

TOP DOWN

BOTTOM UP

VERIFY 3RD NETWORKING MEETING



Icos station



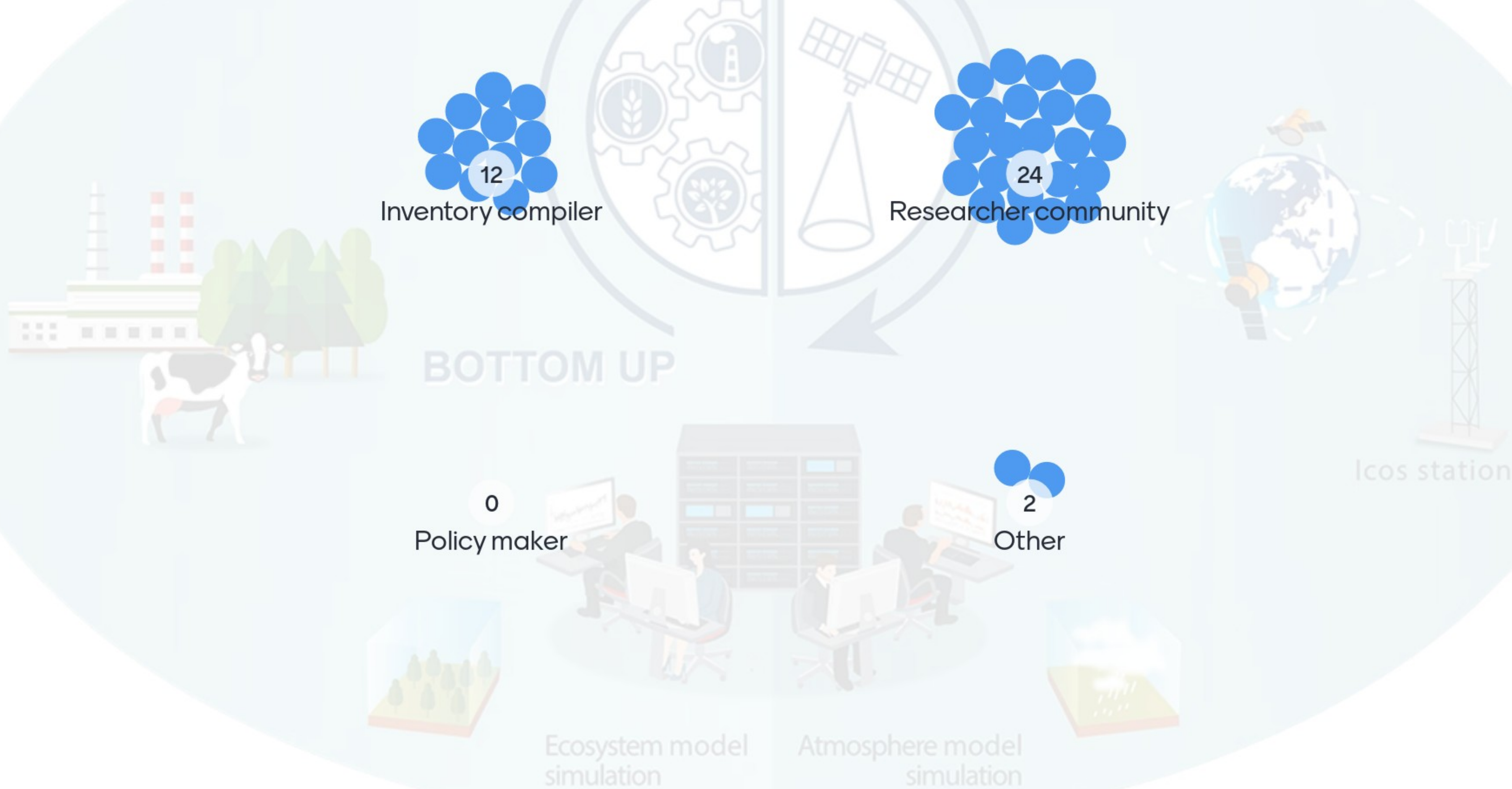
