

Construction at the crossroads: How to prepare for the Anthropocene?

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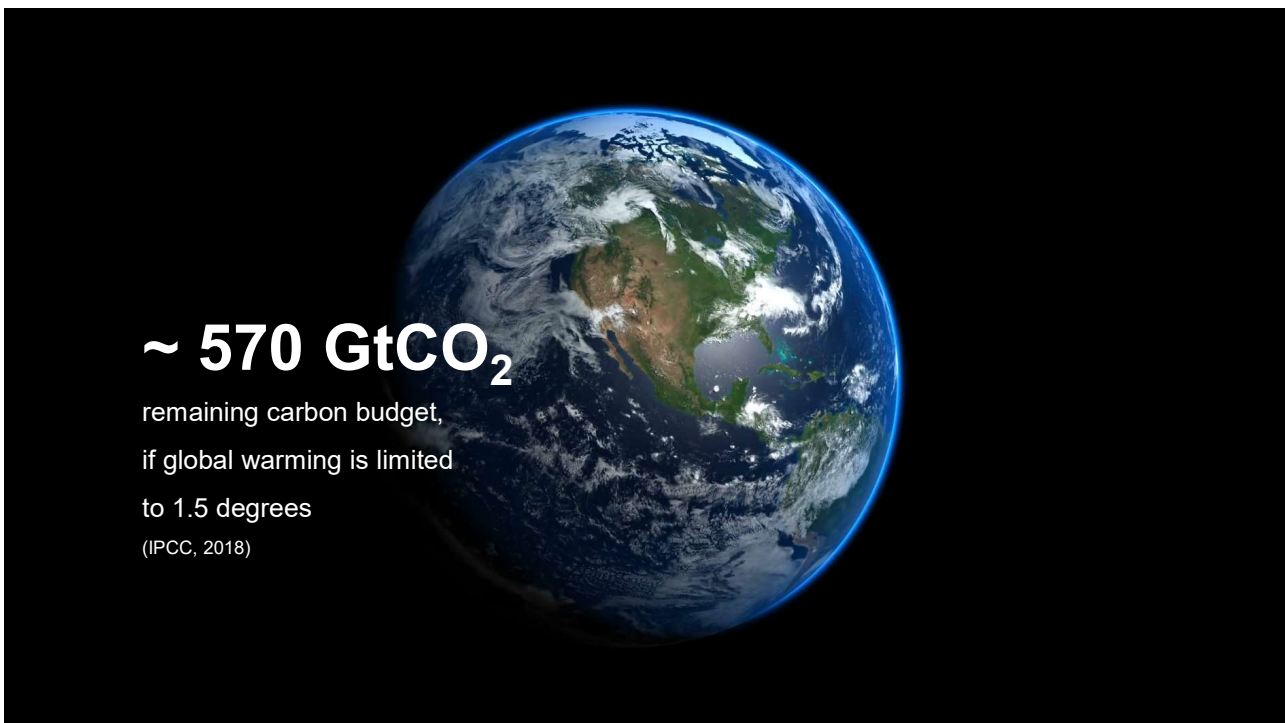
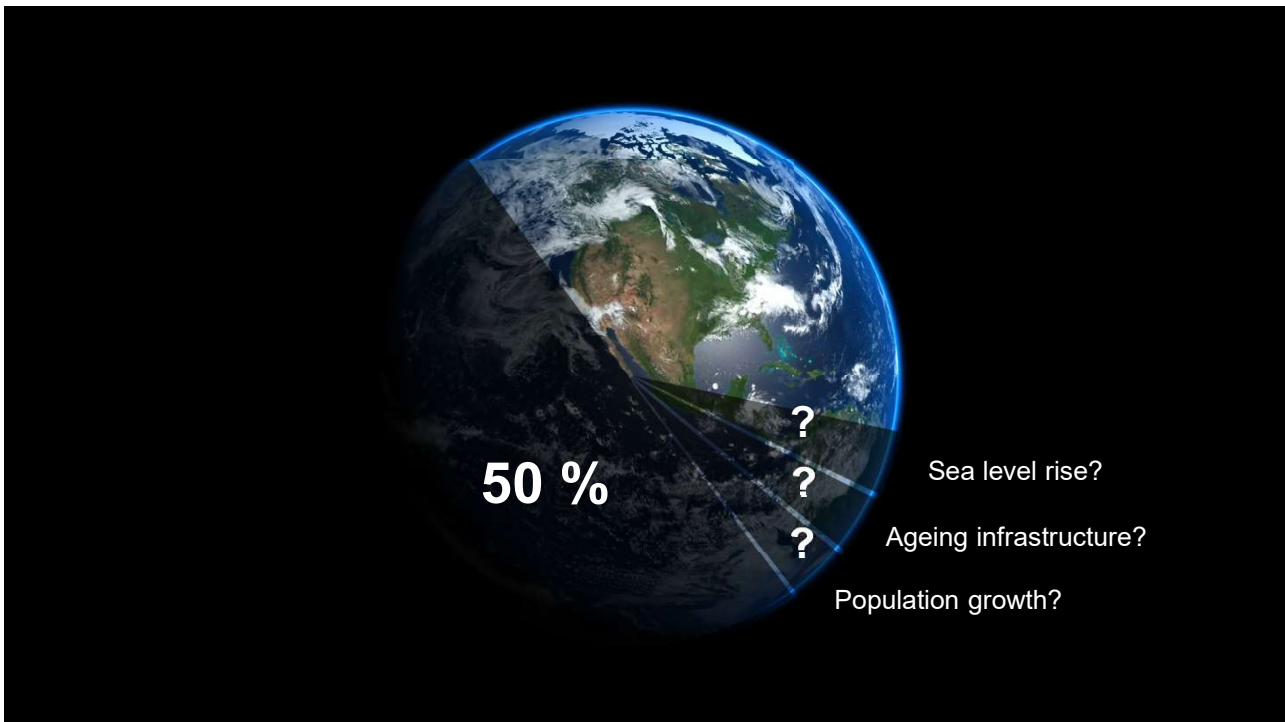
Architect (just a hobby)

**”The greatest challenges ahead
lie not in further technological innovation,
but rather in the role of people,
both as individuals and as a society.”**

Pomponi & Moncaster, 2017

Anthropocene?







