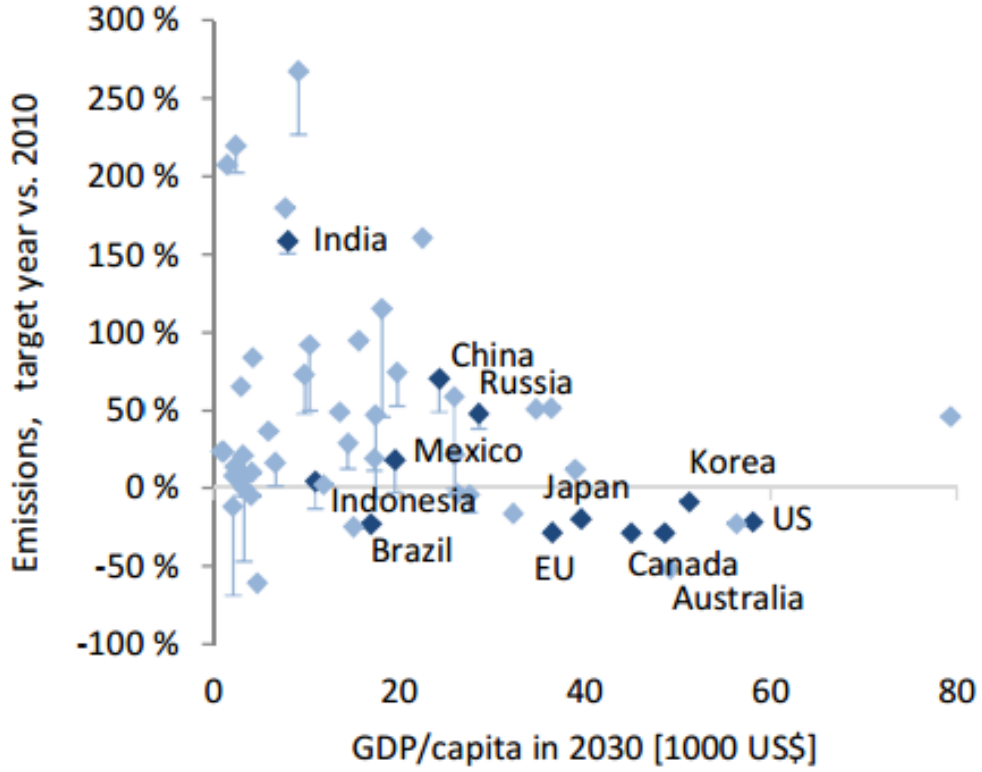
- Ukraine's GHG emissions were 875 $MtCO_2e$ in 1990 and 375 $MtCO_2e$ at 2012.
  - In the 2015 inventory report 851 $MtCO_2e$ at 1990 and 366 $MtCO_2e$ at 2012
- The INDC target is that emissions "will not exceed 60% of 1990 GHG emissions level in 2030."
  - INDC covers 100% of GHG emissions
  - Accounting rules for Land Use, Land Use Change and Forestry (LULUCF) will be developed by 2020

INDCs (Intended, Nationally Determined Contributions)

- 161 INDCs have been submitted to the UNFCCC. These cover
  - 189 countries,
  - Over 90% of GHG emissions,
  - 95% of global population,
  - Over 95% of global economic output

- INDC targets are defined in very variable ways
- Mitigation efforts are often not quantifiable,
- We were able to analyze 53 INDCs in detail

Emission reductions / GDP per capita



- Wealthier countries promised to reduce more emissions. Some poorer countries made significant contributions

