



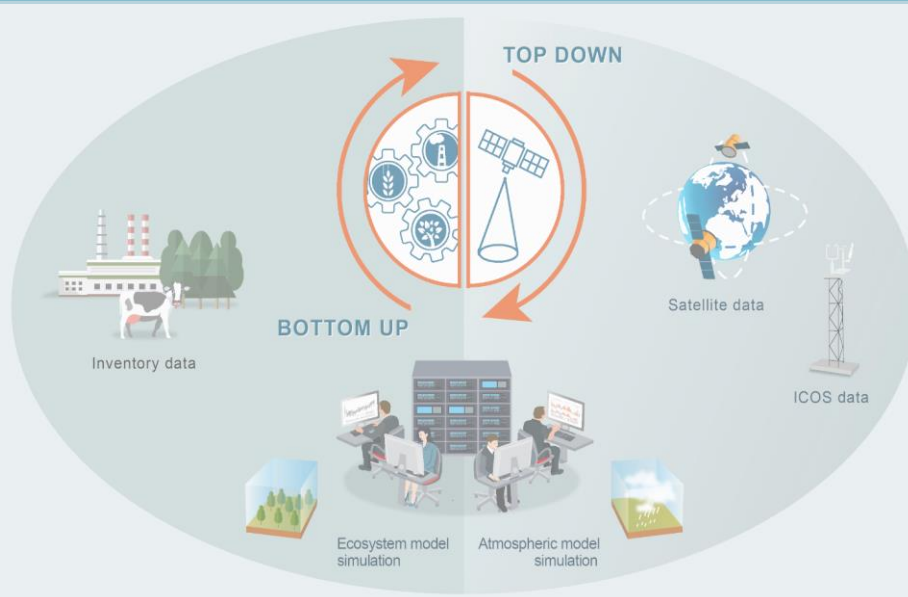
VERIFY General Assembly

Quo vadis ?