~ 570 GtCO₂

remaining carbon budget,
if global warming is limited
to 1.5 degrees
(IPCC, 2018)

<

920 GtCO₂

estimated emissions from the
production of cement, steel,
aluminium and plastic
(Material Economics, 2018)

~ 570 GtCO₂

remaining carbon budget,
if global warming is limited
to 1.5 degrees
(IPCC, 2018)

≈

550 GtCO₂

Estimated production emissions if
energy efficient production and
decarbonised energy are used
(Material Economics, 2018)



~ 570 GtCO₂

remaining carbon budget,
if global warming is limited
to 1.5 degrees
(IPCC, 2018)

>

300 GtCO₂


Estimated production emissions if
radical measures of circular
economy can be deployed
(Material Economics, 2018)


New Enlightenment



Bringing embodied carbon upfront

Coordinated action for the building and construction sector to tackle embodied carbon





→ By 2030 reduce embodied carbon 40%

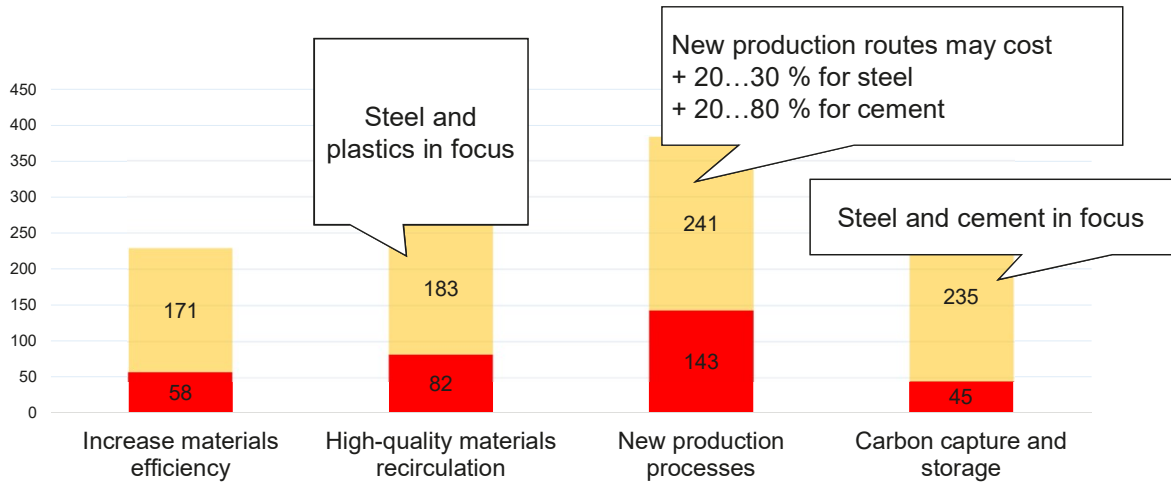
