Part 2

Ammonia emissions from synthetic fertilisers
Update on pesticides, ammonia from crops & nitric oxide
News of other activities
Updating ammonia emission factors for synthetic fertilisers

- New methodology introduced in 2016
  - Accounts for effects of fertiliser type, soil characteristics and weather conditions
- 2018 revision
  - Not originally planned
  - Intended to be minor
  - Provide better documentation (including a scientific paper)
  - Add additional data and revise parameters
- Results of open review
  - No consensus
  - Small change to the underlying model had large relative effect on some low-emission fertiliser types (questionable?)
  - Complaints that the emission factors were changing too frequently
Updating ammonia emission factors for synthetic fertilisers

- Problems with scientific paper
  - Reviewer criticism of paper – no account taken of application rate
  - Accept need to look again at the underlying model

- Our recommendation how to progress:
  - Add application rate data
  - Look at structure of underlying model
  - Revise model
  - Revise paper
  - Send revised methodology for open review late 2019/early 2020
  - Aim to recommend adoption of new methodology in 2020
General observations

- **Frequency of revisions**
  - Accept that this was a problem on this occasion
  - Should expect revisions as part of the Guidebook maintenance plan
  - Revision of emission factors depends on advances in science
  - Important that the Guidebook is kept up to date
  - Long periods between revisions might lead to bigger changes

- **Lack of awareness**
  - Encourage Parties to make relevant experts aware of open reviews
  - Difficult to deal with major comments outside of review period
  - Can deal with minor errors (e.g. typographic errors) as they arise
Crop ammonia emissions

- Emissions have been discussed over many years
- Main issues
  - Crops can both emit and absorb ammonia
  - Some crop emissions depend on atmospheric ammonia concentrations
  - Lack of data
- Workshop?
  - Gather inventory compilers and scientist
- Discussions with EMEP modellers
  - They lack a good model
  - No help there
Emissions from impurities in pesticides (3Df)

- Presentation at Ag and Nature Panel last year
- Ulrike Döring, UBA, Germany
Nitric oxide emissions

- Direct and indirect emissions
  - Direct emissions resulting from fertiliser and manure
  - Indirect emissions resulting from NH$_3$ emissions
- Agricultural sources are of increasing importance
- Review of literature and methodology planned for this year
  - Ute Skiba (Centre of Ecology and Hydrology, Edinburgh)
  - Contact her if you have data or know of data
Other activities

- Task Force on Reactive Nitrogen
  - http://www.clrtap-tfrn.org/
  - Expert Panel on Mitigation of Agricultural Nitrogen
  - Meeting 1 & 2 Oct 2019
  - Preceeded by EU sponsored joint benefits workshop 30 Sept/1 Oct
- Integrated Nitrogen Management Project
  - http://www.inms.international/
- International Nitrogen Initiative
  - https://initrogen.org/
2019 refinement of the IPCC guidelines for GHG inventories

- Decision taken at the 44th Session of IPCC in Bangkok, Thailand, in October 2016
- Development of the new Methodology Report to refine the current inventory guidelines (= “2019 Refinement”)
- To maintain the scientific validity of the 2006 IPCC Guidelines, certain refinements may be required, taking into account scientific and other technical advances that have matured sufficiently since 2006
- The 2019 Refinement will not revise the 2006 IPCC Guidelines, but update, supplement and/or elaborate the 2006 IPCC Guidelines where gaps or out-of-date science have been identified.
- It will not replace the 2006 IPCC Guidelines. It should be used in conjunction with the 2006 IPCC Guidelines.
2019 refinement of the IPCC guidelines for GHG inventories

- A Scoping Meeting was held to prepare an outline of the Methodology Report to refine the 2006 IPCC Guidelines
- The Methodology Report clearly describes which parts of the 2006 guidelines shall be refined.
- CH₄ and N₂O emissions from livestock, manure management and soils were amongst the issues to be refined.
- First Lead Author Meeting in June 2017 in Bilbao, Spain.
- The final draft will be considered by the IPCC for adoption/acceptance at its Plenary Session in May 2019.
- The official press release of the outcome to the IPCC-49 meeting was released today (May 13th) – refinement has been accepted
  (check https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/)