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NorSink
Norway's carbon sink
under climate change

The Research Council of Norway

LULUCF: Land Use, Land-Use Change, & Forestry

Klimaregnskap i arealbrukssektoren

'Green Carbon'

EYE-CLIMA

PathFinder

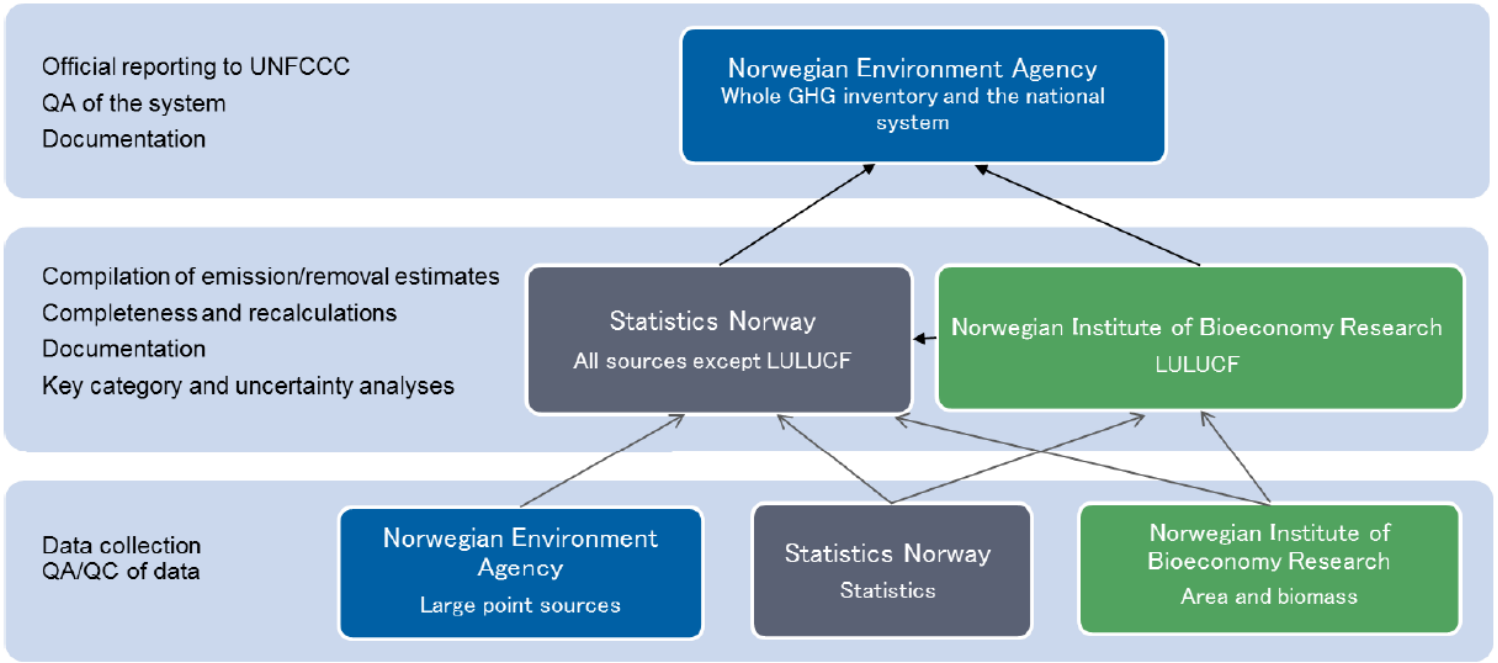
Glen Peters (CICERO)

Arealforvaltning i natur- og klimapolitikken

26 March 2025; Kulturhuset, Oslo

National Greenhouse Gas Inventories (NGHGI)

- Developed countries (Annex I) **report** NGHGIs to the UNFCCC
  - Reports on *anthropogenic* sources and sinks of GHGs
  - New annual submission updates all data points back to 1990 (~15 April)
  - National Inventory Report (>650pages), Common Reporting Tables (CRT)