→ By 2050 all buildings net zero carbon



→ By 2030 reduce embodied carbon 40%

→ By 2050 all buildings net zero carbon

Potential solutions for EU's industrial transformation to net-zero



→ +25...60 % increase in the rates of capital investments required

Budgets

Normative CO₂ limits for buildings



The Netherlands
2018



France
2020

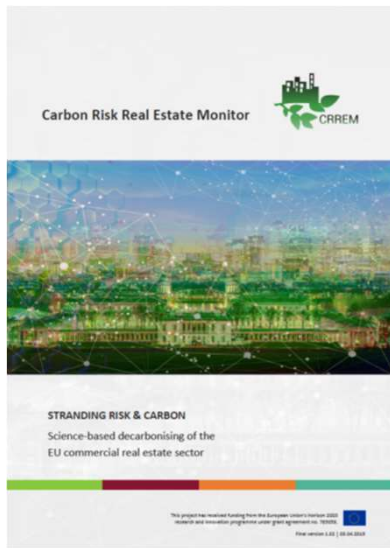


Finland
< 2025



Sweden
202x

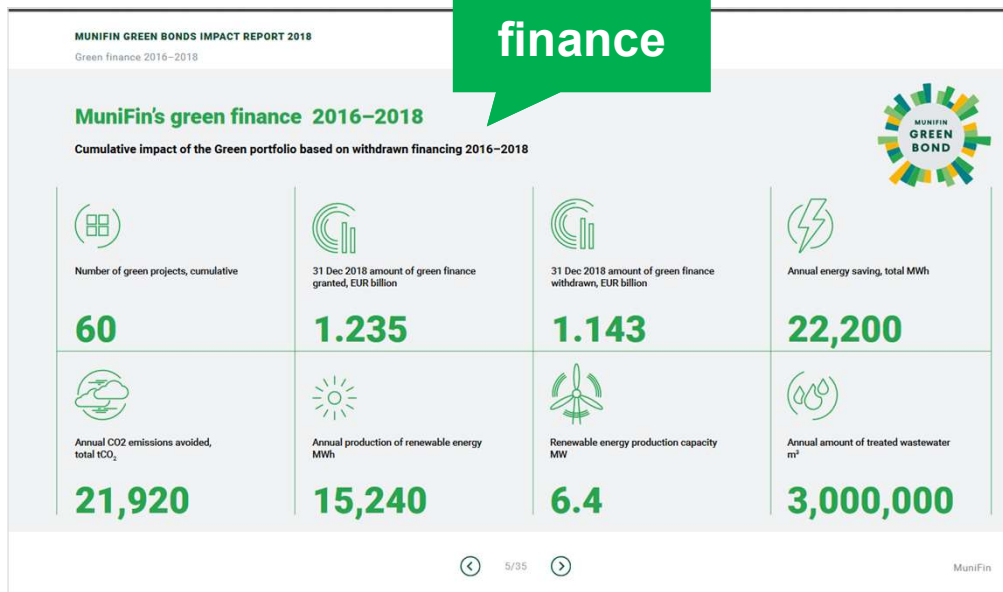
Budgets



Stranding risks

Carbon risks for EU's real estate sector: Methodology proposal for setting carbon budgets for buildings

Green finance



Green finance



Wooden school in Kuhmo



Wooden school in Imatra

Prohibitions

Banning the use of technologies or materials based on their environmental or social harms



Asbestos
1994



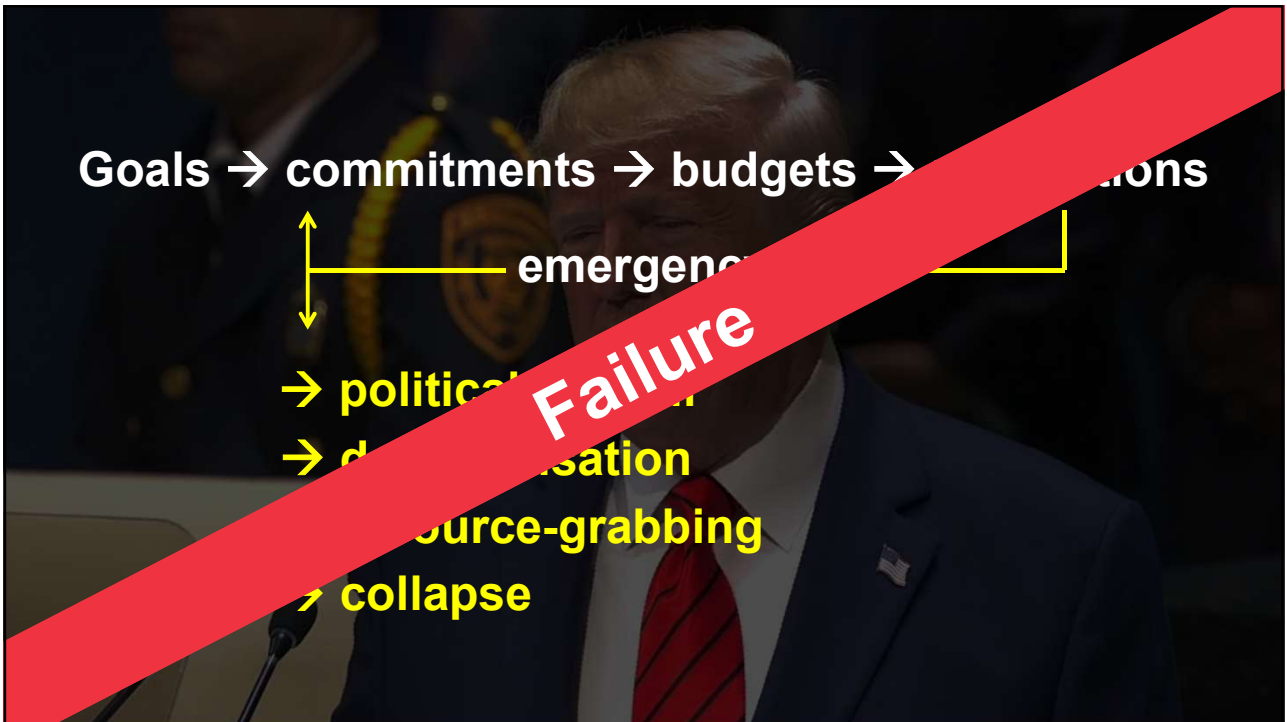
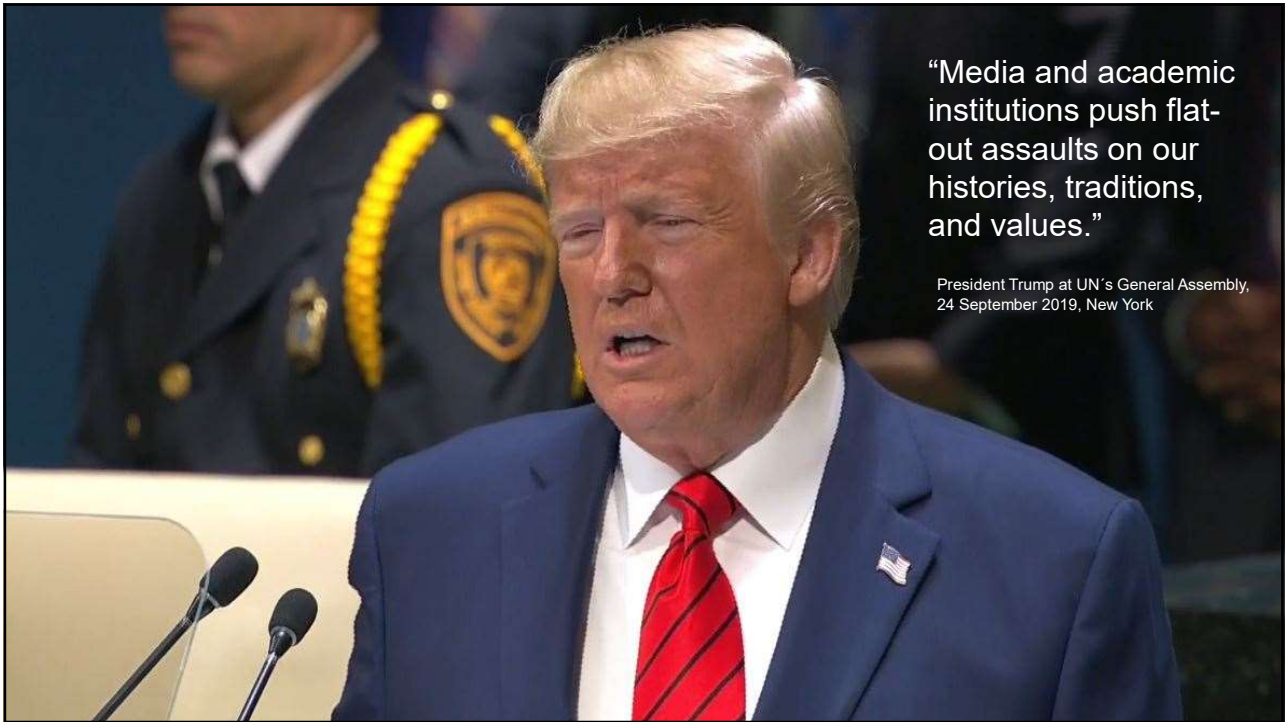
Coal power
2029