Ecosystem model simulation



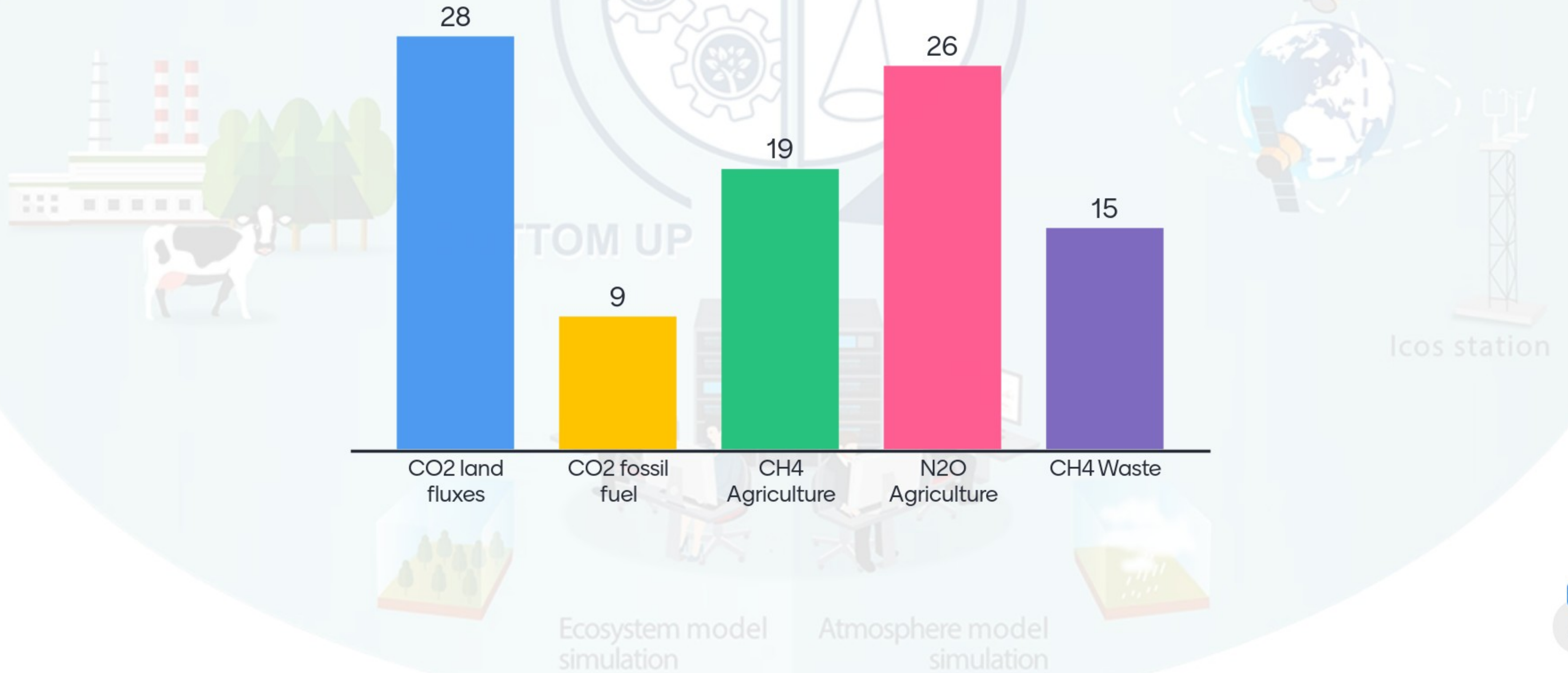
Atmosphere model simulation



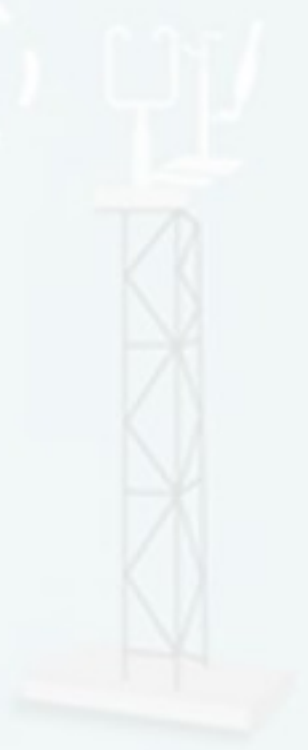