May 9th -11th, 2022

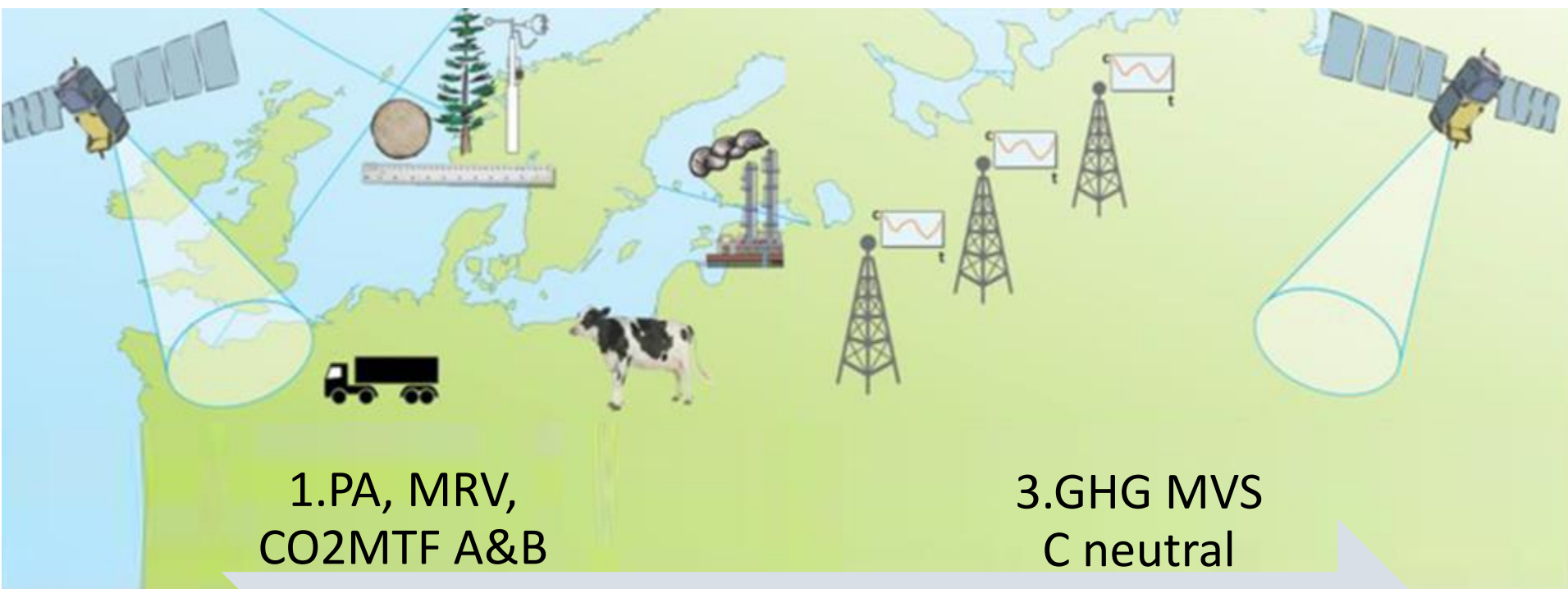
Paris, France

Teams: VERIFY consortium, CoCO2 consortium, CO2 MTF (with special thanks to LSCE, VUA and JRC colleagues)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 776810

CONTENT

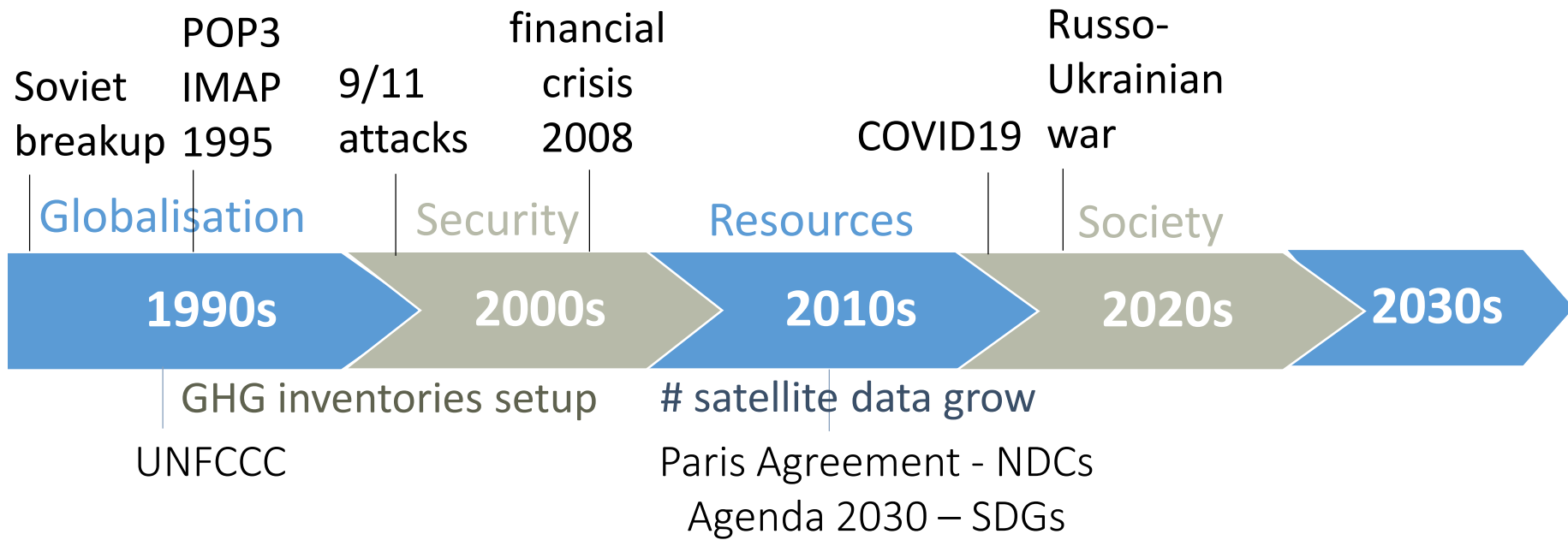


1.PA, MRV,
CO2MTF A&B

3.GHG MVS
C neutral

2.VERIFY, CHE,
LULUCF, FF55

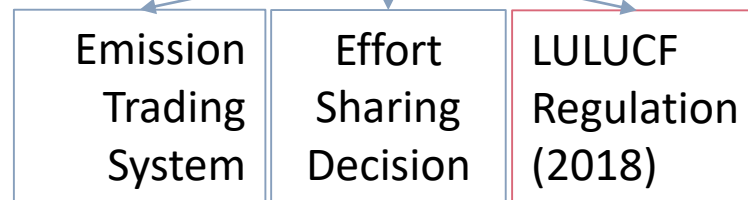
Where do we come from?



von der Leyen (COP25): “what gets measured, gets done.”

