

Updates on Agricultural Emission Estimation (AgrEE) tool

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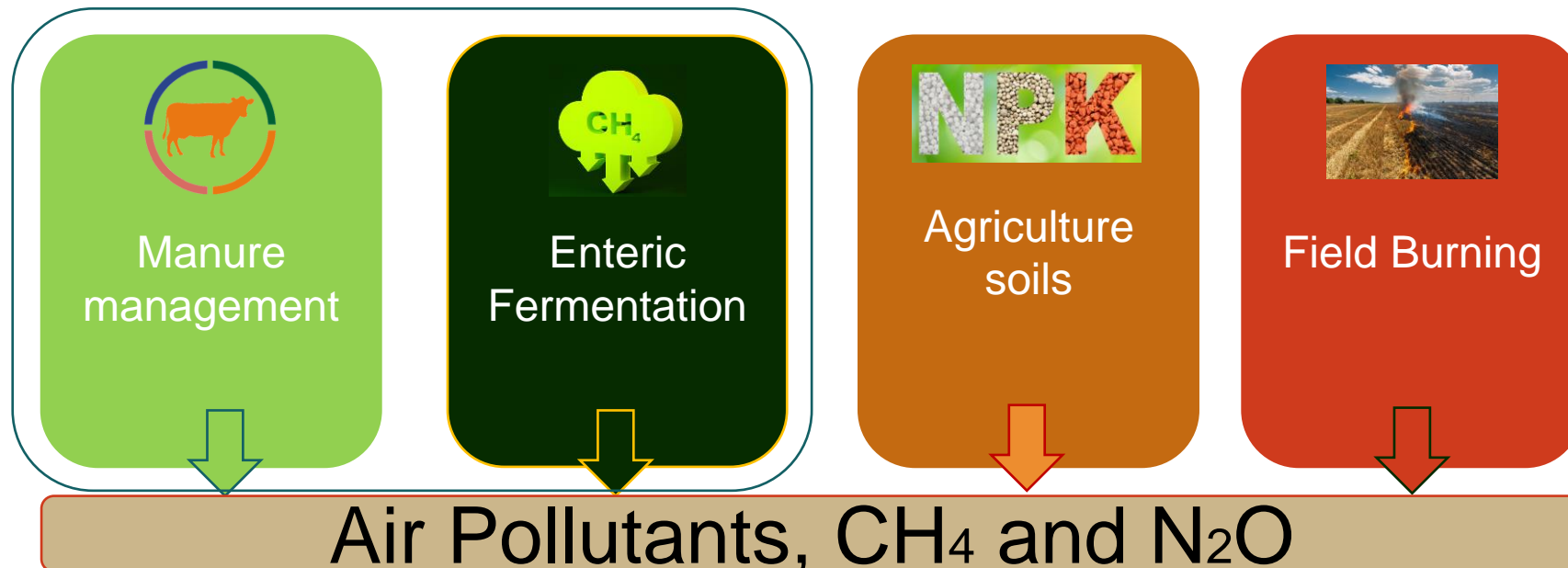
Agriculture Expert Panel, 14 May 2024

Outline

- AgrEE tool – short overview
- AgrEE tool – registered users
- AgrEE tool - regular maintenance and update
- AgrEE tool – further work

AgrEE tool – short overview

- A user-friendly web tool, part of the EU methodological support to MS to improve reporting of air pollutant emissions under NECD and GHG emissions under UNFCCC from agricultural sector
- Ensuring policy coherence
- Based on EMEP/EEA Guidebook 2019, IPCC Guideline 2006 and 2019 Refinement with Tier 2 as the main method
- AgrEE tool testing phase was performed in June 2021 – MS feedback received
- Final version of AgrEE tool was launched by the end of February 2022



AgrEE tool – short overview (2)

- Enable extracting results conform the CLRTAP Annex I template
- Facilitate trend analysis, result comparison, relative contributions (by categories/sectors)

ANNEX 1: National sector emissions: Main pollutants, particulate matter, heavy metals and persistent organic pollutants

NFR

COUNTRY: XX (as ISO2 code)

DATE: DD.MM.YYYY (as DD.MM.YYYY)