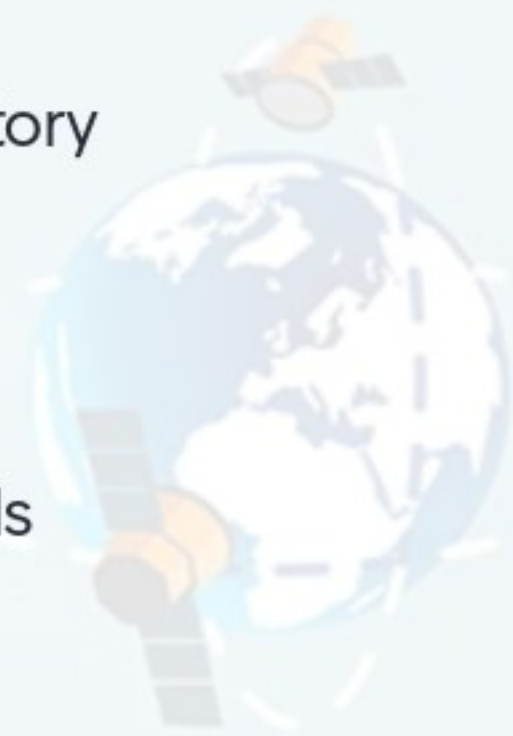
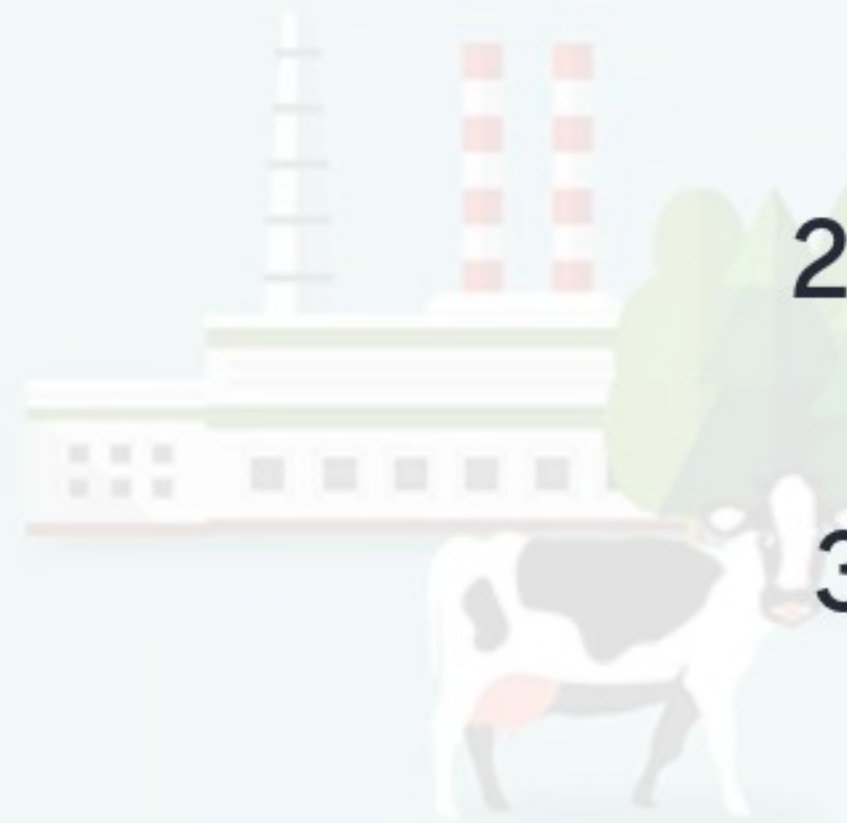
1. Which group are you belonging to?



