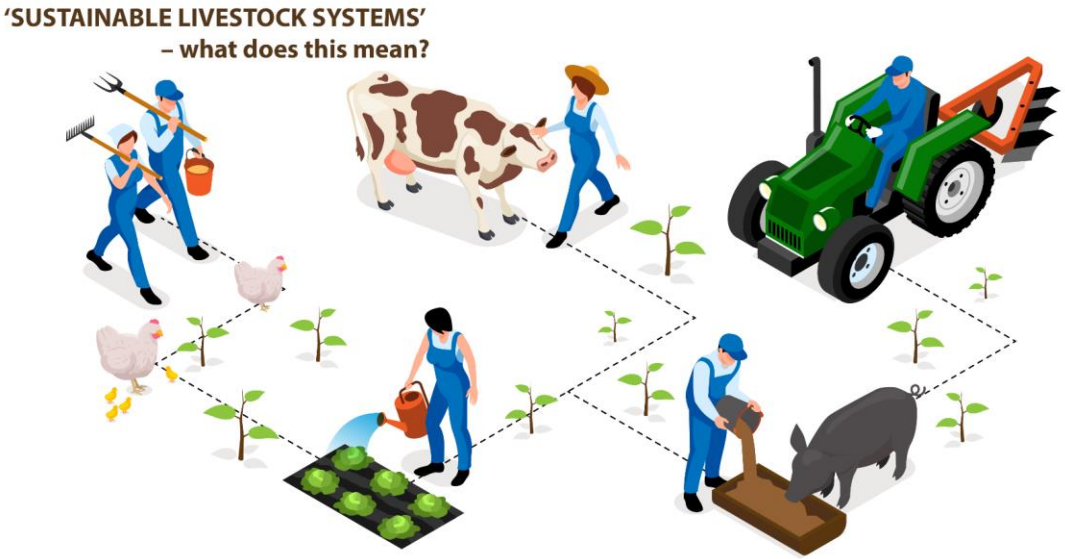
atf animal task force

A European Public-Private Partnership

13th ATF Seminar

'Sustainable livestock systems' – what does this mean?



What is being used in practice by farmers on GHG mitigation?

