

°CICERO

# Bærekraftig samfunns- og næringsliv

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# Ekstremnedbør vil øke!



Vårflom i  
Gudbrandsdalen



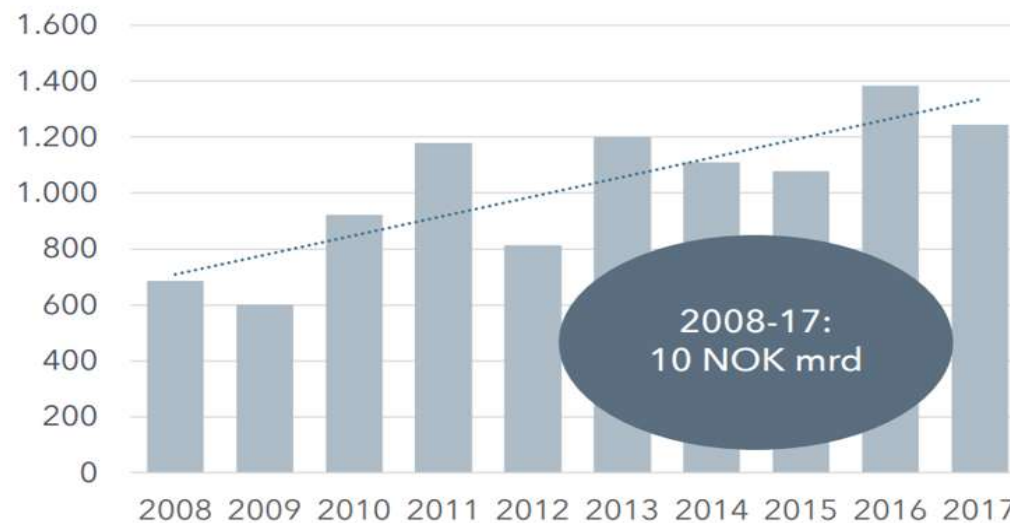
Kraftig intens  
sommernedbør i sør-  
Norge



Flom høsten 2015 og  
2017 i de sørligste  
fylkene

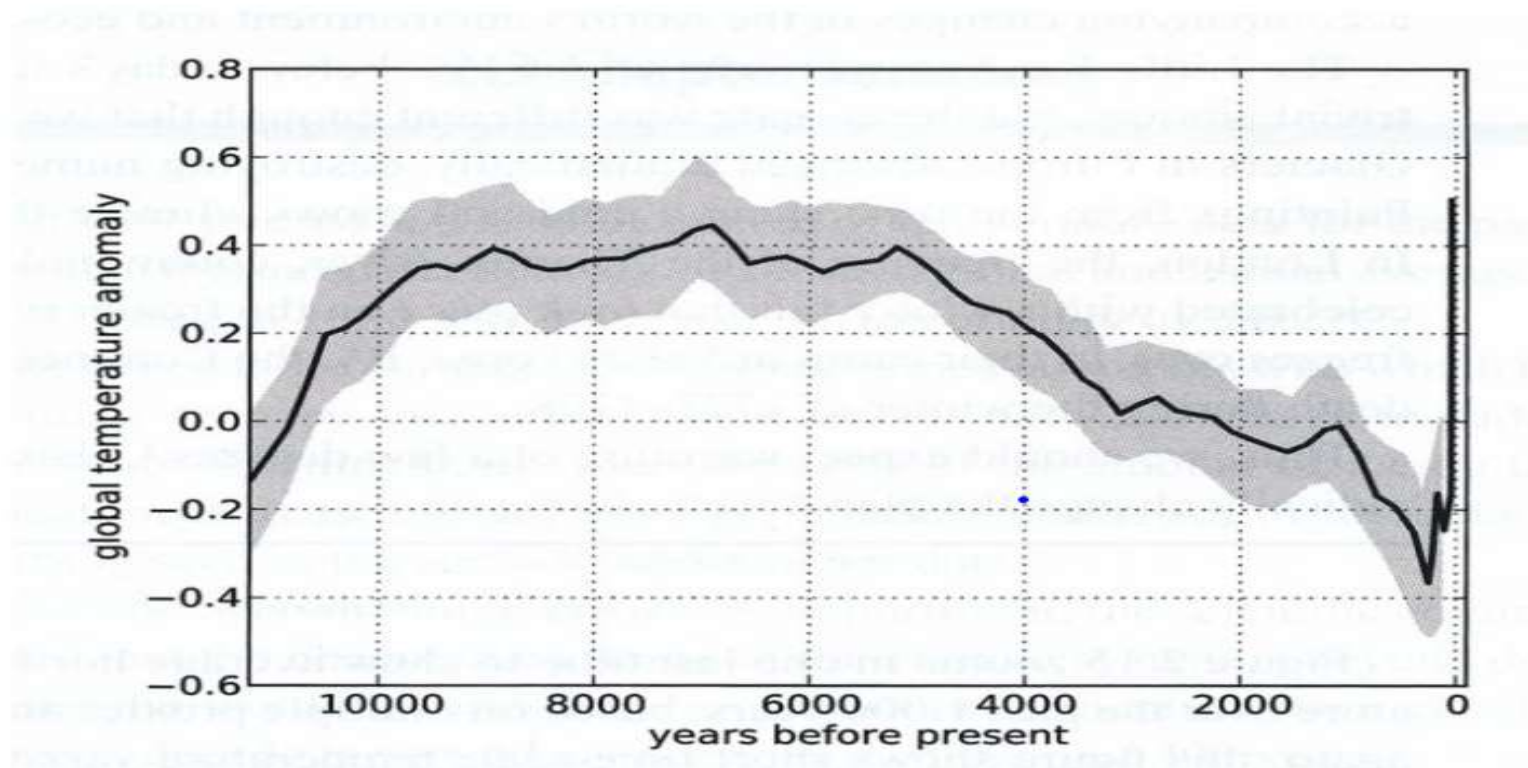
# Direkte klimakostnader doblet på 10 år

