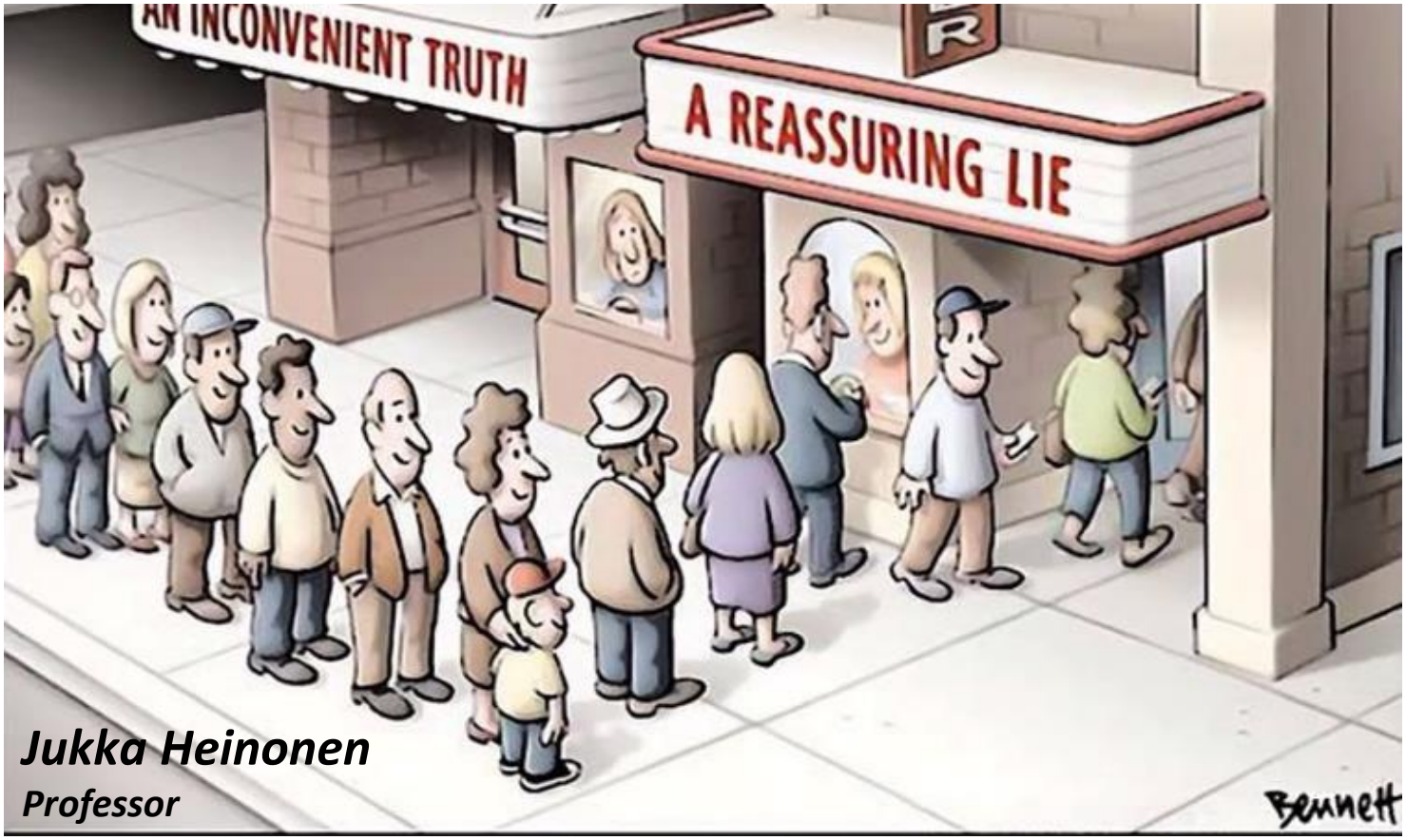
Status and current issues in sustainable construction from an academia perspective



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Facts

- We are heading for levels of warming incompatible with an organized global community
  - Global temperatures are on track for 3–5°C of warming by 2100
  - According to many leading scientists, a +4°C future is incompatible with an organised global community, and likely beyond adaptation
  - The short term is crucial: what we do now and before 2030 matters, not aspirations about 2050
  - When tipping points are crossed, there is no (short term) return

Debatable

"If we continue down the present path there is a very big risk that we will just end our civilisation. The human species will survive somehow but we will destroy almost everything we have built up over the last two thousand years."