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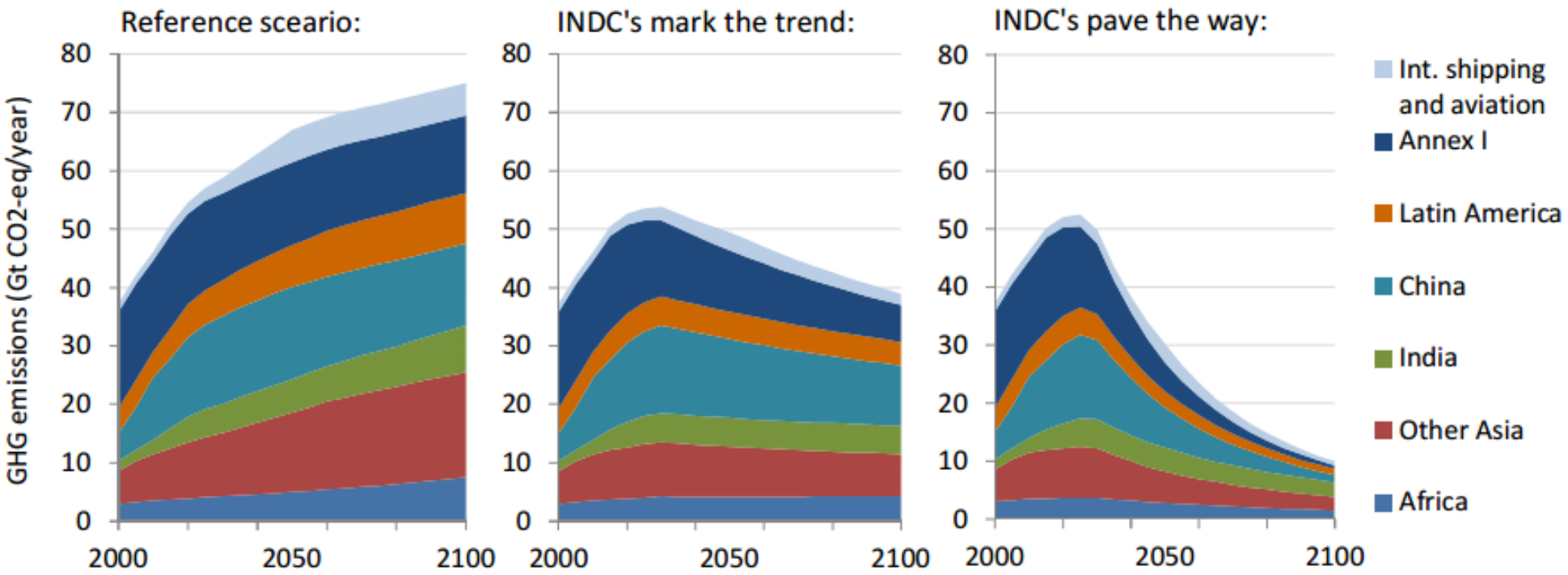
Estimating global warming requires long-term assumptions

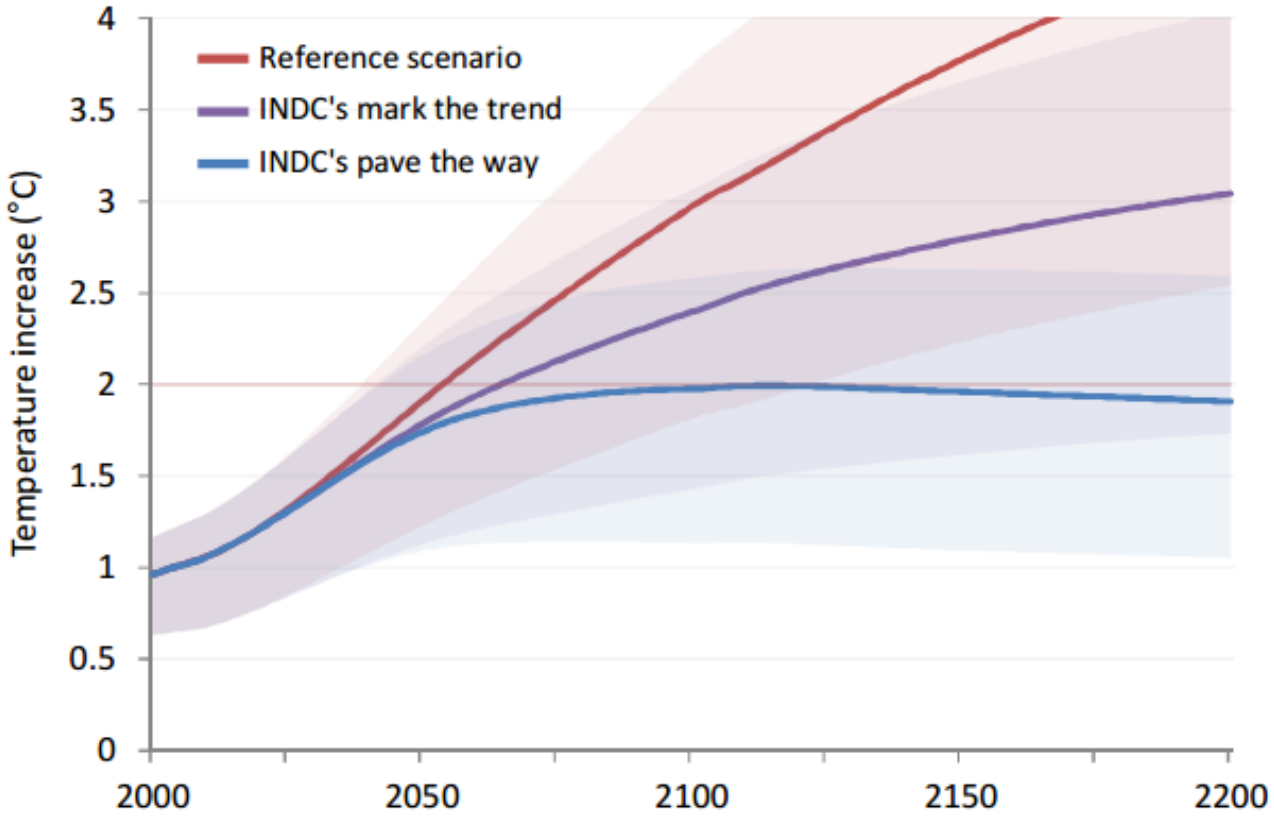
- Global warming happens over many decades, but INDCs cover only 15 years.