Carbon tax in
€/kg CO₂eq

Incentive
Per system



Energy Efficiency Directive (2012)

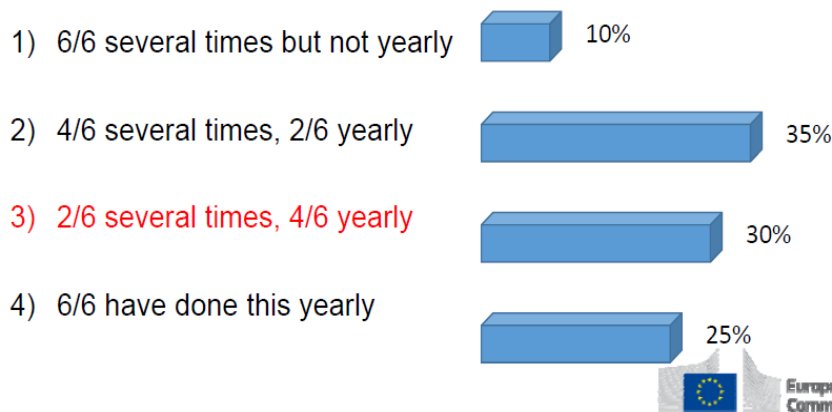
Renewable Energy Directive (2009) + revision 2018

Where do we come from?

December 2016 : questionnaire (compiled by CITEPA France, EPA Ireland, UBA Germany, ISPRAmbiente Italy, TNO/RIVM Netherlands, NEA/LU-Norway) – discussed with all on 9/12/16

A.2 Inventory updates ?

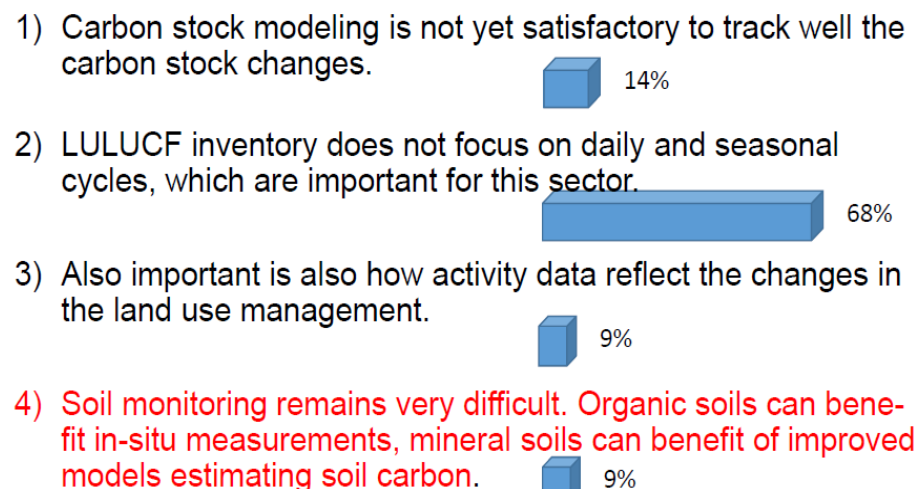
GHG inventories cover huge amount of activities with huge detail, which all need to be taken into account for an update. Over the years of reporting Annex I countries built up expertise and update processes are partially automated. How often are the complete timeseries updated over the full period 1990 – year x-2 (backwards in time)?



Scientists underestimate the update frequency

F. Land-use, Land-use Change and Forestry

What was NOT stated as challenge?