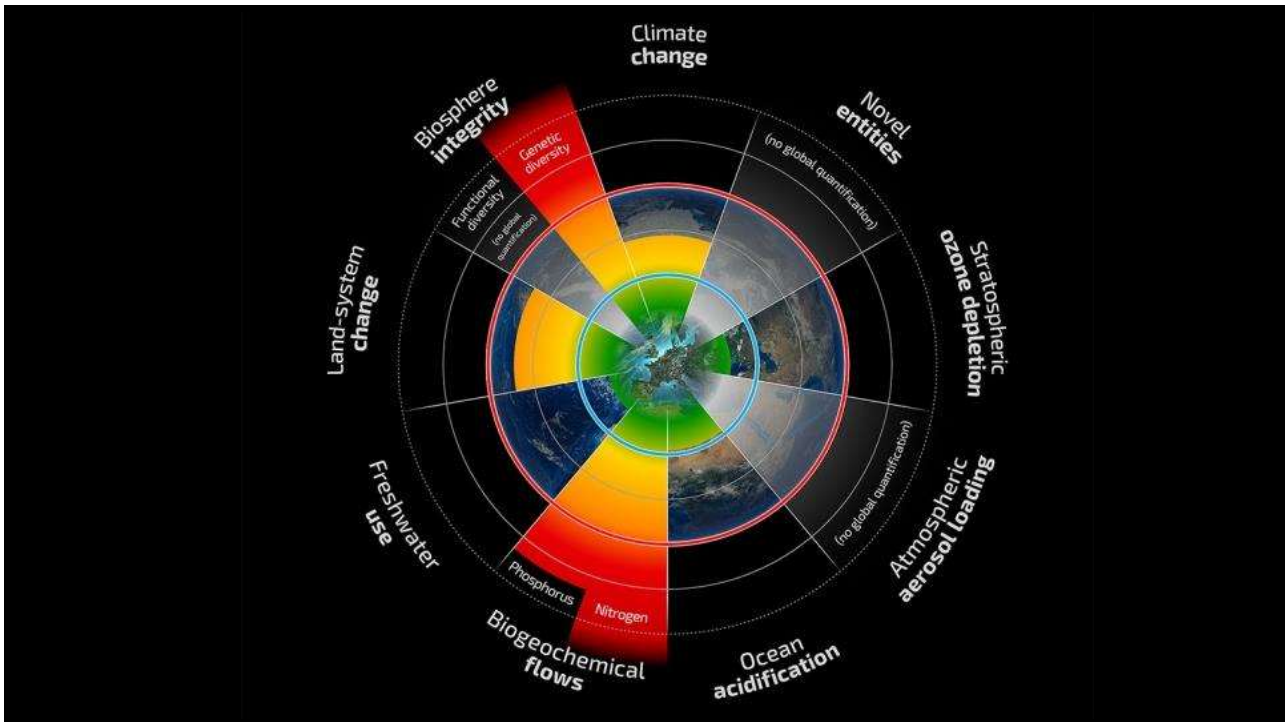


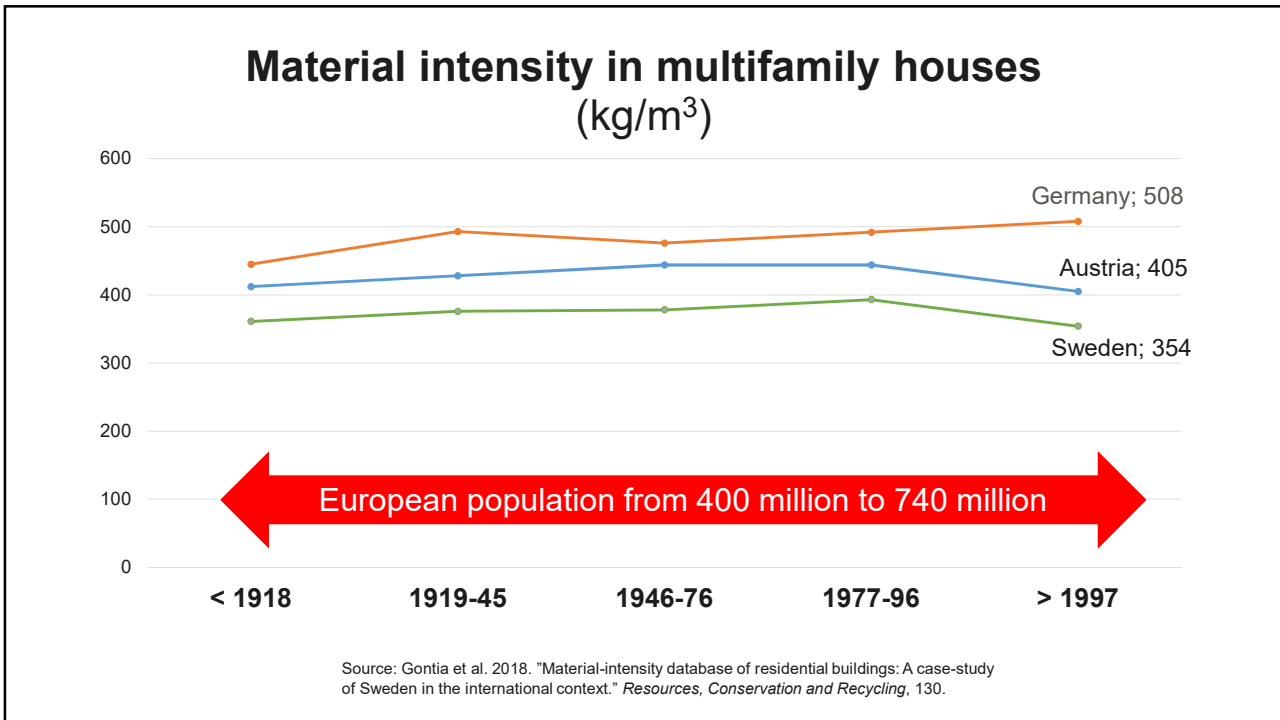