2. For which emissions sources would new atmospheric and/or flux measurements significantly help inventory most?



3. Where do you see the largest assets of top down inverse modeling?



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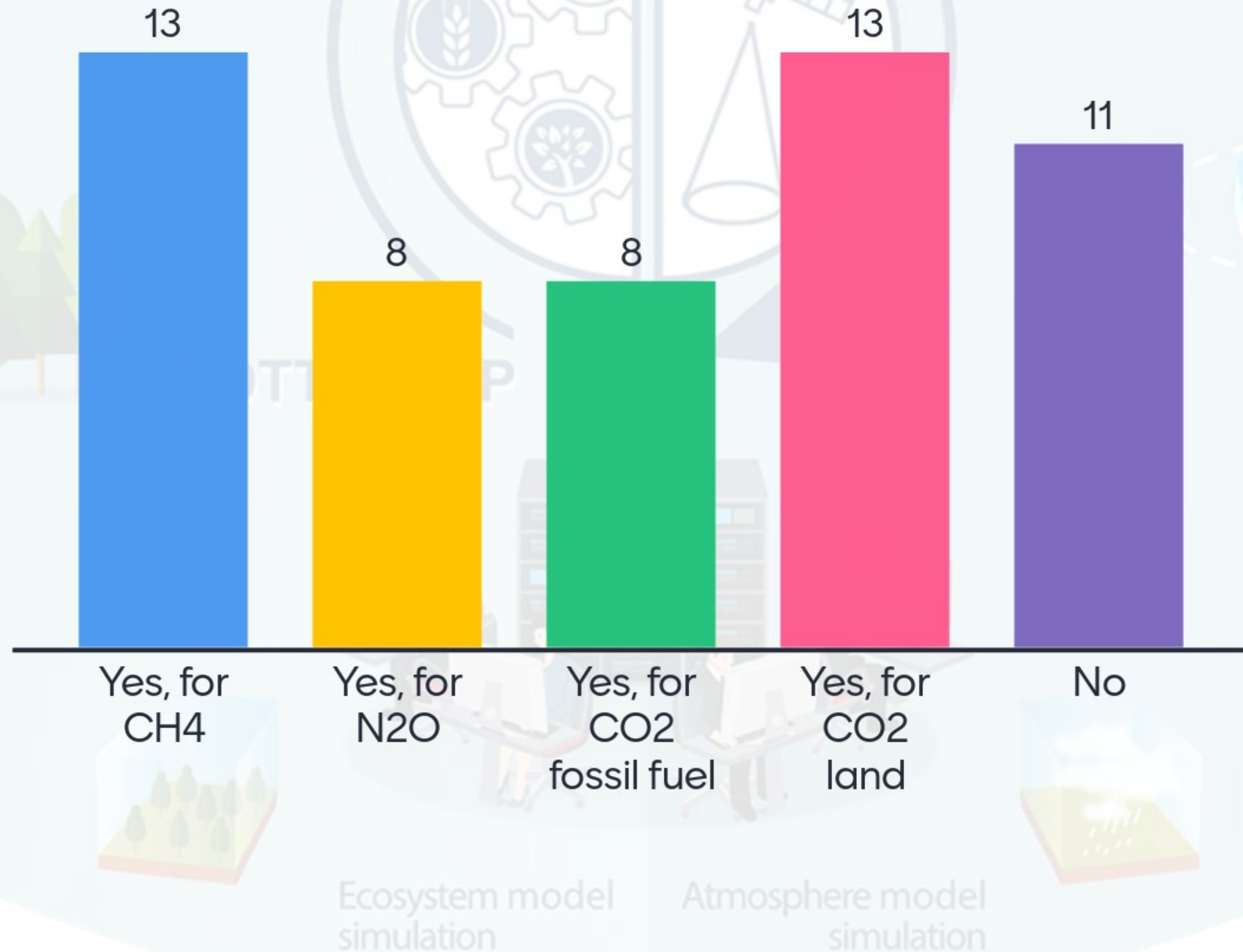
Ecosystem model simulation



Atmosphere model simulation



Are you planning to use inversion data for verification of your inventories?



In a nutshell: according to your experience in VERIFY what would your recommendation to the inversion community for reporting purposes?

Land CO2 emissions and removals could benefit mostly from atmospheric measurements and inverse modelling results - but here a lot of work is still needed, also in clarifying the IM products and increasing collaboration between communities.

difficult, but I would say work closely together with reporting & inventory people . and build a long relation of trust with e.g. 5-10 countries . that will take 10 years, but will improve results on both sides

Stay actively engaged with the inventory community and explain the gradual improvements e.g bi-annually.

Please be willing to keep on spending time to educate us on the inversion world and to really cooperate and answer our questions.

Transparency in uncertainties that can be tracked back the data and model uncertainties, including correlations between neighbouring grid boxes. Some groups are showing wonderful maps that don't reflect the information from the measurements.

No need for more individual models that add more uncertainty - rather join forces, harmonise data to be able give answers to pressing questions: How large is the European carbon flux? What's the current trend and how can we change/make a difference?