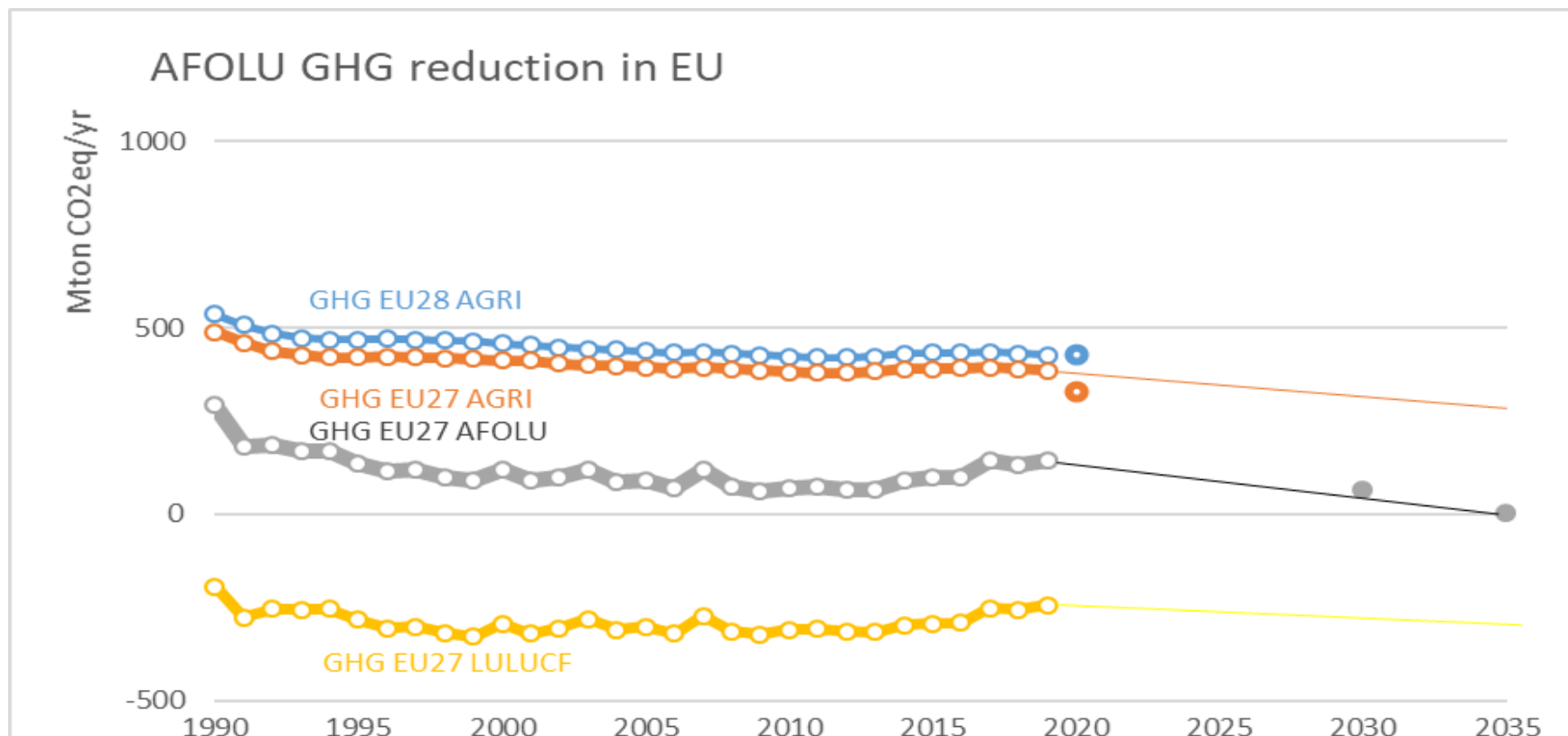
Compilers keep annual but holistic focus.

What did we achieve in EU policy making?

1. AFOLU C neutrality by 2035

Remark: No propagation of AFOLU uncertainty through all sectors.

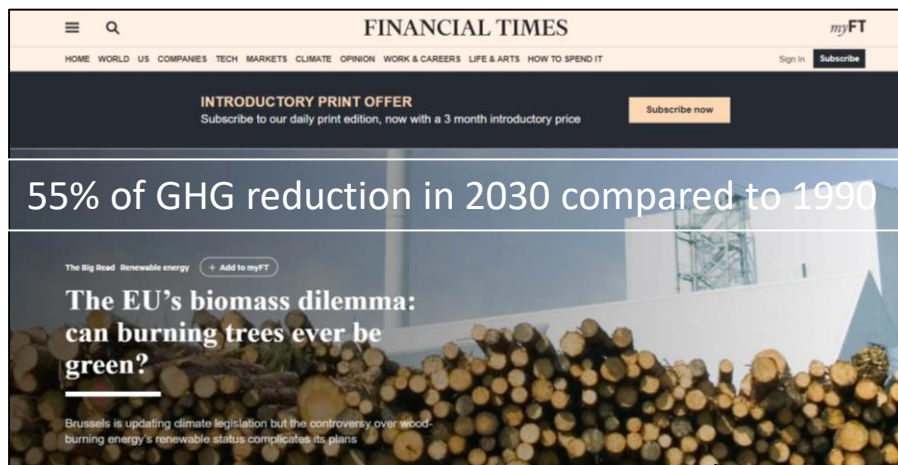
Remark: Monitoring zero AFOLU emissions = monitoring of the forest carbon sink and the agricultural CH₄ and N₂O emissions, incl. soil!