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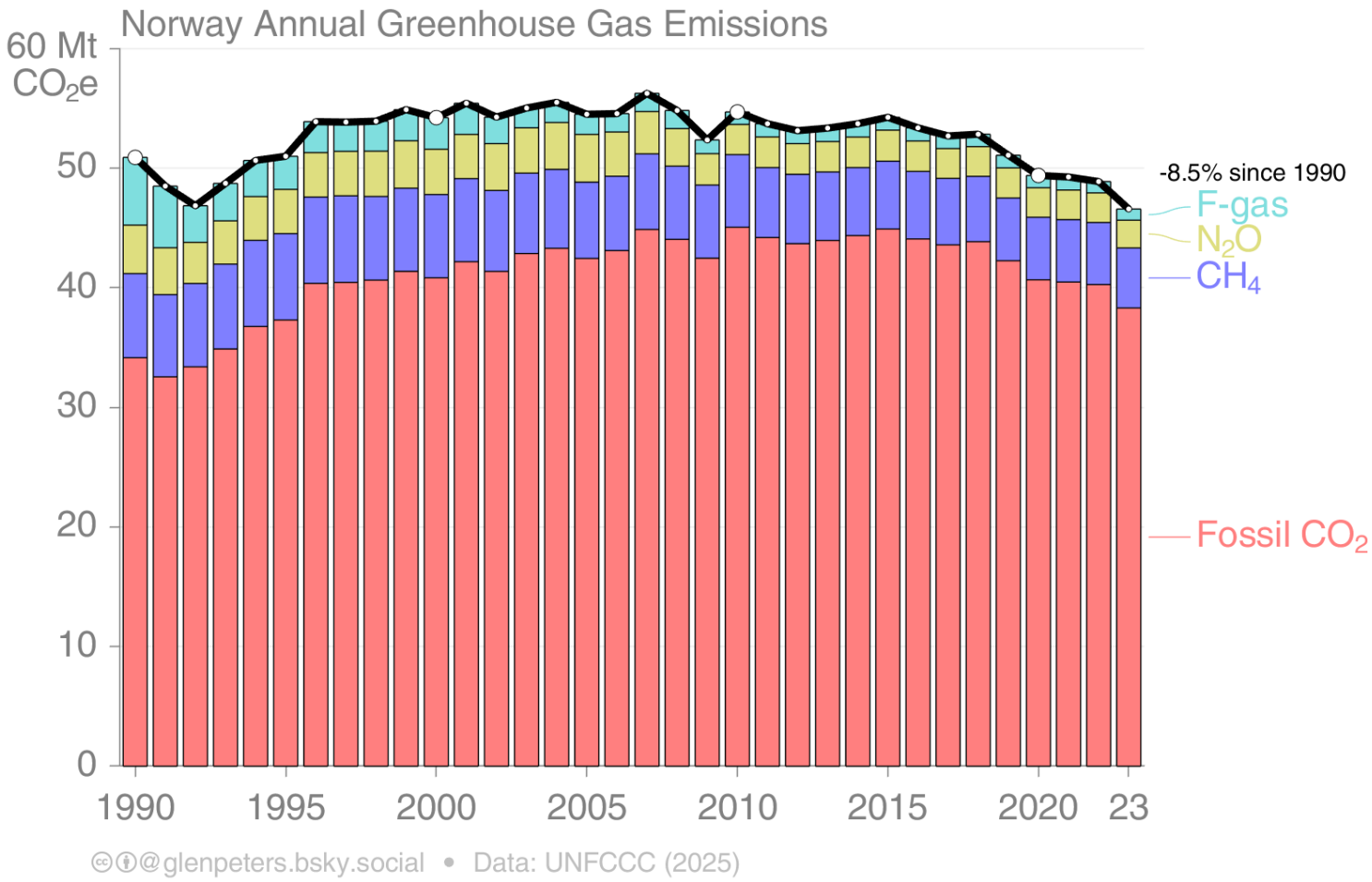
- A climate target may **account** for a part of the reported emissions!
  - The Kyoto Protocol had complex *accounting rules* (Marrakech Accords)
  - Norway's climate targets have generally accounted for *emissions* only

Norway's climate targets are based on emissions*

Norway's climate target has been based on emissions (excluding removals from LULUCF*).
GHG emissions have declined 9% from 1990 to 2023.