- We use 3 long-term scenarios to estimate global warming:
  - Reference: current policies, no additional measures, no INDCs
  - INDC's mark the trend: The current set of INDC's marks the long term trend. Increase of ambition is limited after 2030
  - INDC's pave the way: The ambition will be increased gradually after 2030 based on countries' abilities.

Emissions in long term scenarios



Global warming in these scenarios



- 2 degree target requires increased ambition from current INDCs.
- 1.5 degree target is really ambitious.

IPCC special report on 1.5 degree target

- IPCC will write a special report on 1.5 degree target (to be published in 2018).

- It is likely that 1.5 degree target requires
  - Early additional reductions from both developed and developing countries
  - Increased ambition after 2030
  - New technological solutions and faster adoption of current technologies in demonstration
  - Negative emissions from forests and possibly from carbon negative technologies

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Steps forward

Signing

- Signing of the Paris Agreement starts at 22nd April In New York
- Countries have 1 year to sign the Agreement.
- Currently over 130 countries have announced that they will sign the agreement

Ratifying

- Countries have to also ratify the Agreement
- USA and China have announced that they will sign in the New York and ratify the Agreement as soon as possible.

- Paris Agreement comes into effect 30 days after at least 55 countries which produce 55% of global GHG emissions ratify the agreement. Possibly already at 2016.

How does 1.5 degree target affect EU's and Ukraine's INDCs ?

- Directly, no effect
- Through negotiations, possibly a large effect

- INDCs will be replaced. Countries will submit NDCs (Nationally Determined Contributions).

- 1.5 degree target requires deeper emission reductions
- NDCs will be analyzed and the level of additional ambition negotiated in international negotiations
  - No ”top down” allocation of emissions as in Kyoto Protocol

Increasing the ambition

- Increasing the level of ambition (both pre 2030 and 2030) is one important part of international climate negotiations.

- One way to analyze the current level of ambition is to compare current emission trends to INDC targets
- Other options include e.g. amount of already reduced emissions, countries' need to develop, cost efficient emission reduction potential etc.

China, USA, EU and India

- China, USA, EU and India produce half of global GHG emissions.