What did we achieve in EU policy making?

2. Revision of REDII

Remark: Trade offs for woody bioenergy



3. Deforestation-free products trade

Remark: Carbon leakage



European
Green Deal

Fit for 55
package

Nature
package

All EGD
proposals

12/'19

S1'20

S2'20

7/'21

11/'21

S1'22

S2'22

S1'23

4. Sustainable Carbon Cycles Communication

Brussels, 15.12.2021
COM(2021) 800 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Sustainable Carbon Cycles

{SWD(2021) 450 final} - {SWD(2021) 451 final}

Pillars:

Carbon farming

Land carbon and blue carbon, incl. soil (LUCAS) with CAP, cohesion, LIFE funding

Industrial capture, use and storage of carbon

With Direct Air Capture and Bioenergy CCS

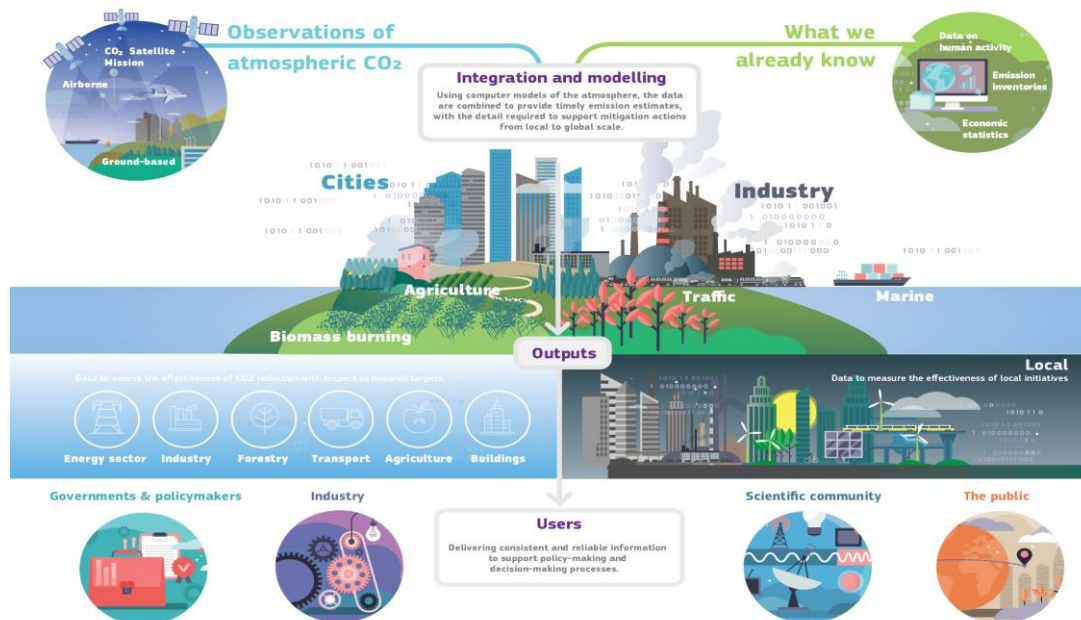
Regulatory framework for the certification of carbon removals

MRV of GHG removal from farms and forest + atmospheric CO₂ capture

What did we achieve in EU and beyond?

5. CO₂/GHG Monitoring and Verification Support Capacity

Under the
Copernicus
Atmospheric
Monitoring
Service
(R. Engelen)



→ whitehouse.gov/briefing-room/statements-releases/2022/01/31/fact-sheet-biden-administration-tackles-super-polluting-methane-emissions/

THE WHITE HOUSE



Advance Greenhouse Gas Monitoring and Measurement

The White House is announcing the formation of a Greenhouse Gas (GHG) Monitoring & Measurement Interagency Working Group to help

Presentation
of the CO₂M
Sentinel to US
White House
(Y. Meijer)

Balancing Regional Greenhouse Gas Budgets (978-0-12-814952-2).


<https://elsev.spi-global.com/books/EComp/POULTER978-0-12-814952-2/1/OTc4LTAtMTIt/index.php?Type=E>

Remaining research questions?