PROF. HANS JOACHIM SCHELLNHUBER
DIRECTOR EMERITUS OF THE POTSDAM INSTITUTE

Inside a bubble

We live inside a bubble

- It is transparent, but we refuse to look outside
- In the inside, an illusion is created about an ongoing sustainability transition
  - We talk about sustainability a lot more than we used to
  - We label everything sustainable, responsible and ethical and whatever, even though we know that it typically means nothing but a slight improvement to the market average

In the inside

"Urban forest" building in Milan, Italy

We read and hear about zero and positive carbon projects, about nature-based solutions, about energy-independent buildings etc.

PVO International

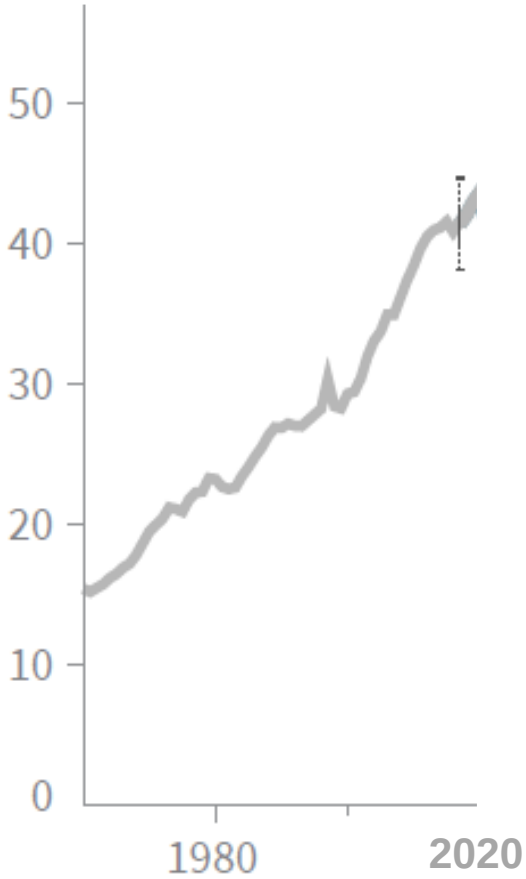
But on the outside

- The globe keeps on warming rapidly
- The emissions keep on increasing
- Old traditions remain unchanged
  - Profit-driven decisions keep pilot projects and demonstrations as pilots and demos, and talks as talks
  - Radical future visions never begin from a radical change right now – not in this quartile or during this election period