Erstatninger knyttet til overflatevann 2008-2017  
NOK millioner



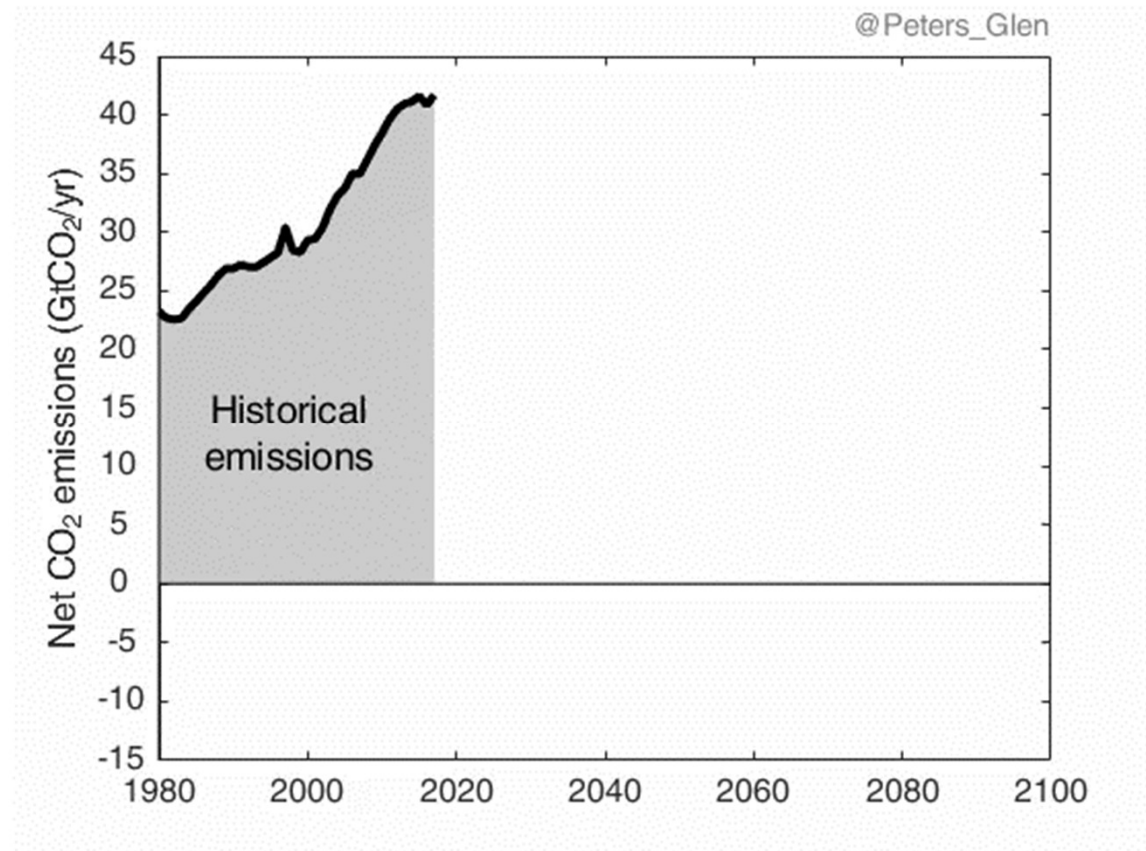
Kilde: Finans Norge, Veikart for grønn konkurransekraft i finansnæringen