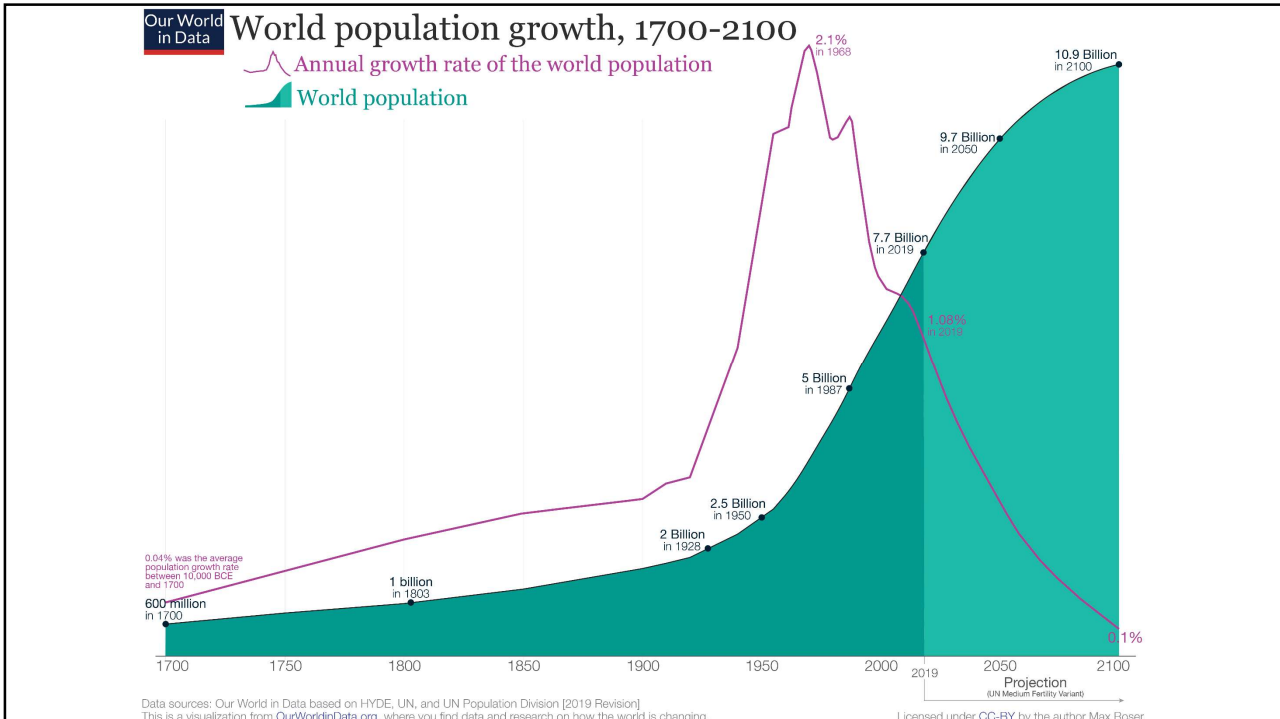
Construction materials?
202?