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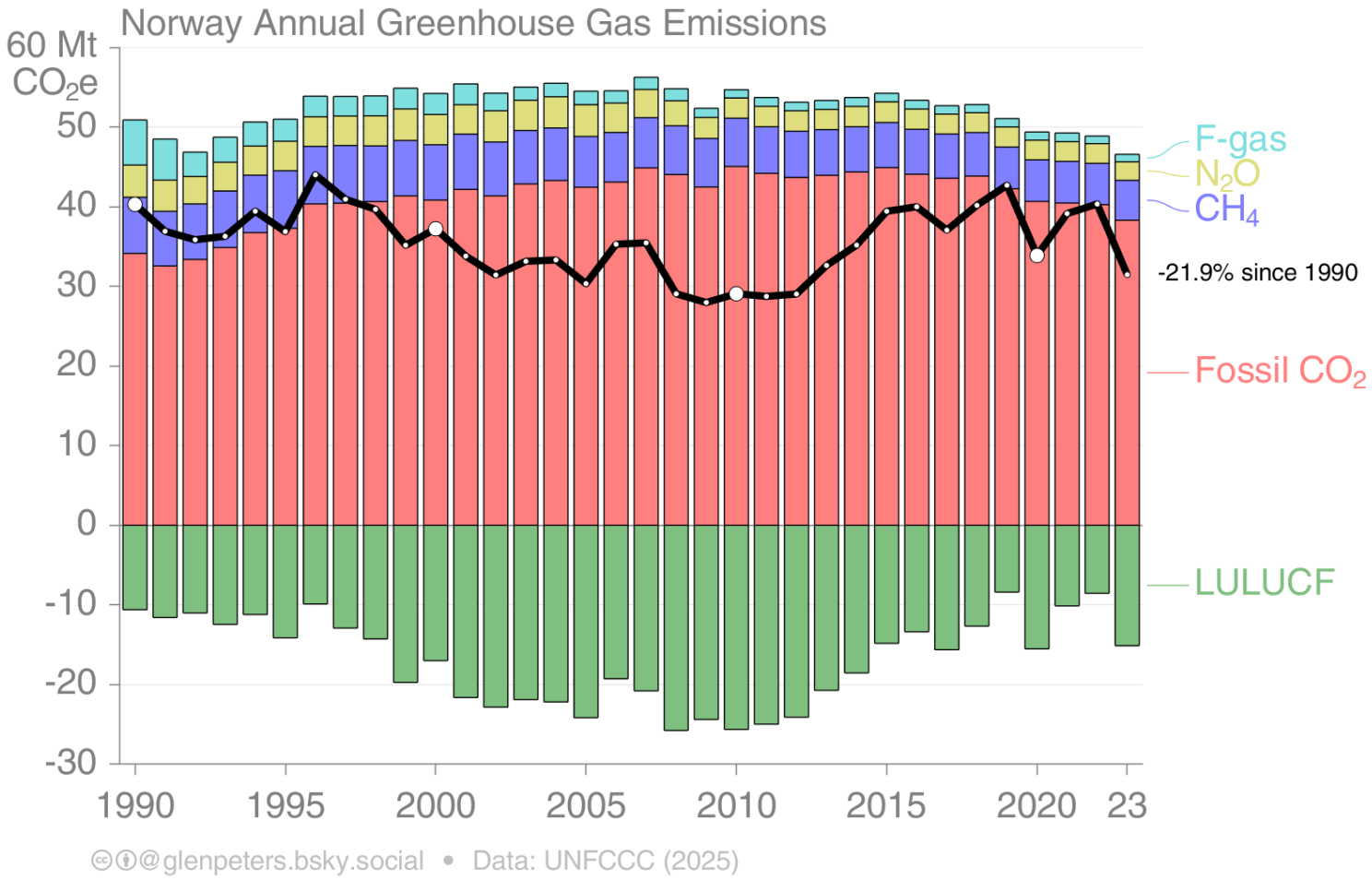
*Norway's NDC: "Emissions and removals from the LULUCF sector that are additional will be accounted for when assessing achievement of the target"

What if Norway's climate target included LULUCF

Including LULUCF reduces Norway's emissions and gives a larger net reduction of 22% from 1990 to 2023.
However, this varies a lot from year-to-year – the reduction was 10% from 1990 to 2023.