# Globale temperaturøkninger etter siste istid – 11.700 år siden



# For å unngå 2 graders global oppvarming må.....

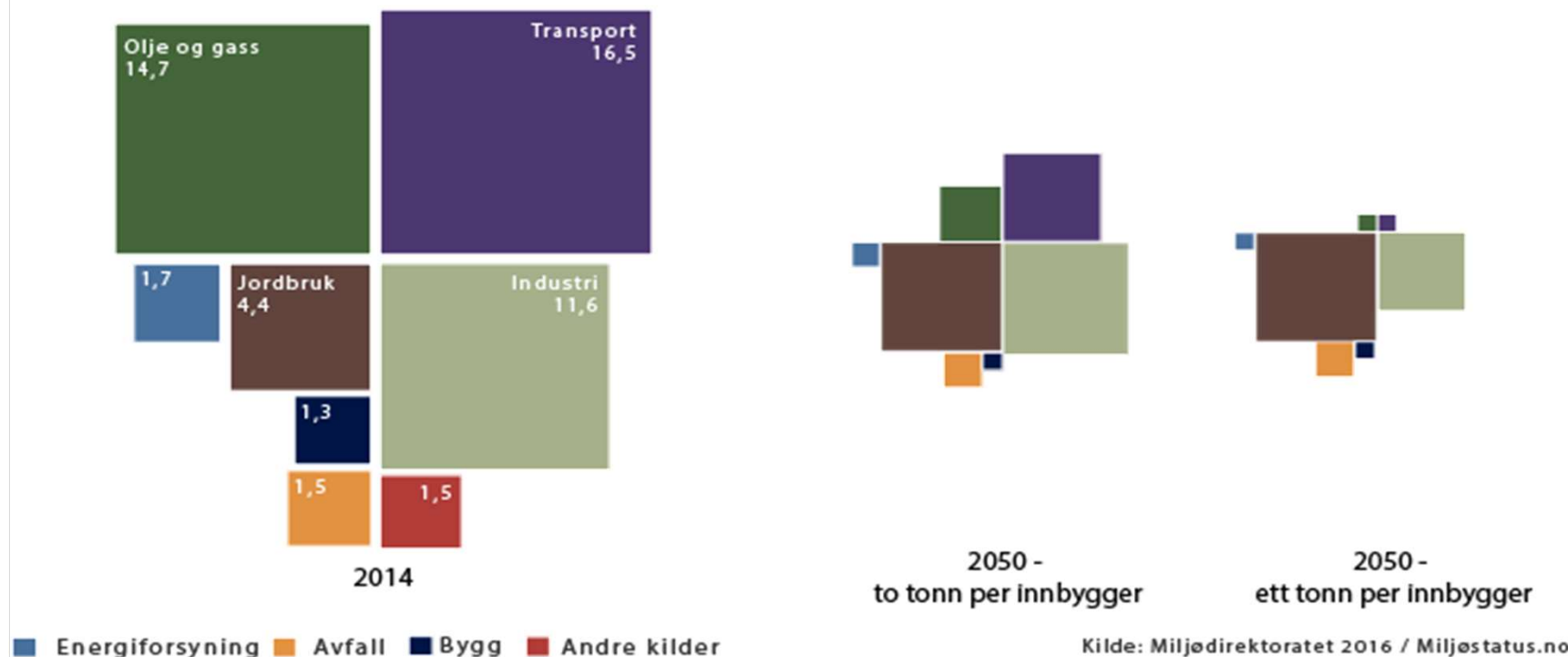
....utslippene bli  
tilnærmet null i løpet av  
noen ti-år – og vi må ha  
omfattende fangst og  
lagring av CO<sub>2</sub>



