

Integrated measures in agriculture to reduce ammonia emissions

Contract No 070501/2005/422822/MAR/C1

Alterra, EuroCare, A&F
MNP, UBA-W, CEH, IMUZ, NEIKER, ECN



Objectives according to call for tender

-to define the most appropriate integrated and consistent actions to reduce environmental impacts from agriculture...
- Absolute necessity of an integrated approach of the N-cycle and related instruments at EU level

Backgrounds and problems

The baseline lacks:

- Impact of the CAP reform (and new CAP developments) and new rural development rules
- Impact of other key directives (ND, WFD, IPPC)

Moreover: need to update some of the available abatement measures in the RAINS model with other environmental policies such as nitrates in water

Backgrounds and framework (cont'd)

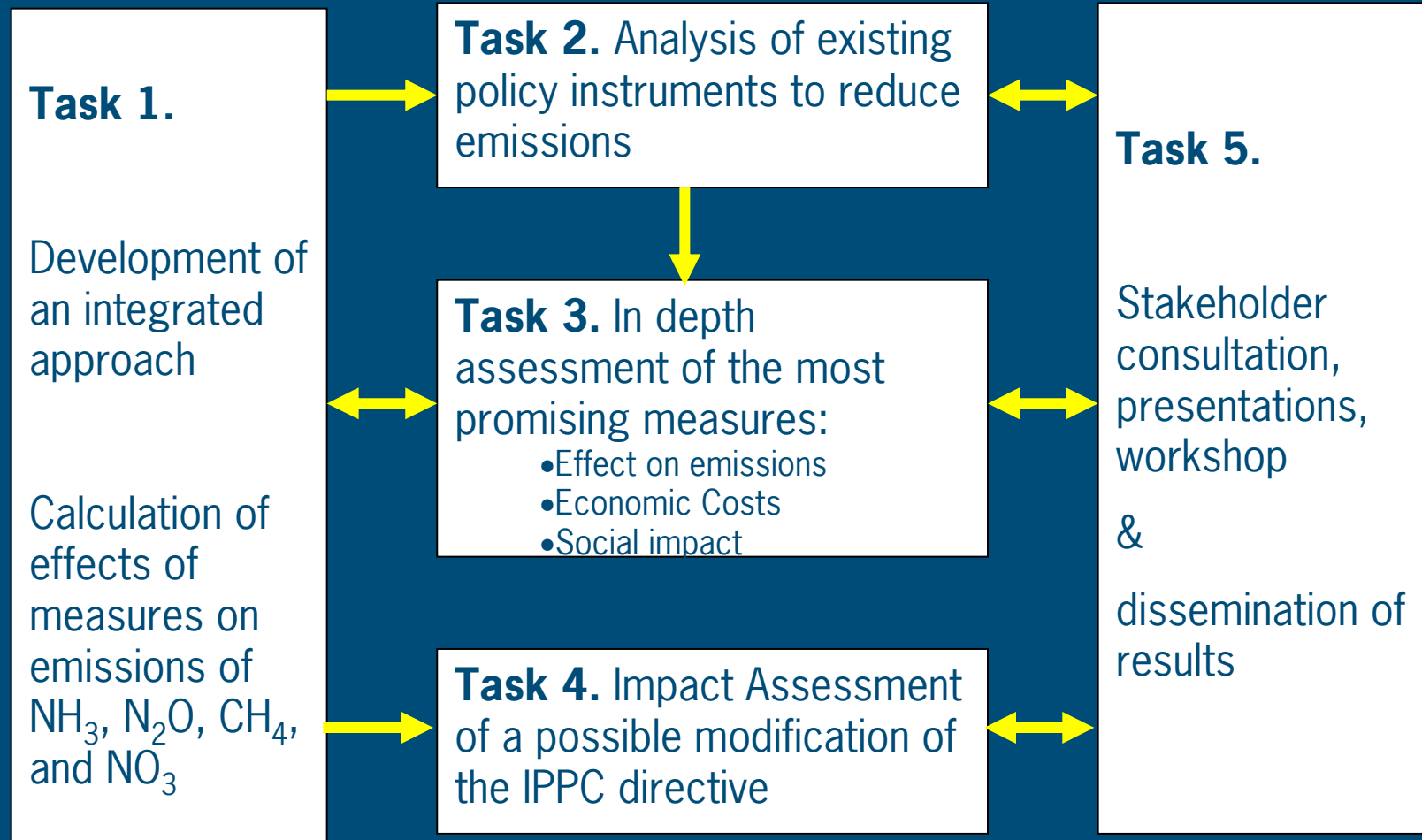
Thus, the key thing is to.....