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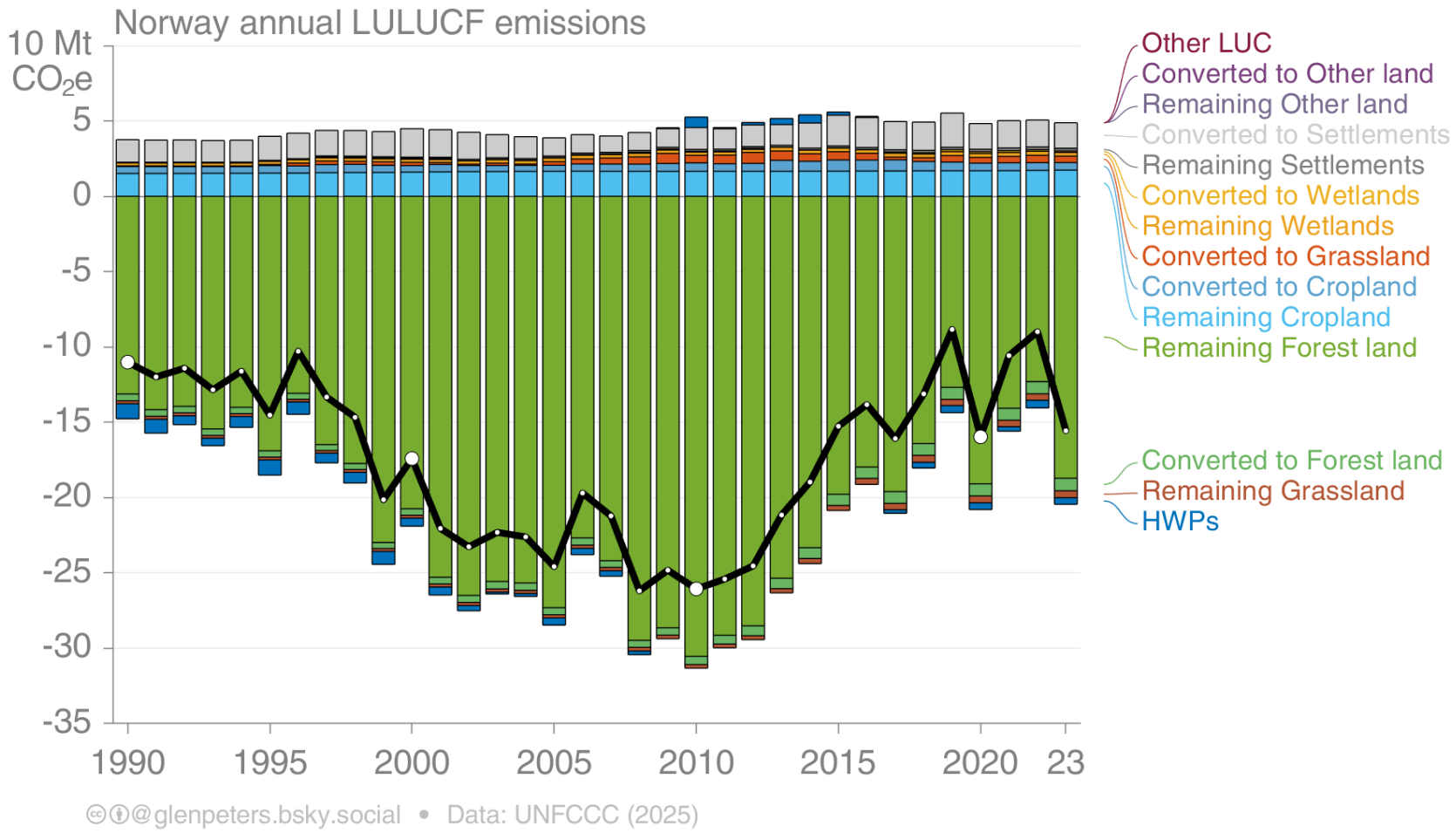
Source: UNFCCC, own estimates