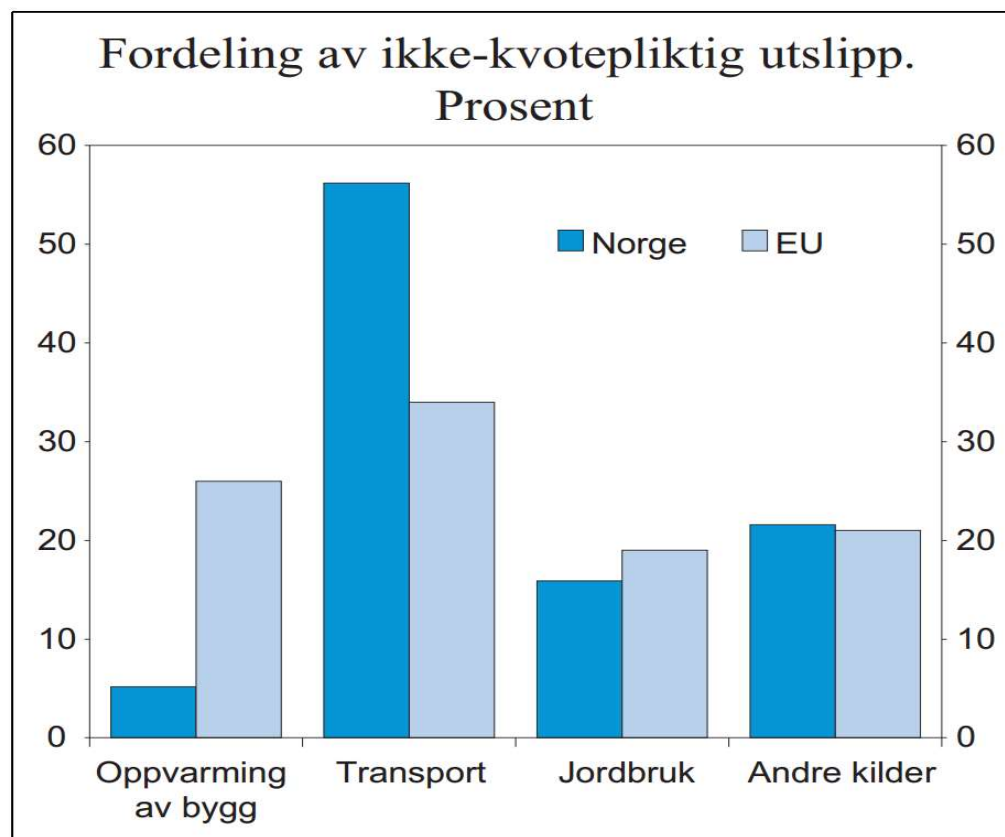


# Klimagassutslipp i Norge

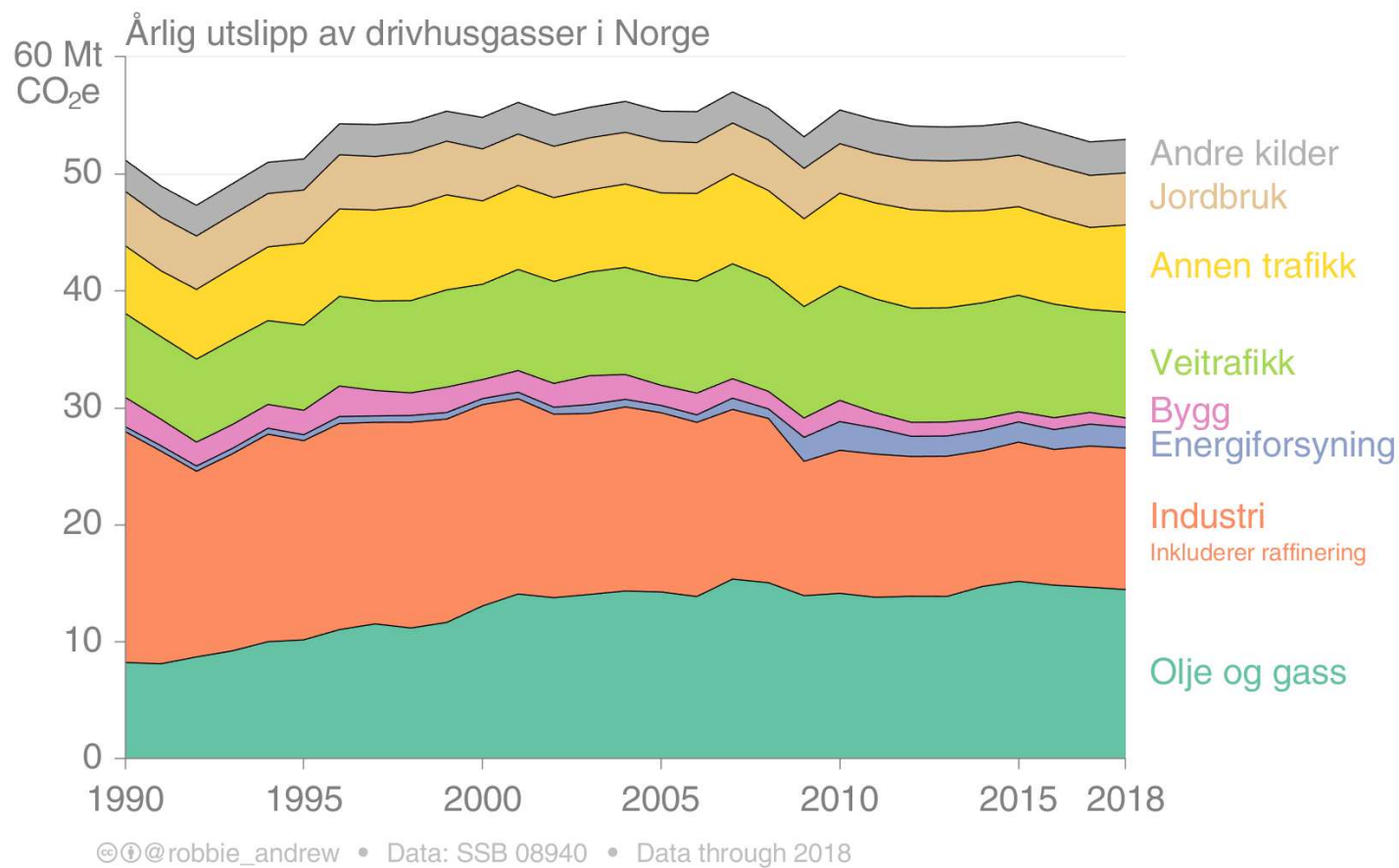
KLIMAGASSUTSLIPP I NORGE - LAVUTSLIPPSSAMFUNNET  
Utslipp til luft (millioner tonn CO<sub>2</sub>-ekvivalenter)



# Norske ikke-kvotepliktige utslipp



# Oversikt





# Industri 1: metallproduksjon

- Andre metaller
  - Ingen primærproduksjon av Magnesium fra 2002
- Aluminium
  - PFKer nesten til null
  - Men også CO<sub>2</sub>