An example in the Netherlands

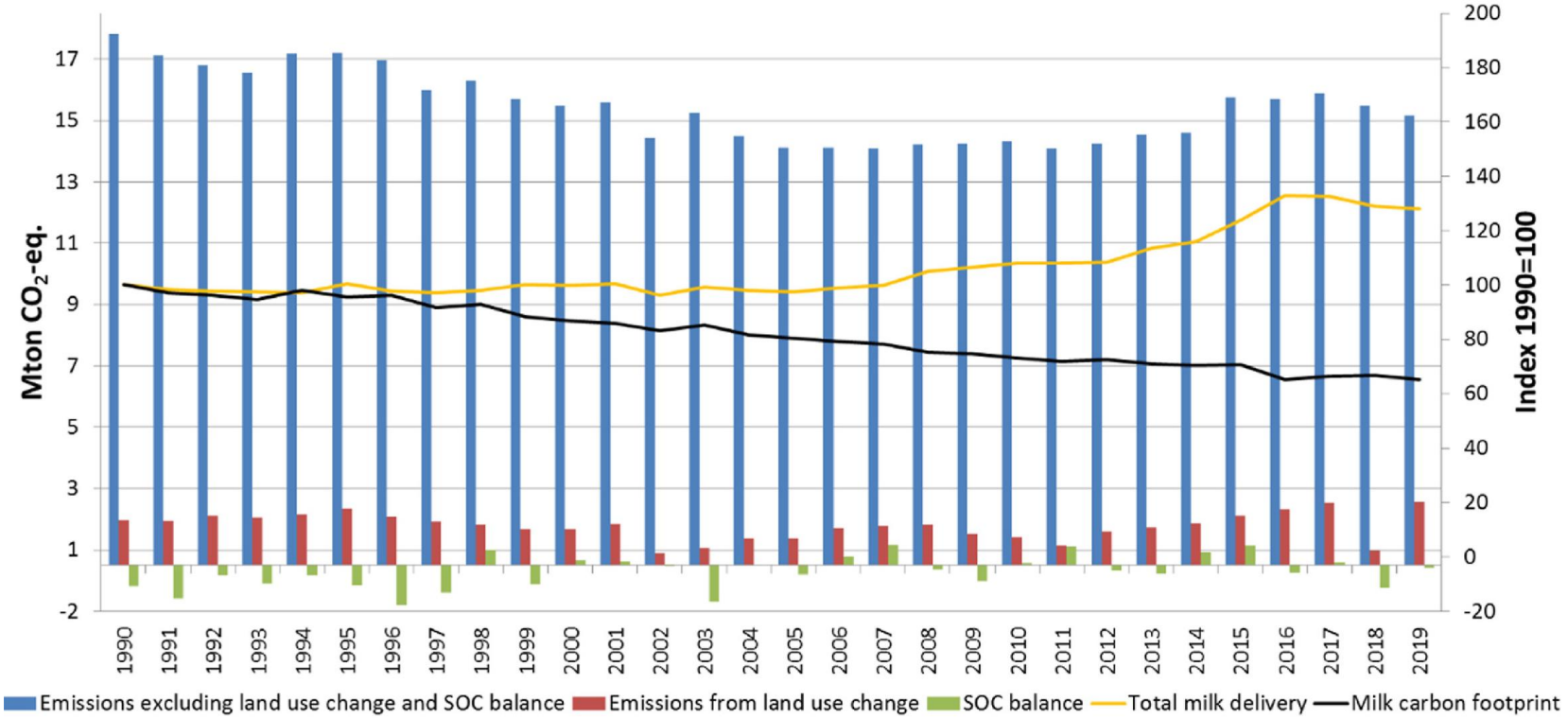
Marion de Vries, Theun Vellinga

Wageningen Livestock Research

Dutch climate targets

- National Climate Act
    - 55% reduction in 2030, 95% in 2050 (-> net zero)
- National Climate Agreement (2030)
    - Agriculture and land use: 3.5–6 Mton CO_2-eq. reduction
    - Dairy sector: 1.6 Mton CO_2-eq. reduction (0.8 Mton methane, 0.2 Mton soils, 0.6 Mton energy)
- National Methane Strategy: 30% CH_4 reduction in 2030
- Industry targets (LCA-based)
    - e.g. FrieslandCampina: 33% reduction in Scope 3 member farms
- Integral approach: nitrogen, water quality, biodiversity, soil quality

Trend in GHG emissions Dutch dairy sector (LCA)



Source: Hospers et al., 2022

What caused reduction in past 30 years?

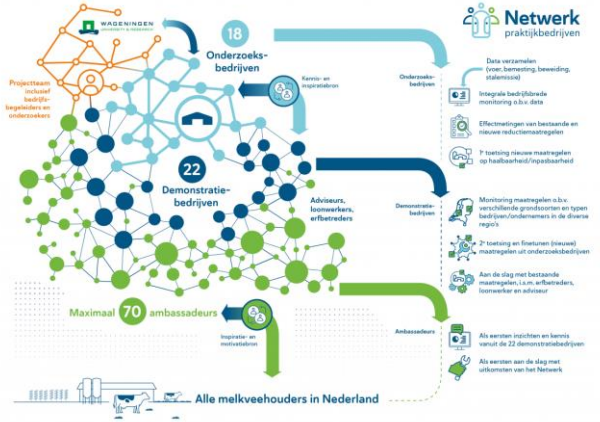
Main factors influencing emission intensity:

- Increased milk and roughage yields
- Improved feed efficiency
- Less nitrogen application

New incentives for GHG mitigation

- Privat sector milk premiums, e.g.:
  - based on milk carbon footprint (e.g. FrieslandCampina, CONO)
  - based on mitigation measures implemented (e.g. A-Ware)
- Communication/dissemination activities
- Participation in projects or networks

Target: 30% methane reduction



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GHG mitigation options

Practice (high TRL), e.g.:

- Reduce crude protein, increase energy in feed ration
- Low-emission feed ingredients
- Reduce young stock
- Anaerobic digestion
- Increase grazing
- Grass clover
- Energy use and production

Koeien & Kansen

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GHG mitigation options

Research/development, e.g.:

- Animal (genetic selection for low CH_4, microbiome)
- Feeding (feed additives, grazing strategies)
- Manure/stable (CH_4 oxidation, cooling slurry)
- Soils (land use, solutions for rewetting peat soils)