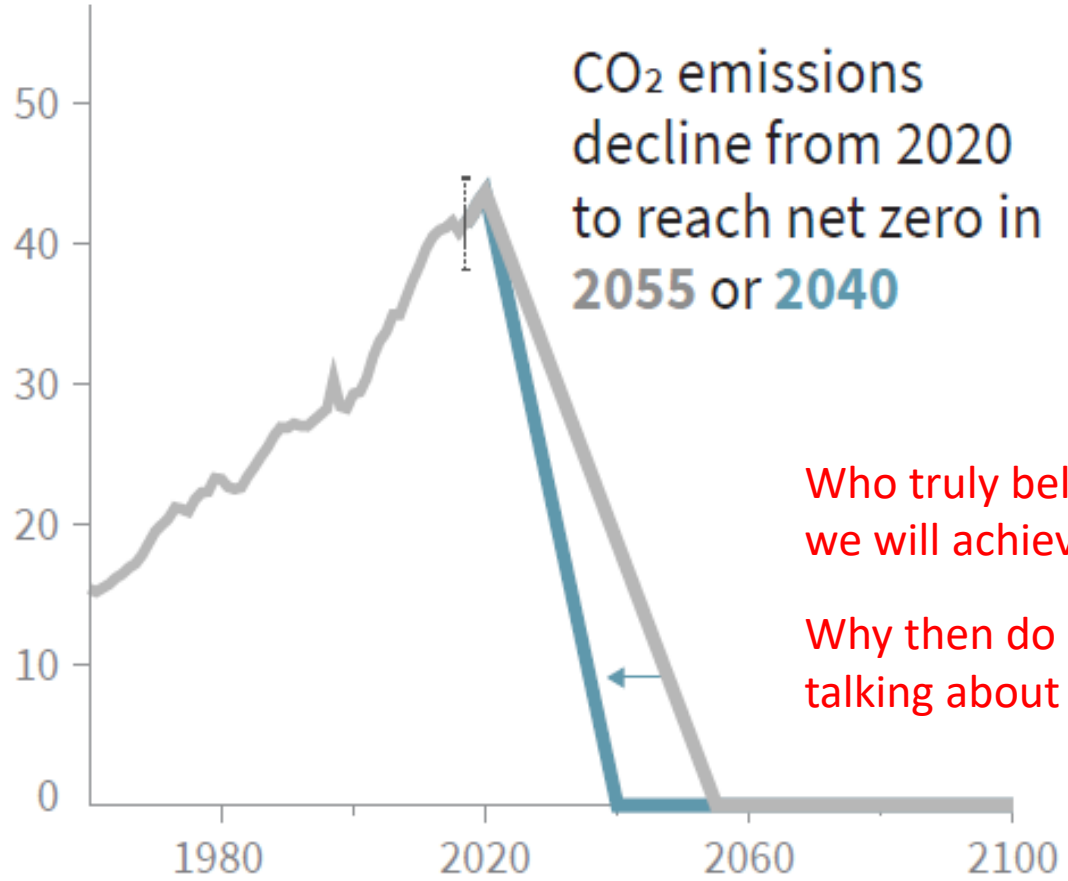
On the outside

It is not that easy to see the ”ongoing” radical change

Therefore the current emissions pathway looks as it does



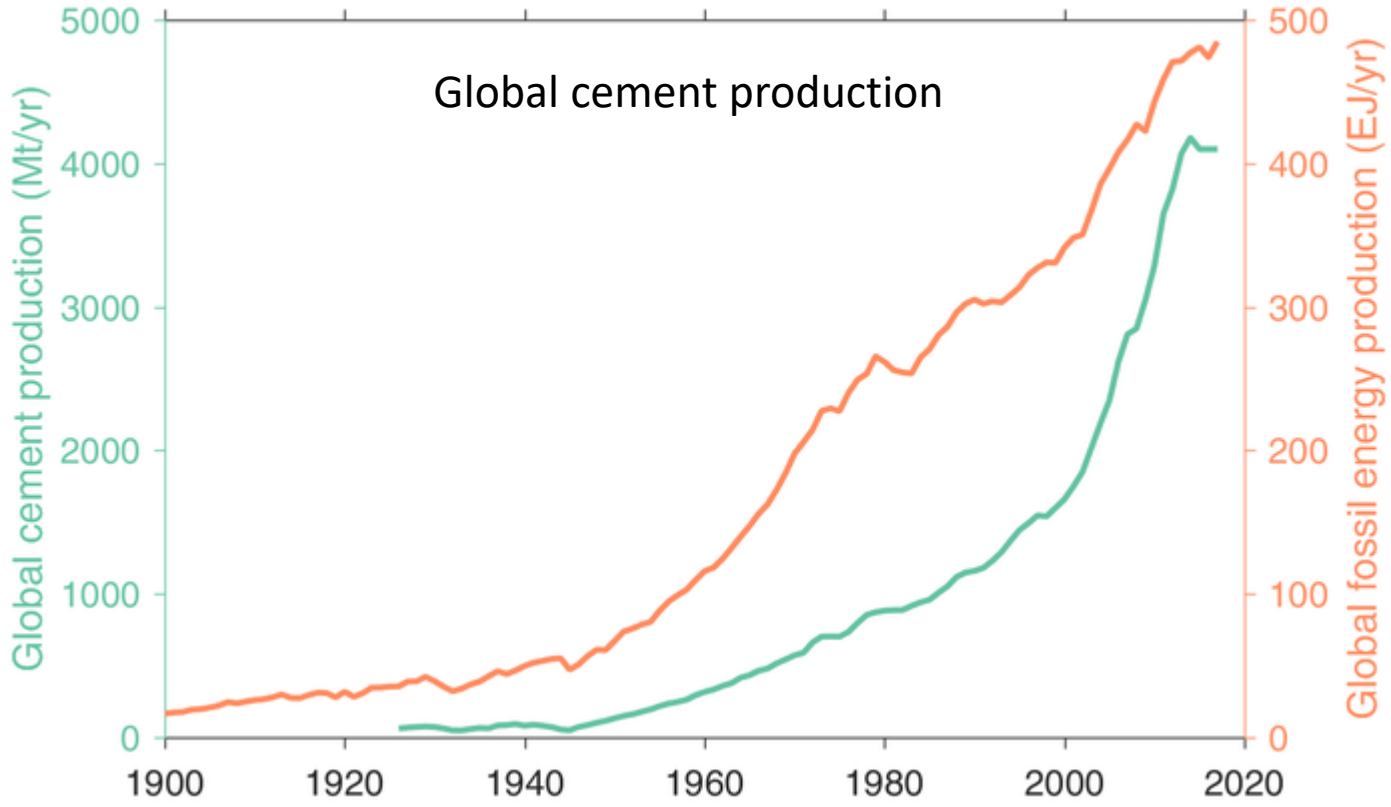
And the required mitigationpathway for 1.5 degree warming will never be reached



Who truly believes that we will achieve this?