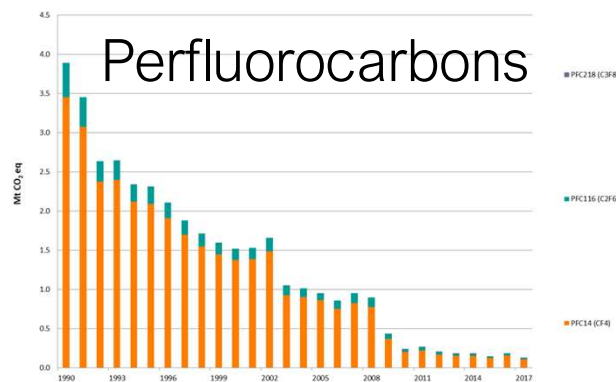
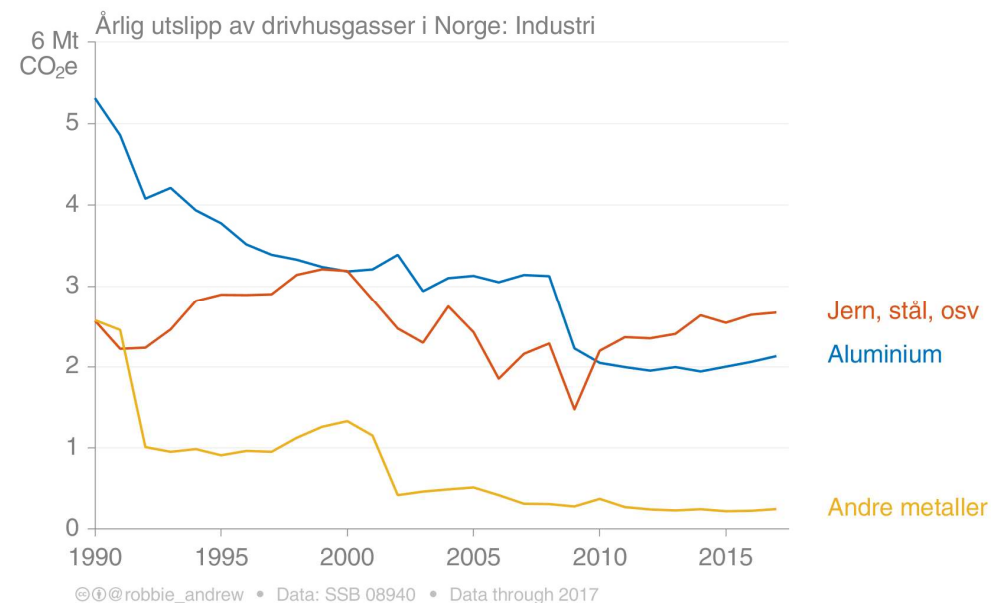
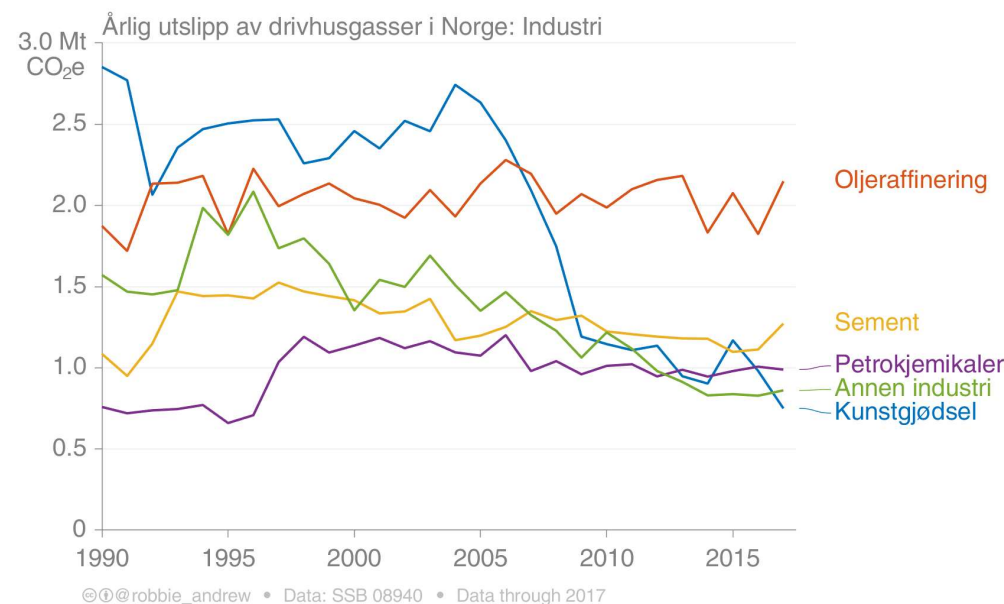
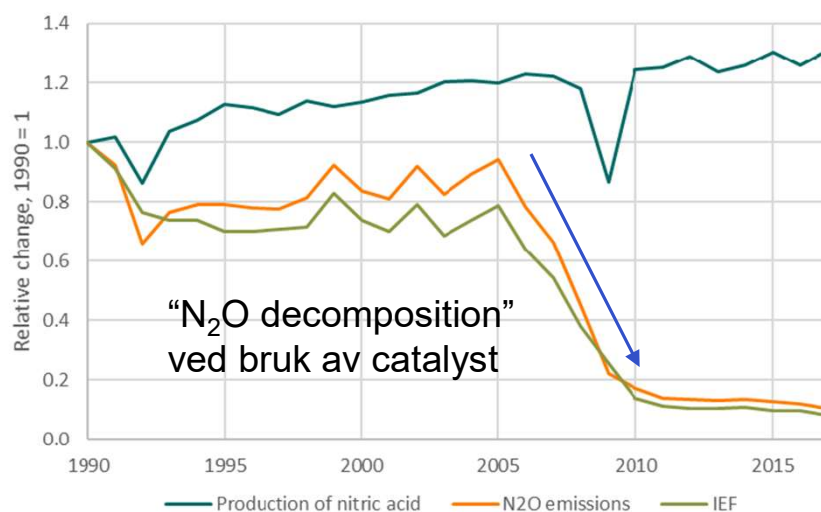