Monitoring: ANCA tool

- Farm-specific
- Integral environmental performance
  - Nutrient surplus (N and P)
  - Ammonia emission
  - GHG emissions
  - Other (e.g. home grown protein)
- Calculation rules (PEFCR)
- Quality of input data (automatic data collection)
- Used for financial rewarding in sustainability programs

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ZuivelNL
KETENORGANISATIE VAN DE ZUIVELSECTOR

nzo
nederlandse zuivel organisatie

LTO Nederland

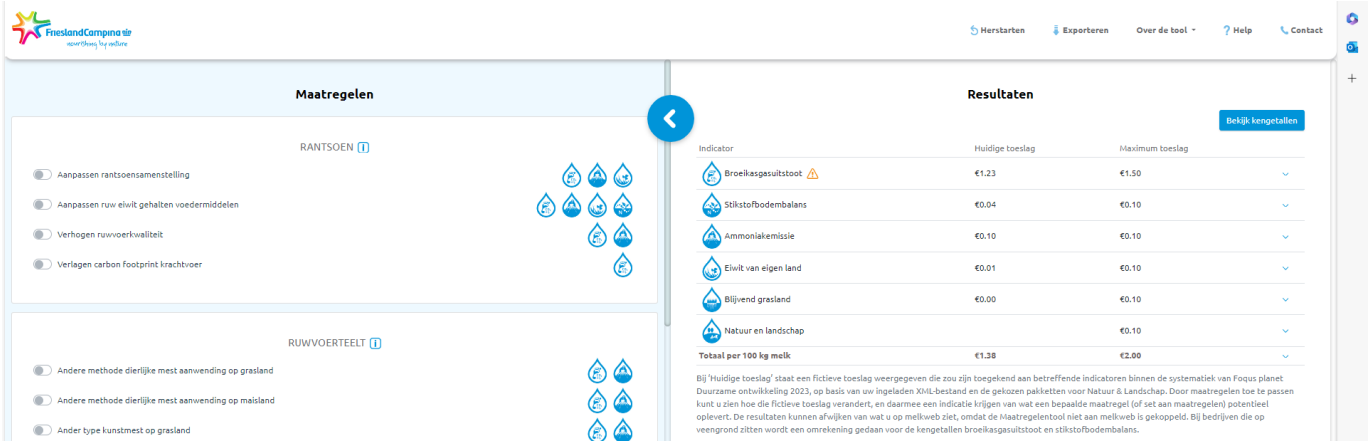
Nederlandse Melkveehouders Vakbond

Nevedi

VLB
vereniging van accountants- en belastingadviesbureaus

Quantitative simulation tools

- Ex-ante calculation of GHG emission reduction
    - For farm-specific situation
    - Connected to ANCA or other GHG accounting tool
- ‘Maatregelen tool’ (WUR, FrieslandCampina)
- ‘Mitigation Engine’ (WUR, Unilever, Cono, Nestlé, Vreugdenhil)