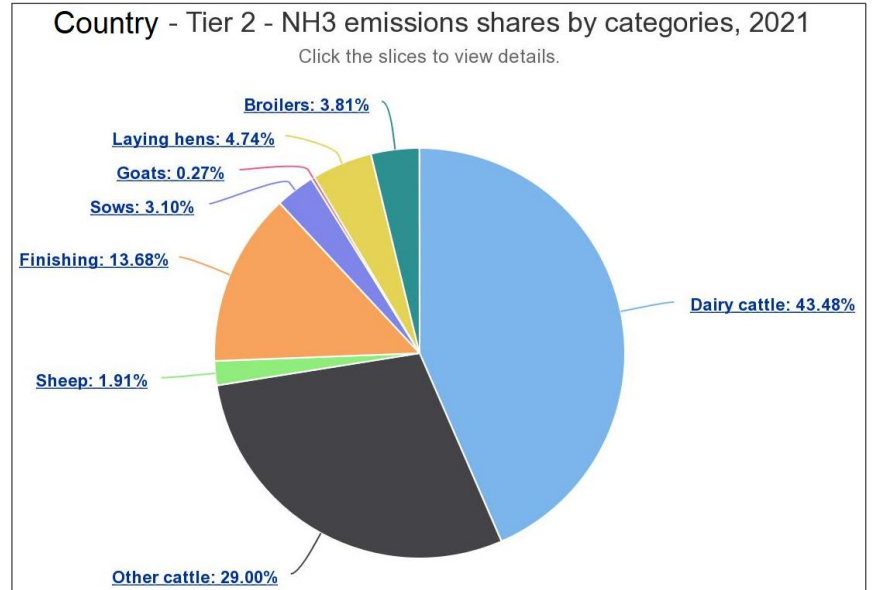
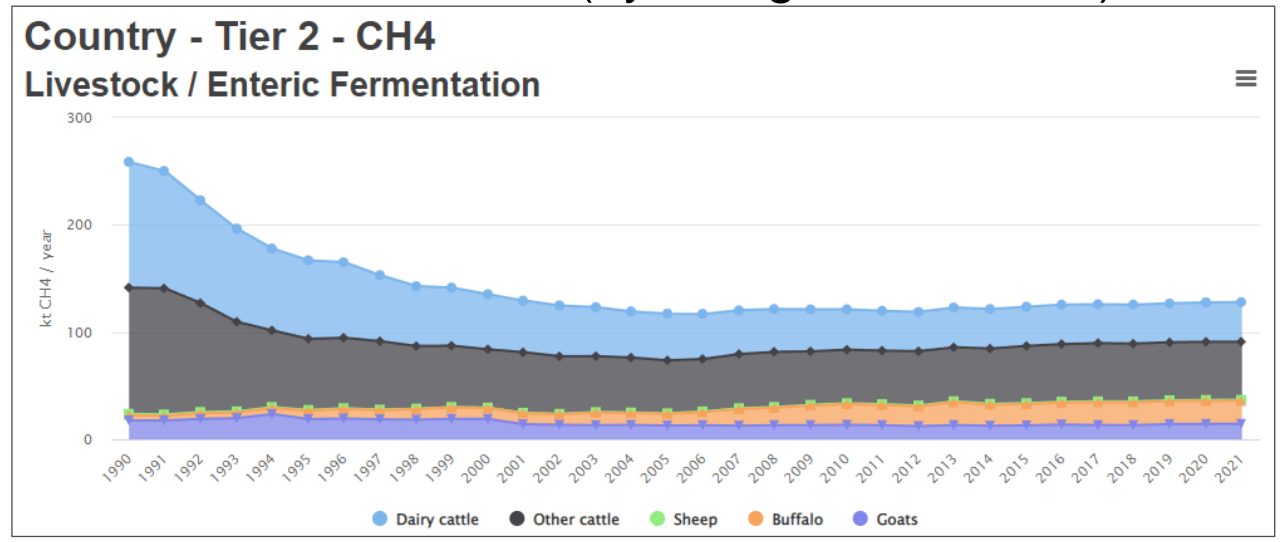
YEAR: XXXX (as YYYY, year of emissions and activity data)

Version: v1.0 (as v1.0 for the initial submission)