Figure 2.21. Emissions (million tonnes CO<sub>2</sub>-eq) of PFCs in Norway, 1990-2017.  
Source: Statistics Norway/Norwegian Environment Agency



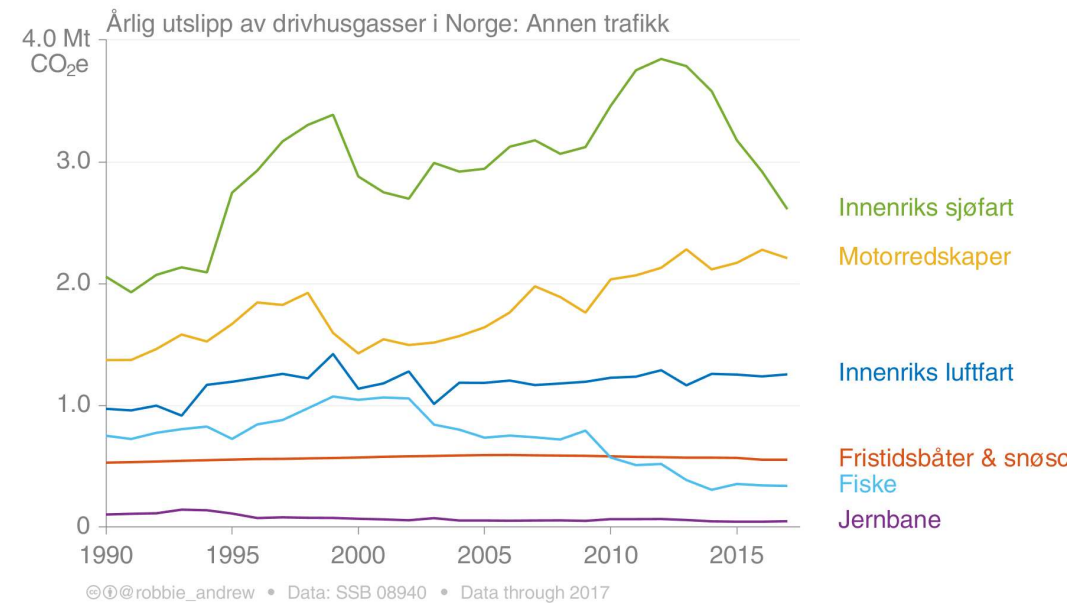
## Industri 2: andre fabrikker

- Kunstgjødsel produksjon
- Både CO<sub>2</sub> og N<sub>2</sub>O som biprodukter
- Kraftig reduksjoner i N<sub>2</sub>O utslipp