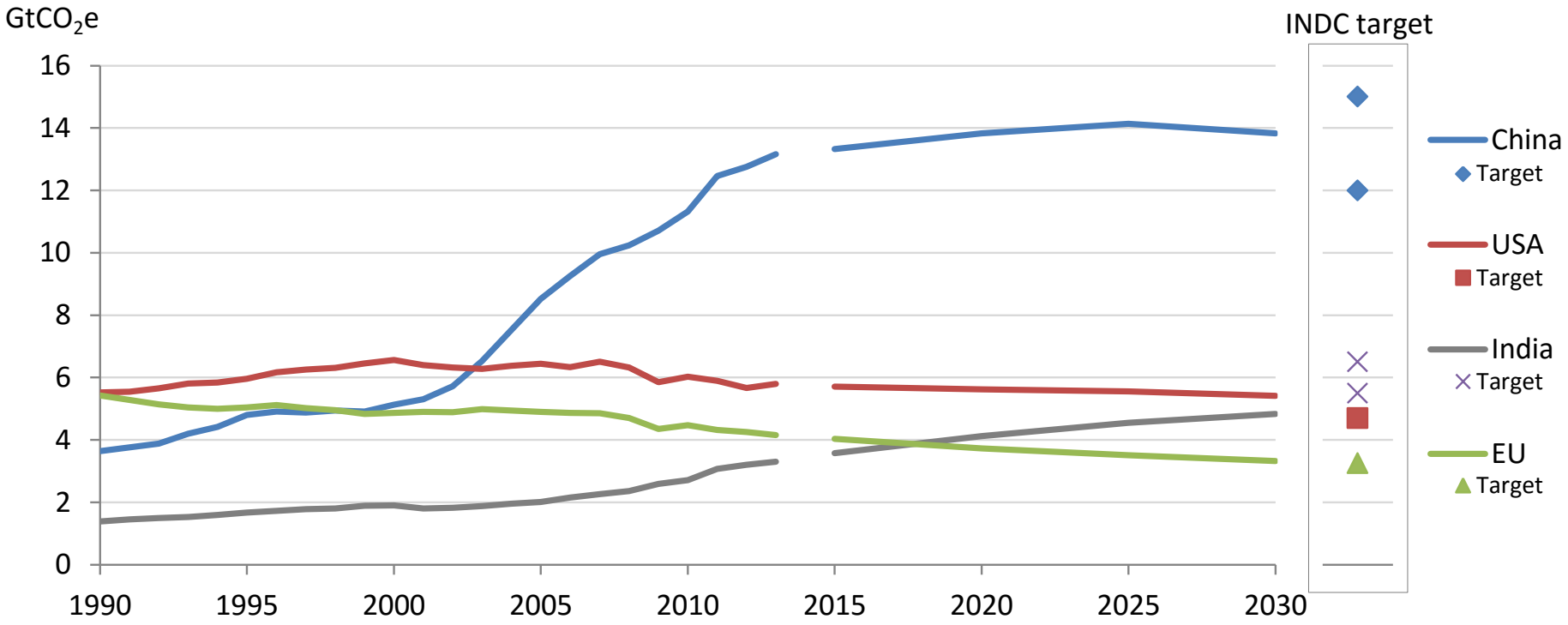


Figure from VTT unpublished report

Japan, Canada and Ukraine

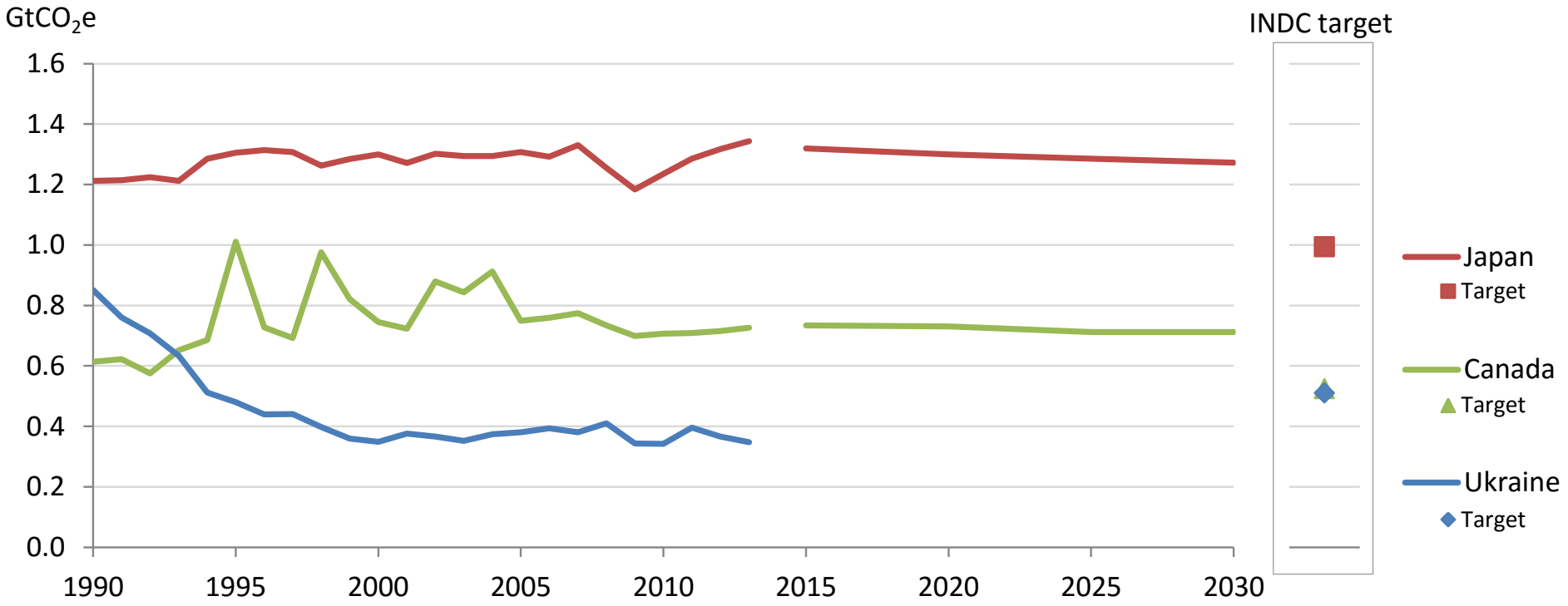


Figure from VTT unpublished report

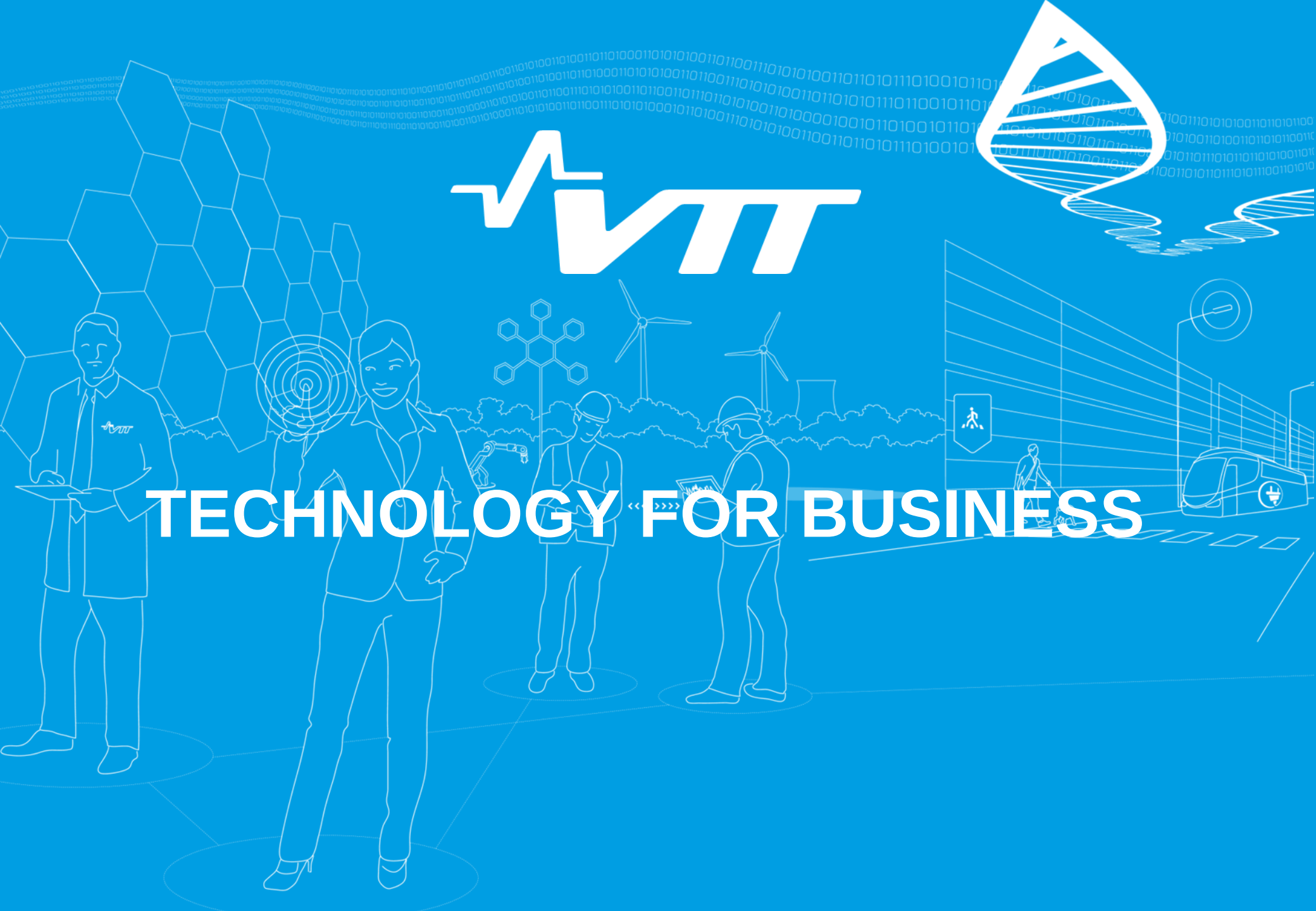
How does the other development affect Ukraine's and EU's 2030 targets?

- Emissions are mitigated faster than assumed.
  - Global emission might have peaked at 2015.
- Many technologies are advancing faster than assumed
  - Many slower
- Studies are pointing out that climate change is advancing faster than thought after a short break in the warming

Concluding words

- Paris Agreement is a framework. Many extremely important details are agreed in coming months and years.

- Climate change mitigation is a marathon.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