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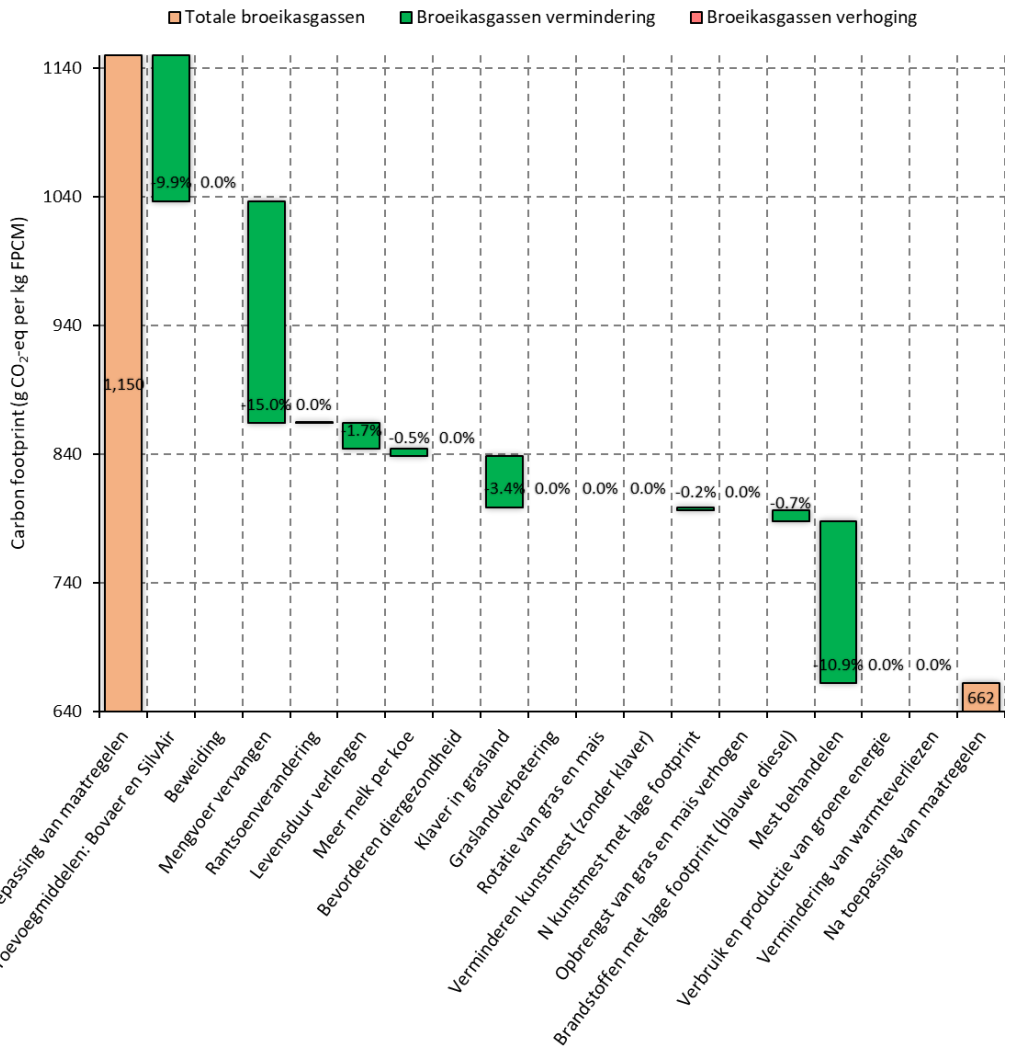
Example of output Mitigation Engine (Low Carbon Dairy project)



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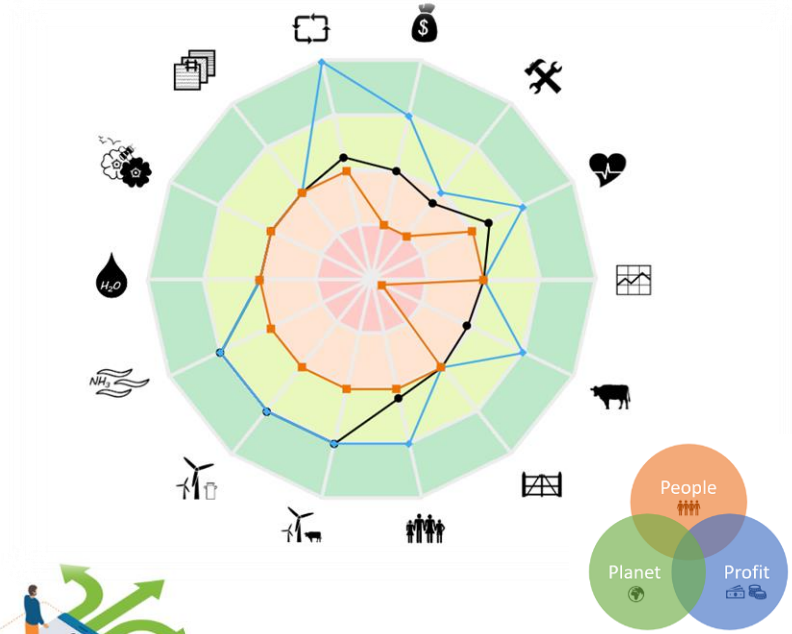
Decision support tool

- Challenge of *integral* sustainability improvement

1. Which sustainability measures suit my specific farming situation and strategy?
2. What are potential trade-offs and synergies towards other aspects of sustainability?



Closing remarks

- Historical reduction achieved mostly through efficiency gains
- Additional reduction will require additional technical and management interventions (financial incentives)
- Importance of GHG accounting tools and decision support tools
- Importance of integral approach

Thank you!

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https://clienfarms.eu/solutions/

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