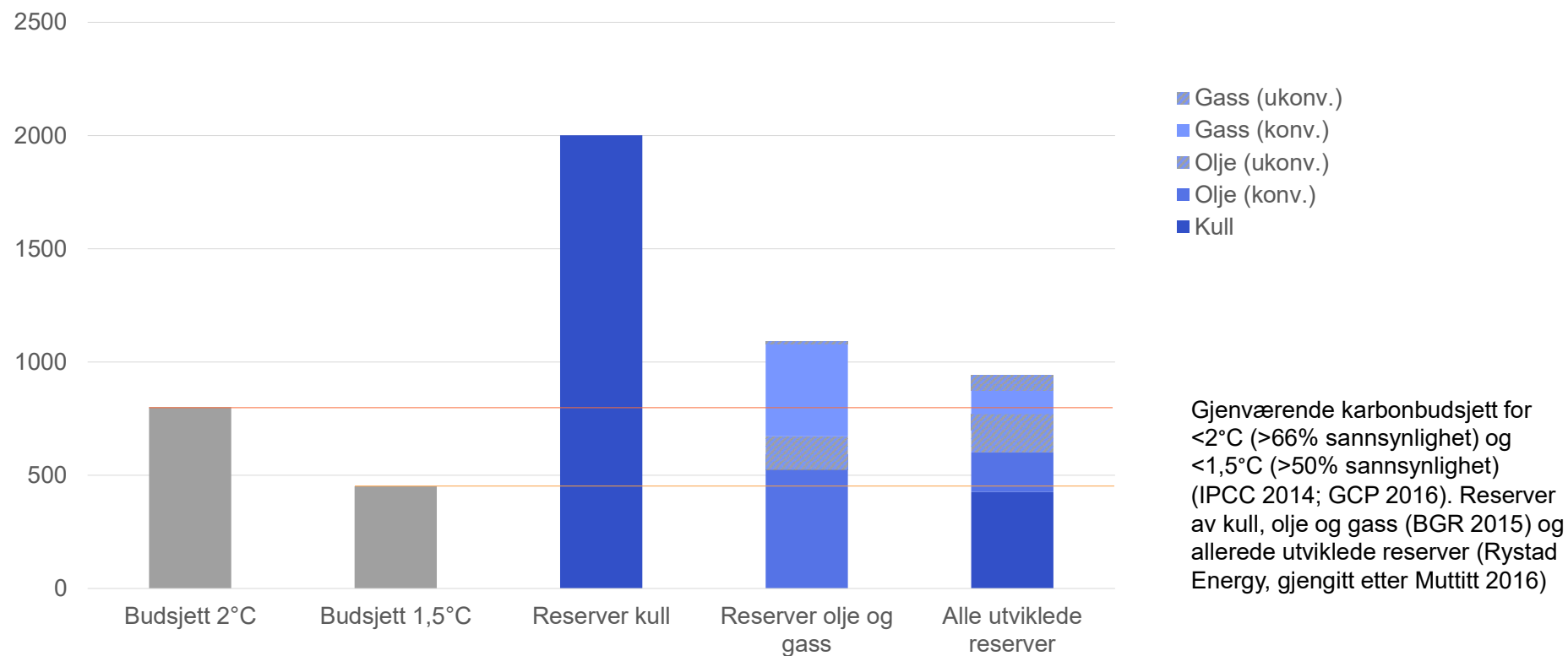


# Transport – utenom veitransport

- Sjøfart
  - Olje & gass industri
  - Ferger, Hurtigruten, Cruiseskip
- Motorredskaper
- Traktorer, Anleggsmaskiner, osv



# Vi har funnet for mye kull, olje og gass



# CICERO Green Rating on Climate Risk

## CICERO Shades of Green

## Examples



**Dark green** is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.



Wind energy projects with a strong governance structure that integrates environmental concerns



**Medium green** is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.



Bridging technologies such as plug-in hybrid buses



**Light green** is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.



Efficiency investments for fossil fuel technologies where clean alternatives are not available



**Brown** is allocated to projects and solutions that are in opposition to the long-term vision of a low carbon and climate resilient future.



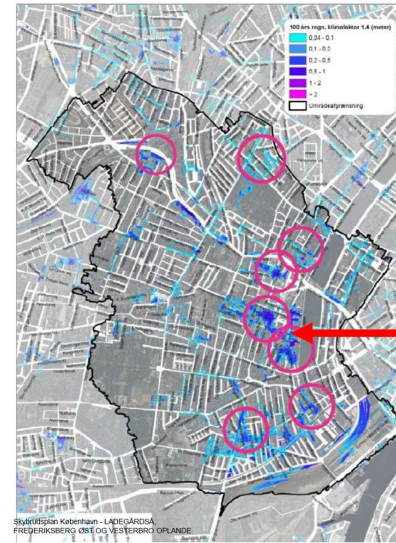
New infrastructure for coal



# Hva er et grønt bygg?

- Innfri minimumstandard – TEK 17
- Frivillig sertifisering – BREEAM, LEED
- Plusshus – leverer strøm til net
- Ikke utsatt for flom/klimaskade
- Gjenbruk av materialer
- Valg av nye materialer
- Utslippsfri anleggs plass
- Gode transportløsninger for brukere
- *Konkurranse om de grønneste løsningene*

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Svend Træsteds vej,  
København



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Green



# Hva er et grønt skip?



- Hydrogen
- Biodrivstoff
- Elektrifisert - batterier
- LNG
- Scrubber
- Skipsdesign
- Hva er skipet lastet med
- *Konkurranse om de grønneste løsningene*



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