None

In addition to synthetic plot results, synthetic descriptions of the different TD approaches could interesting for non expert in inverse models.

Increase the accuracy of the inversions



Ecosystem model simulation



Atmosphere model simulation

In a nutshell: according to your experience in VERIFY what would your recommendation to the inversion community for reporting purposes?

Better meta-data on the parameters and inputs used, better metrics for assessing the overall performance of the inversion, such as posterior uncertainties, metric for degree of independence from prior estimates

CH₄, N₂O, F-gases

Reduce the uncertainties

Clear communication of how much of the a posteriori result depends on the prior or the data.

Improve the cooperation with inventory compilers and try to incorporate their experiences and needs.

When possible, provide results that disaggregate natural / anthropic fluxes in a comparable way of the reported emissions ; and sectoral disaggregation. Improve transparency and explanations of which and how prior data is used

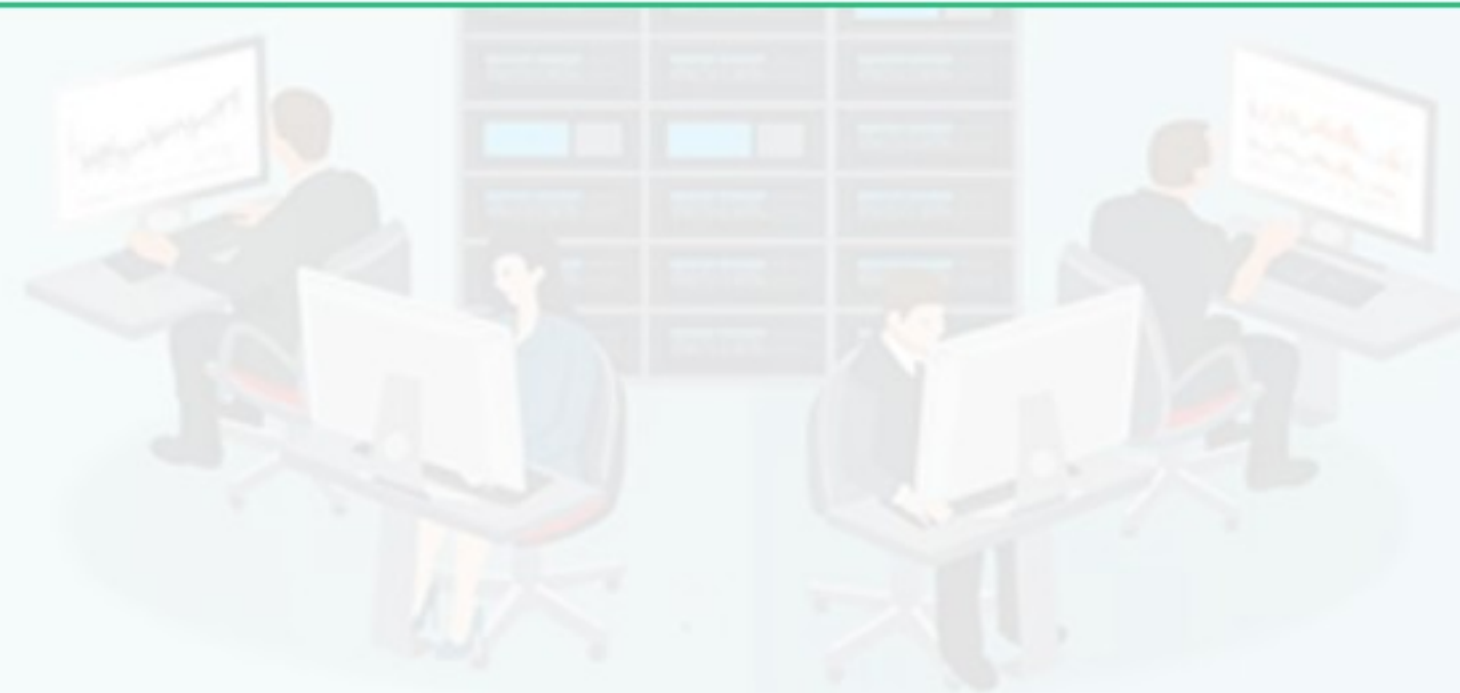
Keep going :) increase resolution of the gridded results (TD), formally analyse agreement and disagreement in estimates... and maintain & enhance cross-project cooperation and coordination.