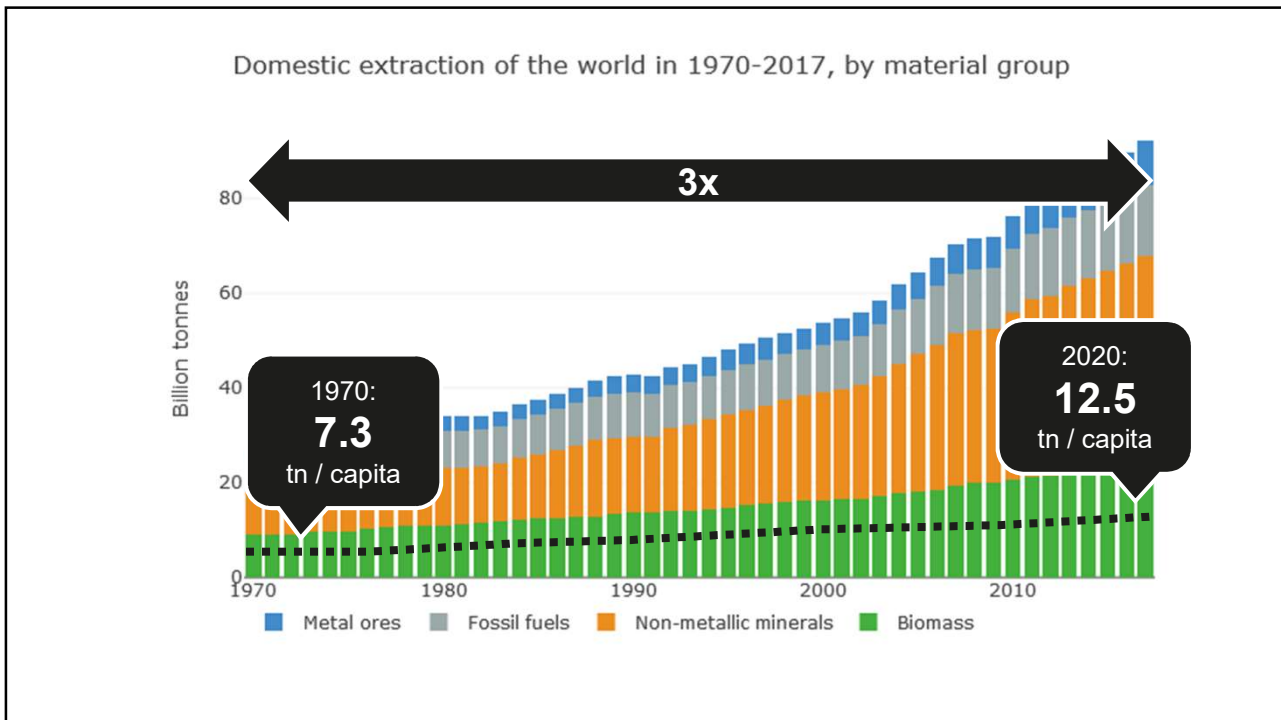


New construction?
20??









Commercial acquisitions of land 2000 – 2011: 203 million hectares

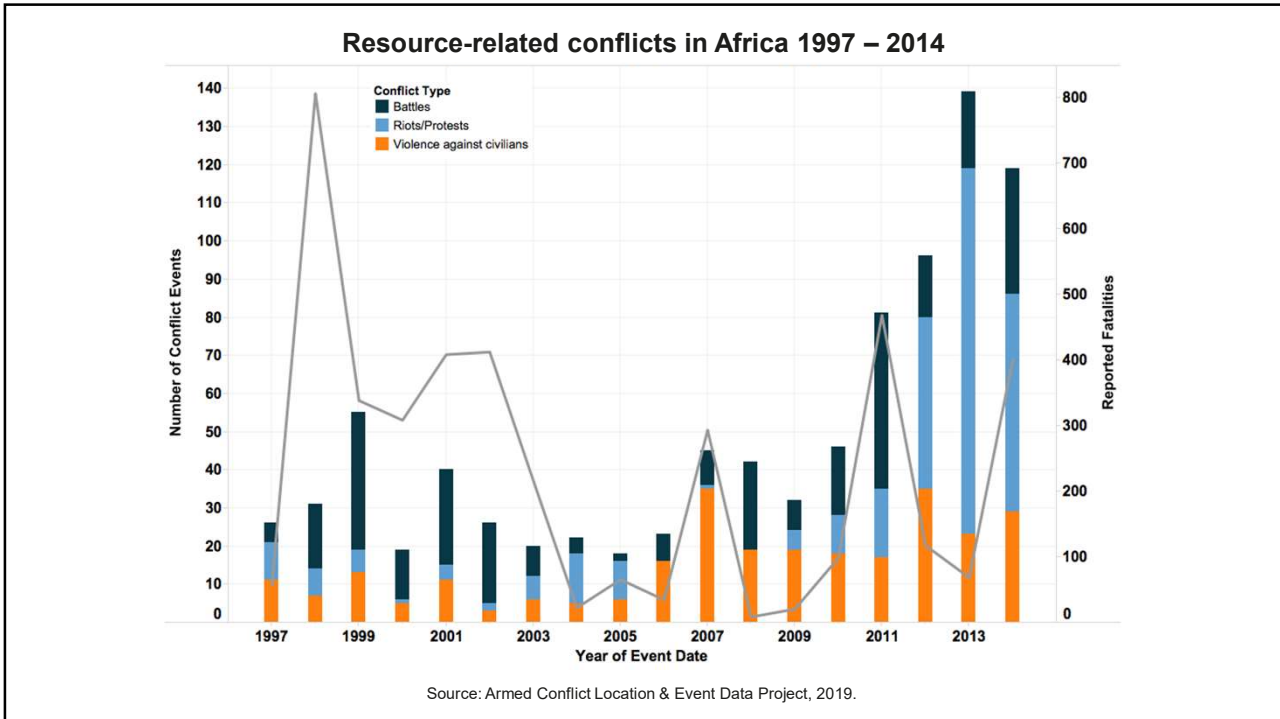
- Food
- Biofuels
- Raw materials
- Minerals
- Timber
- Tourism
- **Carbon offsetting**

Source: Anseeuw, W., L. Alden Wily, L. Cotula, and M. Taylor. 2012. "Land Rights and the Rush for Land: Findings of the Global Commercial Pressures on Land Research Project". ILC, Rome.