Identify/promote all measures reducing N excess in agriculture (animal feeding, N fertiliser), and ensure consistency between various instruments

Description of tasks

1. Develop an integrated approach
2. Analysis of International and European Instruments
3. In depth assessment of the most promising measures
4. Impact assessment of a possible modification of the IPPC directive
5. Stakeholder consultation, presentations, workshop

Relationship between tasks

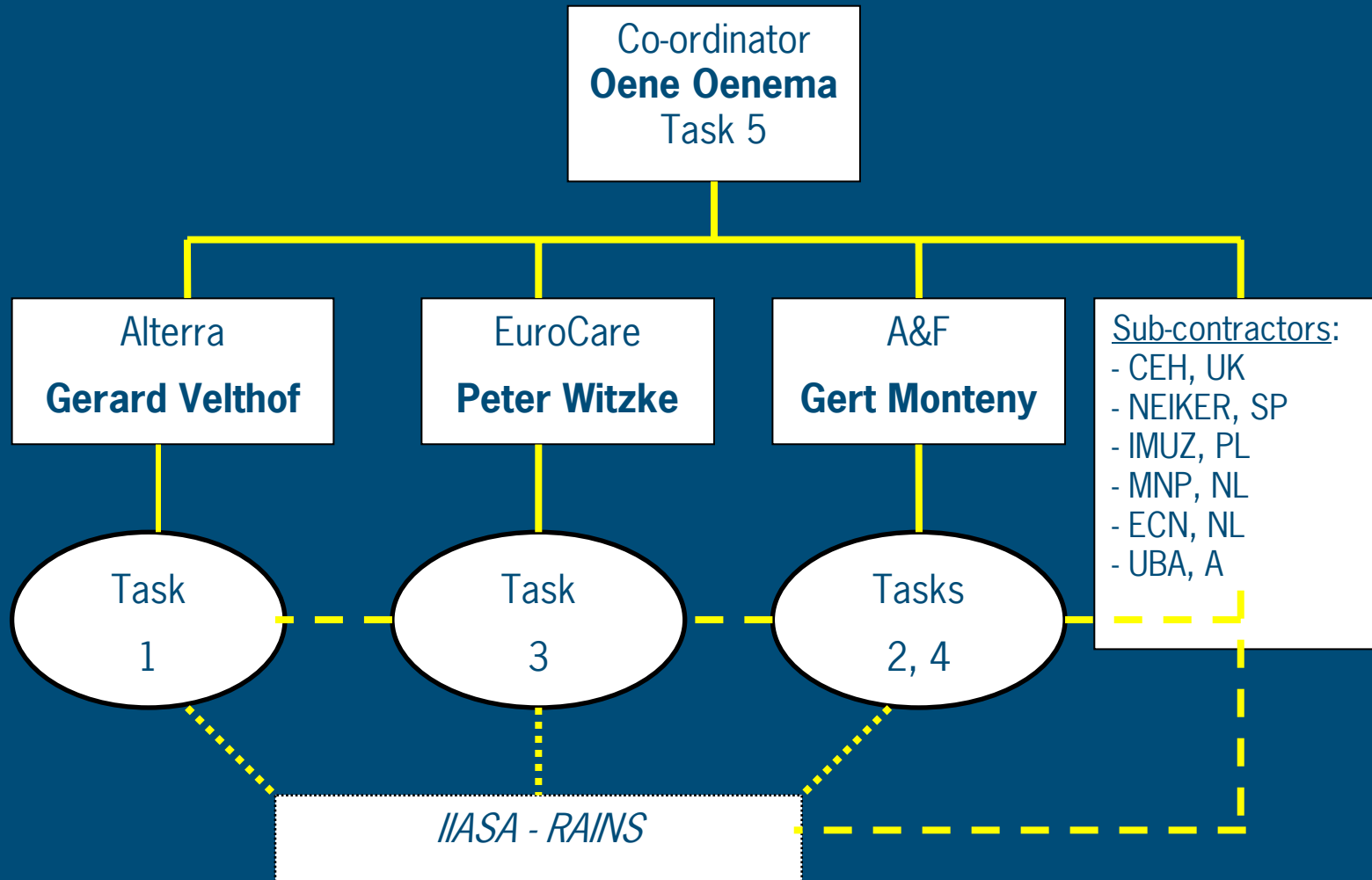


Consortium

- Alterra
- EuroCare
- A & F

- Subcontractors
 - UBA-W
 - CEH-Edinburgh
 - MNP
 - ECN
 - IMUZ
 - NEIKER

Organization



Relevant scales

From farm level to:

- Regional level (NUTS-2)
- Nitrate Vulnerable zones
- National level (Member States)
- EU-25

In addition, where possible: Bulgaria, Romania, Croatia and Turkey.