XX: NFR sectors to be reported

DD.MM.YYYY: XXXX

| NFR Aggregation for Gridding and LPS (GNFR) | NFR Code | Long name |
|---|----------|--|
| K AgriLivestock | 3B1a | Manure management - Dairy cattle |
| K AgriLivestock | 3B1b | Manure management - Non-dairy cattle |
| K AgriLivestock | 3B2 | Manure management - Sheep |
| K AgriLivestock | 3B3 | Manure management - Swine |
| K AgriLivestock | 3B4a | Manure management - Buffalo |
| K AgriLivestock | 3B4d | Manure management - Goats |
| K AgriLivestock | 3B4e | Manure management - Horses |
| K AgriLivestock | 3B4f | Manure management - Mules and asses |
| K AgriLivestock | 3B4gi | Manure management - Laying hens |
| K AgriLivestock | 3B4gii | Manure management - Broilers |
| K AgriLivestock | 3B4giii | Manure management - Turkeys |
| K AgriLivestock | 3B4giv | Manure management - Other poultry |
| K AgriLivestock | 3B4h | Manure management - Other animals (please specify in the |
| L AgriOther | 3Da1 | Inorganic N-fertilizers (includes also urea application) |
| L AgriOther | 3Da2a | Animal manure applied to soils |
| L AgriOther | 3Da2b | Sewage sludge applied to soils |
| L AgriOther | 3Da2c | Other organic fertilisers applied to soils (including compost) |
| L AgriOther | 3Da3 | Urine and dung deposited by grazing animals |



AgrEE tool – registered users

EU Member States

Belgium (4)
Austria (3)
Czechia (1)
Cyprus (1)
Denmark (3)
Finland (1)
France (3)
Greece (1)
Croatia (1)
Italy (1)
Lithuania (1)
Malta (1)
Poland (1)
Portugal (2)
Romania (4)
Slovenia (1)
Slovakia (1)

Non-EU

Norway (1)
Iceland (1)

35 registered users representing 17 EU MS and 2 non-EU countries

- Inventory compilers
- Researchers
- DG Environment
- DG Agriculture and Rural Development
- DG for Climate Action
- European Environment Agency
- Received requests from outside Europe

Feedback
on the use
or needs are
welcomed

Mentioned in the Informative Inventory Reports (IIRs) under NECD reporting

AgrEE tool – regular maintenance and update

Project “Support to the implementation of clean air legislation in Europe” with DG Environment over period 2023-2025

Update of the EMEP/EEA Guidebook released by the end of 2023

By end of January 2024

- Update of the Tier 2 methodology for ammonia emissions from fertilisers
 - Climate zones removed – now only pH in selection
- NH₃ emissions from crop residues Tier 1 and Tier 2 methodology
- AgrEE tool guide updated to include the changes – available under the “Documentation” section

AgrEE tool – regular maintenance and update (2)

AgrEE tool - Agricultural Emission Estimation tool

Home Wizard Data Explorer Documentation About

WIZARD

TEST Country - Tier 2 - NH3
Agriculture soils

Select categories

Select categories

Search

Select all

Inorganic N Fertiliser (3Da1)

Crop residues applied soils (3Da4) ←

« Go back Proceed

Crops list provided in the EMEP/EEA Guidebook 2023

TEST Country - Tier 2 - NH3
Agriculture soils

« Go back

Input fields legend: ■ Changed by user ■ Precompiled country-specific value ■ Value copied from previous year ■ Value changed by uploaded file Default value

| Data type | Description | System | Fuel | Unit | 2020 |
|---|--|-----------|-----------|---------------|-------------|
| Agriculture soils / Crop residues applied soils / Maize (3Da4) | | | | | |
| AD | Combustion factor | All types | All types | Fraction | 0.80000 |
| AD | Dry matter frac harvested crop | All types | All types | Fraction | 0.87000 |
| AD | Fraction burned within 3 days of harvesting | All types | All types | Fraction | 0.30000 |
| AD | Fraction incorporated within 3 days of harvesting | All types | All types | Fraction | 0.20000 |
| AD | Fraction removed within 3 days of harvesting | All types | All types | Fraction | 0.50000 |
| AD | Harvested area | All types | All types | ha/year | 10000.00000 |
| AD | N content above-ground | All types | All types | kg dm | 0.01500 |
| AD | Ratio of above- ground residue dry matter to harvested yield | All types | All types | dimensionless | 1.00000 |
| AD | Yield | All types | All types | kg/ha | 5000.00000 |

NH3 emission factor calculated

as in the EMEP/EEA Guidebook 2023

AgrEE tool – further work

- Regular maintenance and updates following EMEP/EEA Guidebook updates
- Improvement and further development of the data visualisation and analysis section of the tool- e.g comparing and quantifying the effect of different feeding situations
- Ammonia abatement measures - AgrEE tool to be linked to the database on abatement measures - revision of the Ammonia Guidance Document is still ongoing, with intention to be adopted in the frame of 2024-2025 draft work plan for the implementation of CLRTAP