1.3 million hectares

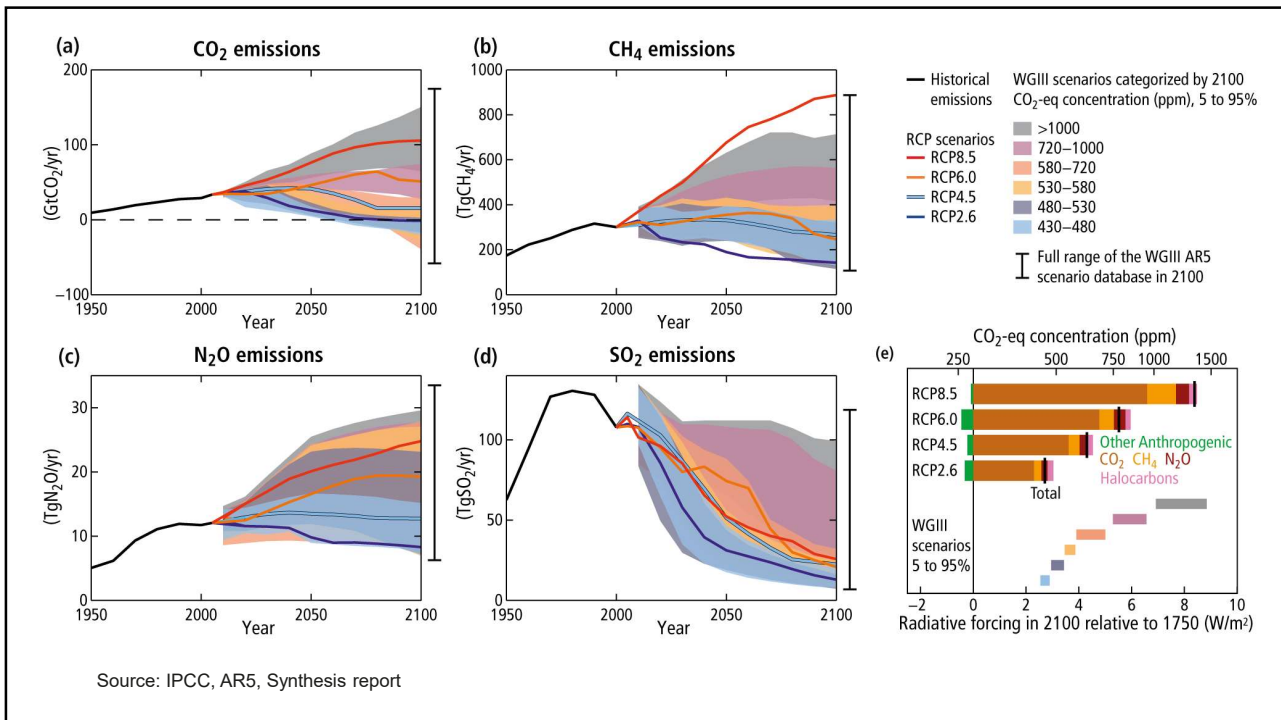
The map of Madagascar shows a red dashed line running horizontally across the island, indicating a specific area of interest. The DAEWOO logo is positioned to the right of the map. The map includes various geographical labels such as 'ANTANANARIVO' and 'MORONDAVA'.

Source: Vinciguerra, 2013: How the Daewoo Attempted Land Acquisition Contributed to Madagascar's Political Crisis in 2009.





**New Enlightenment
or
failure?
...or just another
false alarm?**



Daily Redlands Facts

REDLANDS, CALIFORNIA, TUESDAY, OCTOBER 6, 1970

Dr. Ehrlich, outspoken ecologist, to speak

“Giving aspirins to cancer victims” is what Dr. Paul R. Ehrlich thinks of current proposals for pollution control. No real action has been taken to save the environment, he maintains.

And it does need saving. Ehrlich predicts that:
 The oceans will be as dead as Lake Erie in less than a decade.