Why then do we keep on talking about this target?

The contribution of the construction sector looks the same as the global emissions curve



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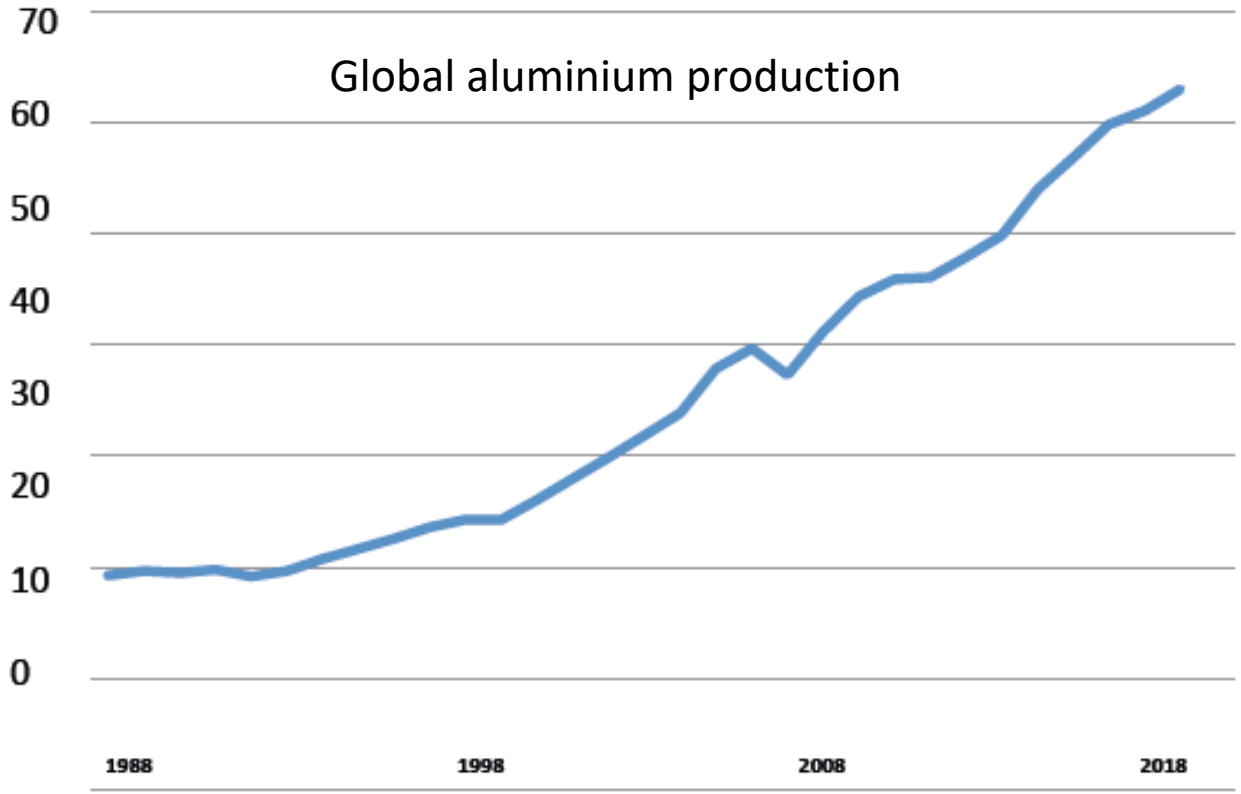

Global Aluminium Production in Millions of Tons Over the Last 30 Years

But is it important what happens in the construction sector?

Poorer countries catching up with Western infrastructure stocks, using current technologies, would cause approximately 350 Gt CO2 from materials production (Müller et al.), which roughly equals the TOTAL carbon budget available for 1.5 degrees warming

So, what we need to ask ourselves

- Are we really doing something real, or just easy minor changes to look better?
- Do we just set distant future targets not requiring immediate strong action?
- How is it possible that after decades of talk and commitments the emissions have not even stabilized, let alone started decreasing?
- Do we understand it that when we start seeing the real consequences, it is already too late to act?

What should happen?

- We need commitment to change
  - Funding directed to research with transformative potential
  - Stronger push towards radical improvements in the industry practices
  - Courage to move away from old practices
  - Ambition now, not ambitious targets set for our children

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