Posterior flux uncertainties are as important as emission estimates

Having a good observational atmospheric data reasonably covering the domain of interest or at least the underlying region that are of interest to look into.



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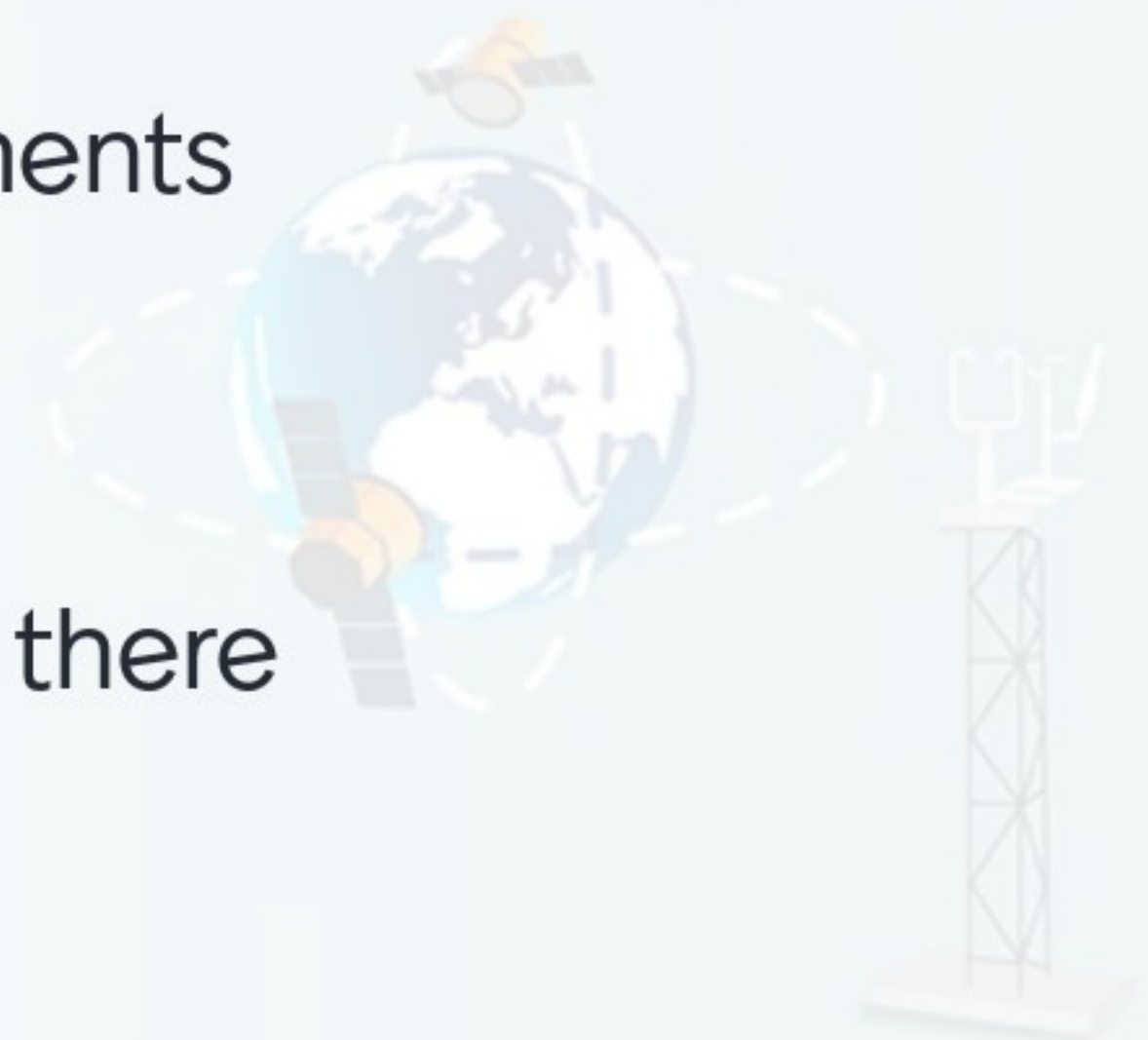
More improvements are needed



We are getting there



Looks good!



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