Task 1

- Aim: to develop a simple model (including parameters and data) to assess:
 - impact of ammonia measures on nitrate leaching
 - impact of nitrate measures on ammonia
 - Include effects on nitrous oxide and methane
- Outputs:
 - Technical report(s)
 - Simple Model: MITERRA-EUROPE

Subtasks

- 1.1. Develop a simple model: MITERRA-EUROPE
- 1.2 Estimate effect of ammonia measures on nitrate, nitrous oxide, and methane
- 1.3 Identify nitrate measures + assessment of impact of these measures on ammonia, nitrous oxide, and methane
- 1.4 Assess effects of three RAINS scenarios on nitrate, nitrous oxide and methane

Task 2 Analysis of effectiveness of instruments

■ Why ?

- To get an **overview** of existing instruments
- To analyze their **effectiveness**
- To allocate potential for **synergy** (and avoid duplications)
- To explore **antagonistic effects** (pollutions swapping)

■ How ?

- By desk study
- By consulting EU, UNECE, IPPC, IPCC and other relevant frameworks
- Input from Task 1; output to Tasks 3 and 4

Task 2 Analysis of effectiveness of instruments

■ Which instruments ?

- Those that aim to reduce emissions from agriculture to air (non CO₂ greenhouse gases, ammonia, PM), and water (nitrate, phosphate, ammonia)

■ Which frameworks ?

- Nitrates Directive (Co-GAP, NVZ-AP)
- Reformed CAP
- UNECE-CLTRAP (Gothenburg protocol; guidance document)
- IPPC (BAT/BREF; permits); NEC
- IPCC (incl. biofuels, biomass)

Task 3 In depth assessment of most promising measures

- ‘In depth’ assessment includes:
 - ⇒ whether measures work technically + integrated (include trade offs/swapping)
 - ⇒ (economic) feasibility of measures

- “In depth” assessment includes cost-benefit analysis:
 - ⇒ income effects, overall welfare
 - ⇒ impacts on markets and trading partners
 - ⇒ environmental indicators, social impacts

Task 3 In depth assessment of most promising measures

Quantitative assessment with CAPRI:

- Welfare impacts: income, consumer welfare
- Market impacts
- Environmental impacts
 - Nutrient surplus of N, P, K.
 - Emissions of NH₃, nitrous oxide, methane.
 - Leaching of nitrate (with MITERRA-EU)
- Suggestions for implementation in policy instruments

Task 4 Impact assessment of possible modifications of IPPC

■ Why ?

- To choose the most effective option for IPPC modification (more environmental impact needed)
- To assess ecological (NH₃), economical, and social impact
- To explore/improve governance and legal issues (permits, ...)

■ How ?

- desk study
- consulting EU, UNECE, IPPC and other relevant frameworks
- using data sources (e.g. Eurostat, FADN) from publications, web, networks (RAMIRAN, EAGER,)

Task 4 Impact assessment of possible modifications of IPPC

■ Current IPPC thresholds

- > 2,000 fattening pigs
- > 750 sows
- > 40,000 head of poultry
- No threshold for cattle

APPLY BAT (BREF)

■ Applied from 30 October 1999 for new installations

■ Applied from 30 October 2007 for existing installations

Task 4 Impact assessment of possible modifications of IPPC

■ Sub-tasks:

- 4.1: data gathering on current situation in 25 Member States
- 4.2: definition and broad assessment of various (3) options
- 4.3: integrated assessment of 1 option for lowering thresholds for pigs and poultry, and a new threshold for cattle

Task 5 Stakeholder consultation, presentation, workshops

- Aim is to consult stakeholders about issues and results of the contract...
 - At least 6 presentations/meetings in Brussels in various relevant working groups
 - At least 3 follow-up meetings with the Commission
 - Ad-hoc workshops and expert meetings

Stakeholders in task 5

- DG ENV, DG AGRI, DG Research
- Farmers organizations, e.g. COPA (Committee of Professional Agricultural Organizations)
- NGO's (e.g., WWF, ECOVAST, ...).
- Member States experts
- Working groups and projects
 - IPPC
 - UNECE Expert Group on Ammonia Abatement
 - Nitrate Committee
 - NEC Directive Committee
 - Cost Action 729
 - IP NitroEurope
 - EAAP (European Association of Animal Production)

Planning of task 5

- Meetings with representatives of Commission
 - Kick-off meeting January 26
 - Other meetings to be agreed, at least each half year

- Stakeholder meetings:
 - First project meeting in March
 - Nitrate Committee 23 March 2006?
 - ..
 - Cost Action 729 in Poland, end of 2006...
 - ...
 - First International Ammonia Conference 19-21 March 2007

Integration of Contract with RAINS/IIASA

Contract with IIASA, deadline: begin 2007

Objectives:

1. Integration of CAP reform and recent sugar reform, analysis of possible impacts of further liberalisation
2. Integration of findings of ALTERRA contract in RAINS – as much as possible in Baseline, if not, in policy scenario's
3. Possible implication of the biomass/fuel EU plan (notably Pm emissions)
4. Impact of most promising measures and possible IPPC extension

Thank you !! Any questions ??

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