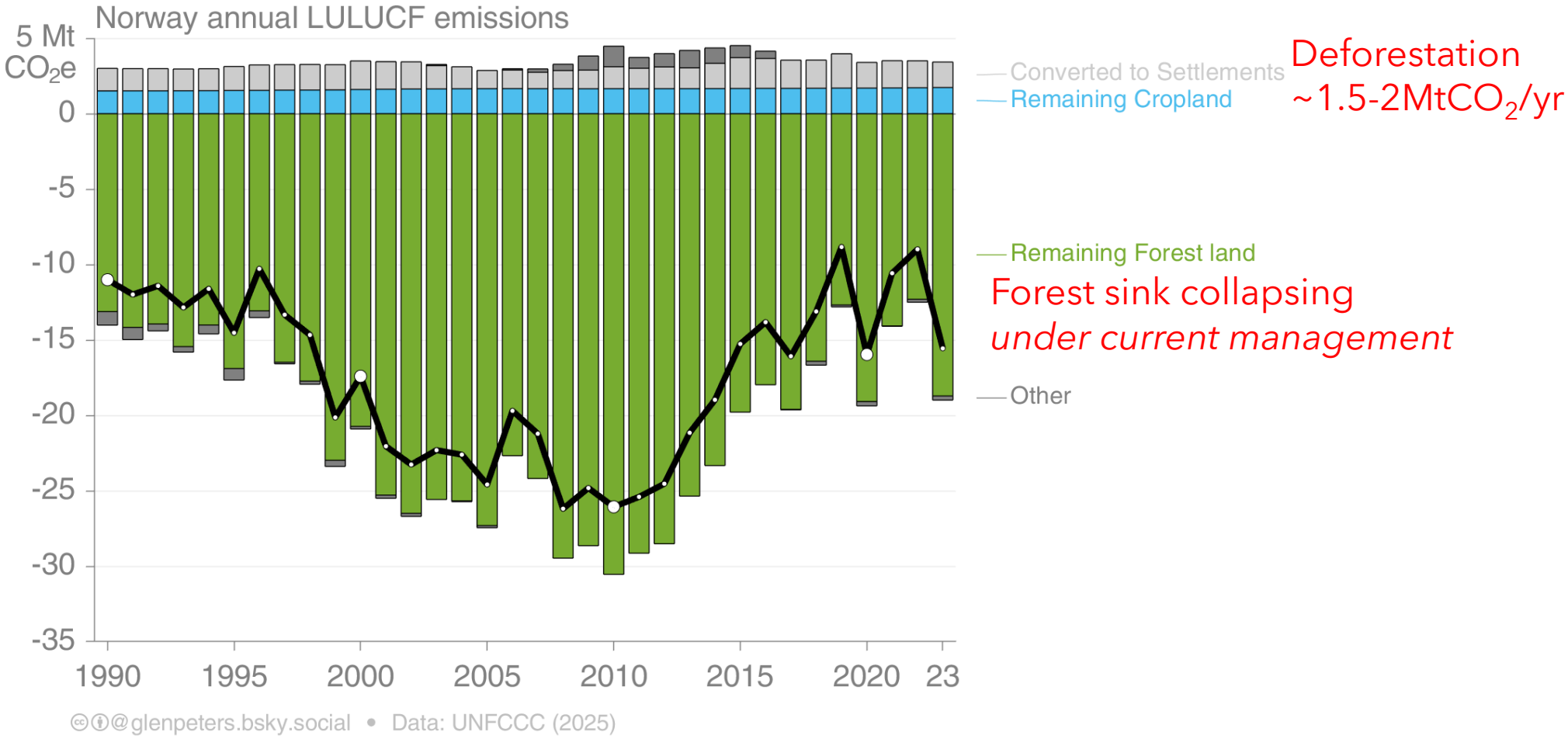
Close to 100% of land is defined as ‘managed’ & reported

GHG emissions are estimated on a variety of different types of land,
including the transitions between land types. Carbon uptake in forests is the dominant sink.



The Norwegian *forest* sink is weakening…

The Norwegian LULUCF sink (all CO_2 uptake on land) is unexpectedly weakening. But why?
Officially, a combination of weaker growth, increased harvest, increased mortality (e.g., bark beetles, drought, …)



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Key messages

- LULUCF can change quickly and is hard to predict
  - Carbon uptake in forests has declined ~15MtCO_2 in a decade (halved)
  - Deforestation persists at about 1.5MtCO_2 per year
- Important to ***report*** on all sources and sinks, but ***account*** only for direct human influence in climate targets
  - 'Net zero emissions' account strictly *direct human influence*
  - Growing consensus to keep separate targets for fossil fuels and LULUCF
- A sharper focus on LULUCF is required to ensure the sink is not lost under current management practices

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Thank you

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