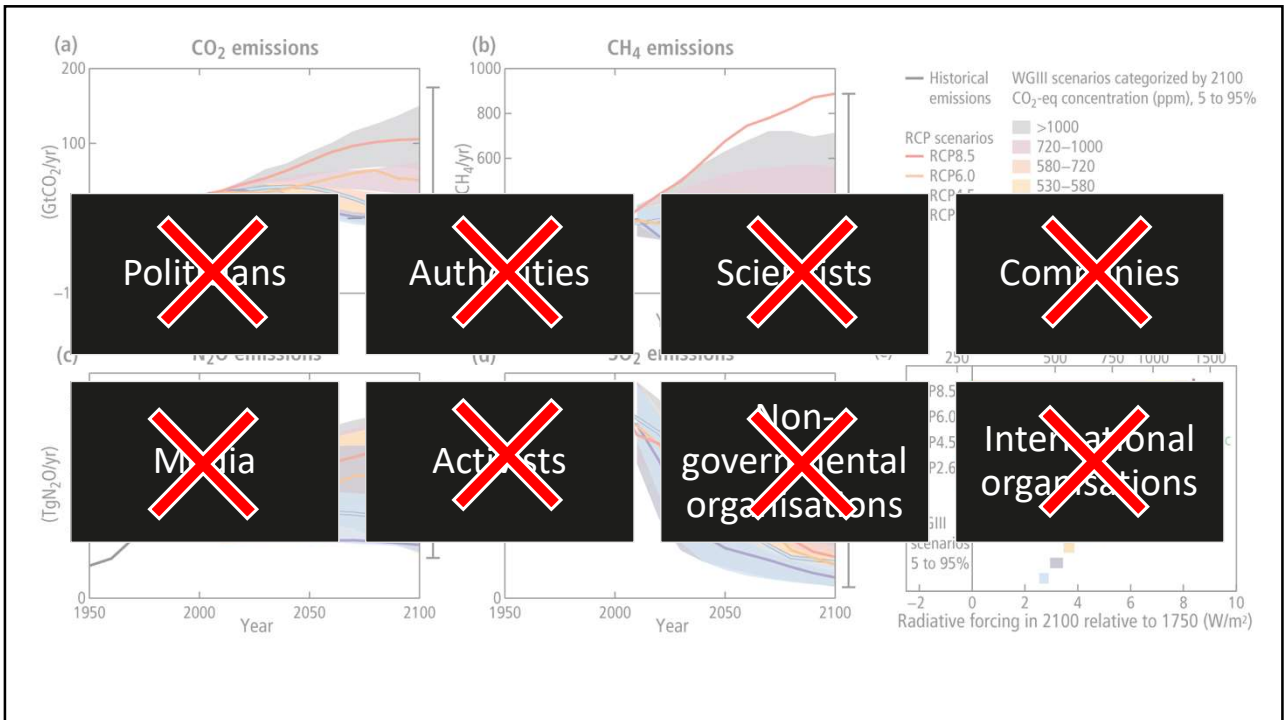
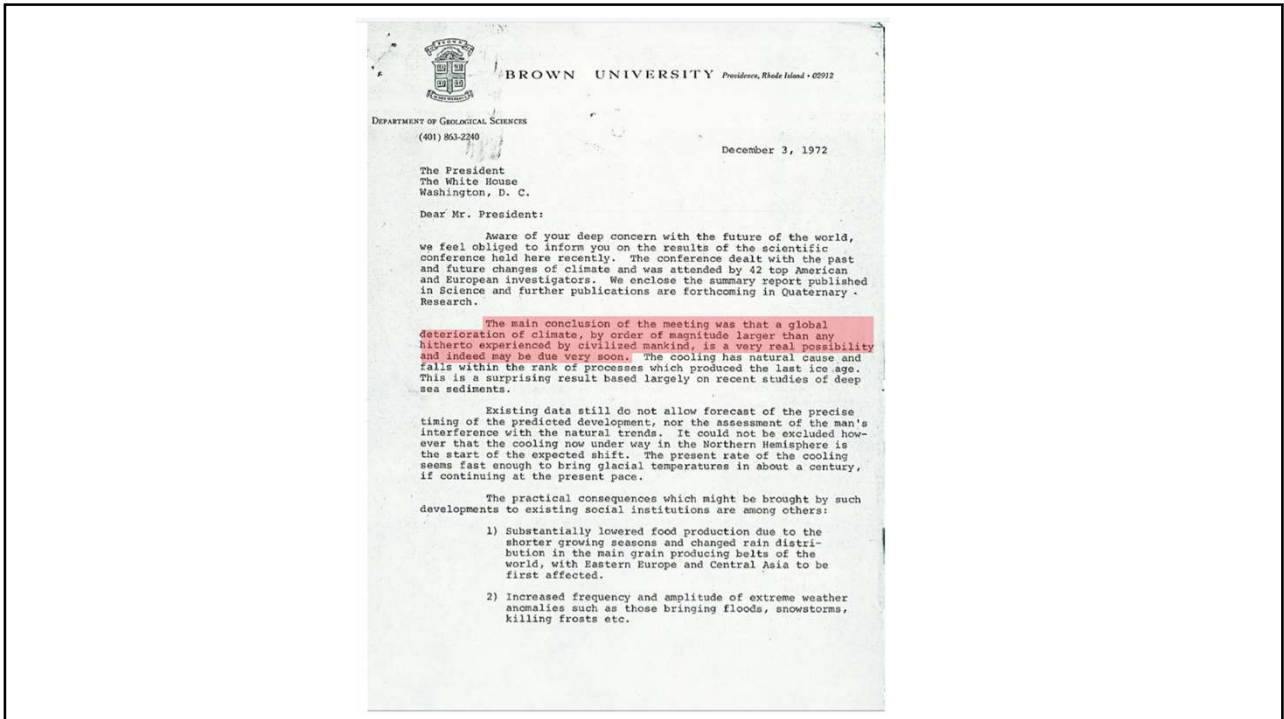
The DDT in our fatty tissues has reached levels high enough to cause brain damage and cirrhosis of the liver.


America will be subject to water rationing by 1974 and food rationing by 1980.

University of California Extension, Riverside and World Affairs Council of Inland Southern California will present the outspoken author of “The Population Bomb” and the hero of the ecology movement tomorrow at 8 p.m. He will speak in the gymnasium on the UCR campus.



DR. PAUL EHRLICH





Construction

- Normative development partially shelved or re-evaluated
- Parts of existing norms removed
- Production costs would change, as emission trading scheme would be removed
- Refocus at labour costs and material prices