Active poll 13

slido

Join at
slido.com
#VERIFY



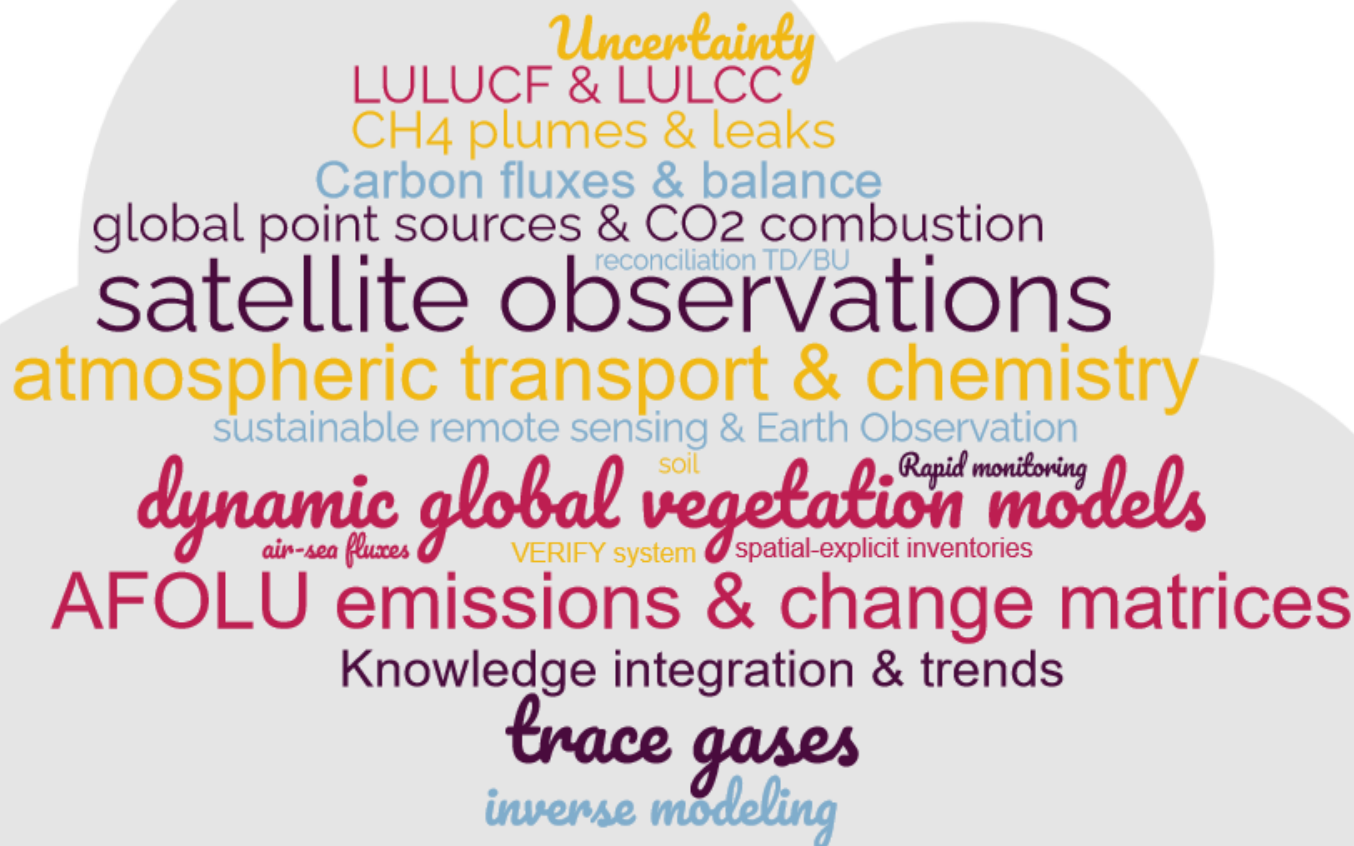
Which research topics do you anticipate?

- atmospheric growth rates
- Reconciliatio TD/BU
- global point sources
- Reactive trace gases
- geostationary obs
- multi-tracer constraints
- Sarellites
- ch4 leak detection
- soil
- trends
- more bathrooms
- LULUCF
- Remote sensing
- tracer release experiment
- Uncertainty reduction
- land use emissions
- Rapid monitoring
- atm transport of GHG's
- LULCC

- Green TransformationS: acceleration of renewables.
- Social action: what citizen can measure, they can do.



Suggestions for future research – survey (39 replies)



CONCLUSIONS

- Blueprint is getting shape but needs to remain flexible, to anticipate transformational changes ahead.
- Bridging of communities (IPCC TF Inventories, IPCC AR6 as well as climate policy makers) remain important.
- Not only the Earth System (with emissions, climate feedbacks,...) needs to be well understood but also the the human activities and social behaviour.



Thank you for your attention.



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