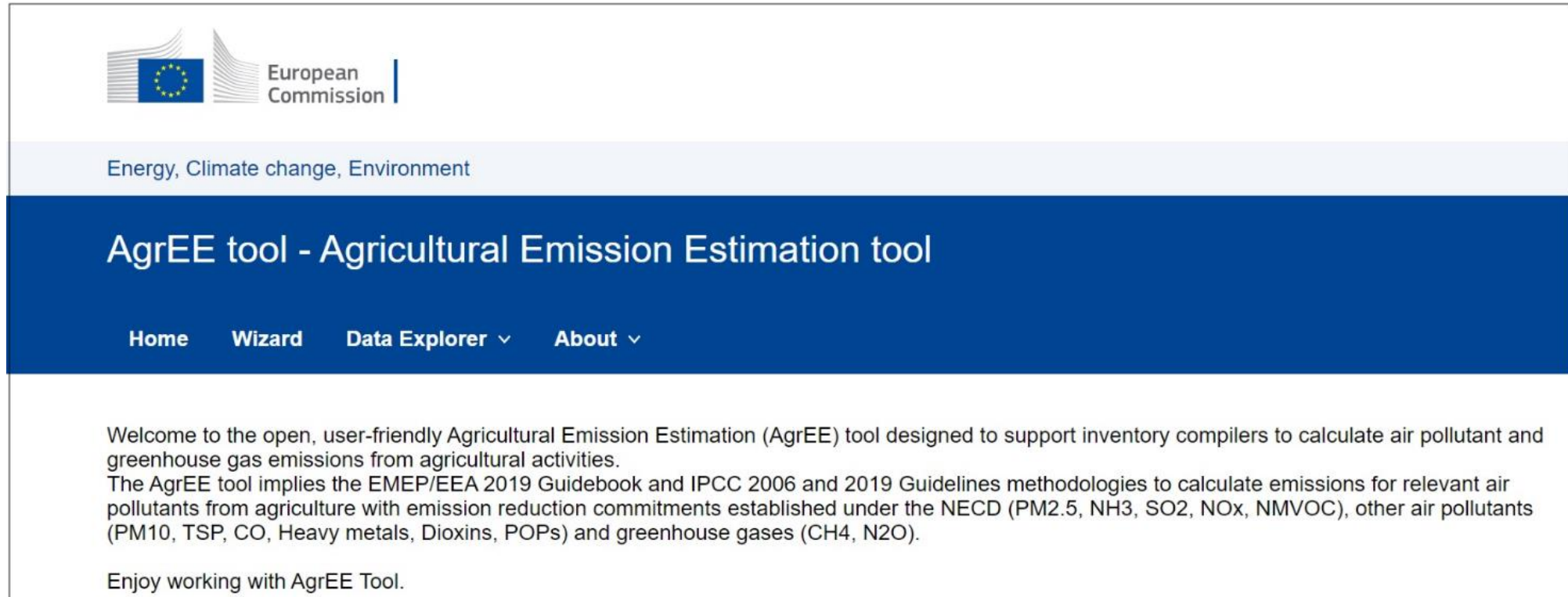
AgrEE tool – further work (2)

Global Nitrous Oxide Calculator

- Tool re-developed by JRC in the frame of Renewable Energy Directive revision
- Estimates the carbon footprint from soil N₂O emission
- Estimates the N₂O emissions following the IPCC 2006 methodology – by crops and by sources
- Possibility to be linked with AgrEE tool if interest exist

Express your interest JRC-AGREETOOL@ec.europa.eu

Questions?



The screenshot shows the top part of the AgrEE tool website. At the top left is the European Commission logo, consisting of the European Union flag and the text 'European Commission'. Below this is a light blue bar with the text 'Energy, Climate change, Environment'. A dark blue navigation bar contains the title 'AgrEE tool - Agricultural Emission Estimation tool' and four menu items: 'Home', 'Wizard', 'Data Explorer' (with a dropdown arrow), and 'About' (with a dropdown arrow). Below the navigation bar is a white section with introductory text: 'Welcome to the open, user-friendly Agricultural Emission Estimation (AgrEE) tool designed to support inventory compilers to calculate air pollutant and greenhouse gas emissions from agricultural activities. The AgrEE tool implies the EMEP/EEA 2019 Guidebook and IPCC 2006 and 2019 Guidelines methodologies to calculate emissions for relevant air pollutants from agriculture with emission reduction commitments established under the NECD (PM2.5, NH3, SO2, NOx, NMVOC), other air pollutants (PM10, TSP, CO, Heavy metals, Dioxins, POPs) and greenhouse gases (CH4, N2O). Enjoy working with AgrEE Tool.'

https://edgar.jrc.ec.europa.eu/agree_tool/

Contact: JRC-AGREETOOL@ec.europa.eu

Keep in touch

EU Science Hub

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Thank you



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