

Sustainability in the Dutch Dairy sector

8 November 2022



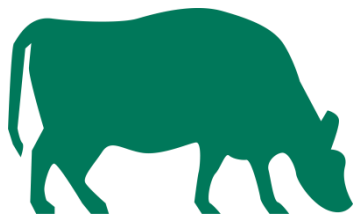
Wilco Brouwer de Koning

What to talk about

- The challenges of the Netherlands
- Sustainability more than climate
- What is Biodiversity?
- How to measure the impact?
- The journey so far.
- The Biodiversity Monitor
- The carrot or the stick?
- Future
- My farm
- Our data

Dutch dairy sector in numbers

15.000 dairy farms...



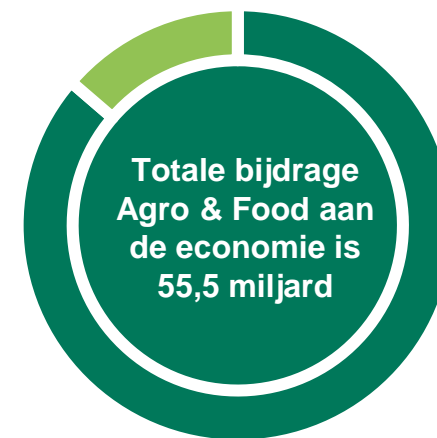
...produce 13,6 billion kg milk, 1,5 million cows



... 850.000 ha land in use , 48% of the total het arable area



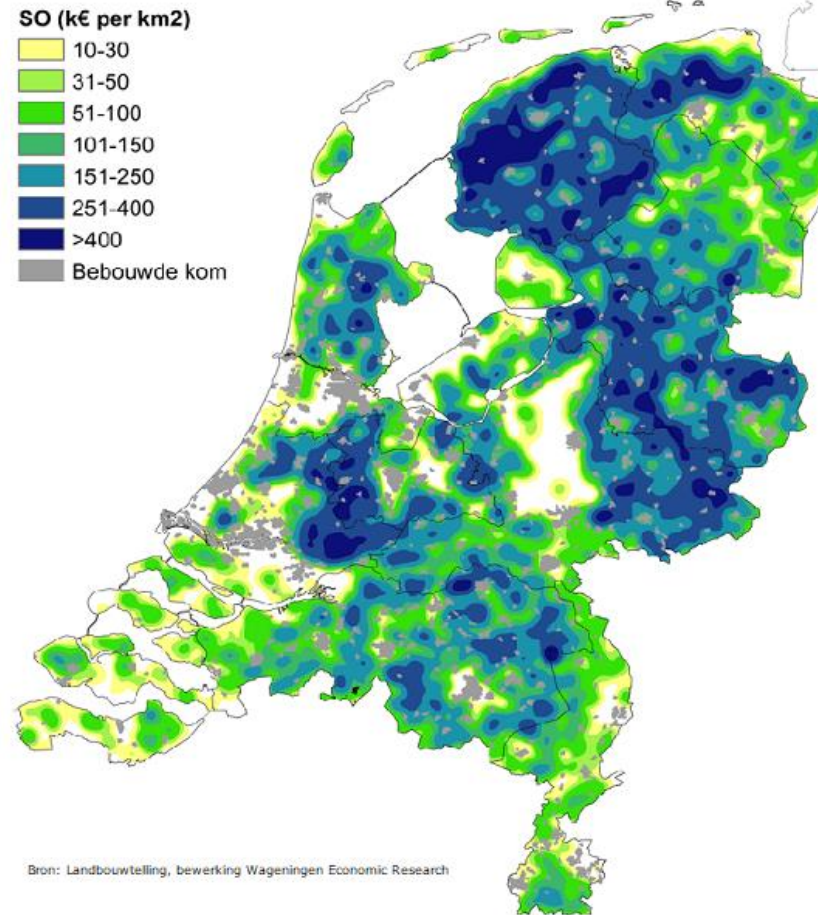
... create 47,000 jobs in primary and processing dairy industries



... contribute 7.5 billion euros to the Dutch economy

20% of the area of NL in use for Dairy

Ruimtelijke verdeling van de standaardopbrengst (SO), 2020
Melkveehouderij



Development last 2 decades

- Strong focus on scaling up
- From 2001: from 60 to 100 dairy cows
- From 38 to 61 ha
- Long-term margin approx. € 2.50 / 100 kg

Fewer farms, ageing population, low ground mobility

- Since 2001: 1 in 3 farms stopped (organically 2-3% per year)
- Increasing age of farmers, fewer successors Number of farms without successor increased by about 7%
- 17% (300.000 ha) of the arable land in use by a farmer > 55 years, without succession
- Low land mobility (about 1.5-2% per year)

There are many goals (Brussels is leading)

■ Biodiversity/Nature

- Conservation status but also enlargement.
- EU Biodiversity and Forest Strategy, Nature Restoration Act follows...
- 'Green-blue veining and landscape elements (10% rural area, more than 230,000 ha, 130,000 ha new, of which 50,000 ha/'non-woody')

■ Water

- water framework directive: in 2027 all measures taken to nitrate in ground water < 50 mg (loss of derogation 250 kg N >170 kg N)
- surface water quality, phosphate and nitrogen
- Water quantity/availability/...

■ Climate

- Reduction 2030 55%, 2050 100% (from 2017)
- 2,2 Mton in 2030 for Dairy farmers
- Reduction including LULUCF (land use). 4,2 Mton/year
- Peat land reduction (10% of the milk).

■ Nitrogen

- Nitrogen discussion: about emissions, precipitation but ultimately about nature conservation.
- NH₃ 50% Reduction in 2030, 74% of N2000 area in good shape
- 54% of ammonia is from Dairy farmers.
- In 1 year, quit 600 high emission “farms”
- 13% of dairy farms are < 1000 meters of nitrogen-sensitive Natura 2000 areas.
- The share of milk production within 500 meters of an N2000 area is 7% (about 1 billion kg) and within 2000 meters 25% (about 3.4 billion kg)

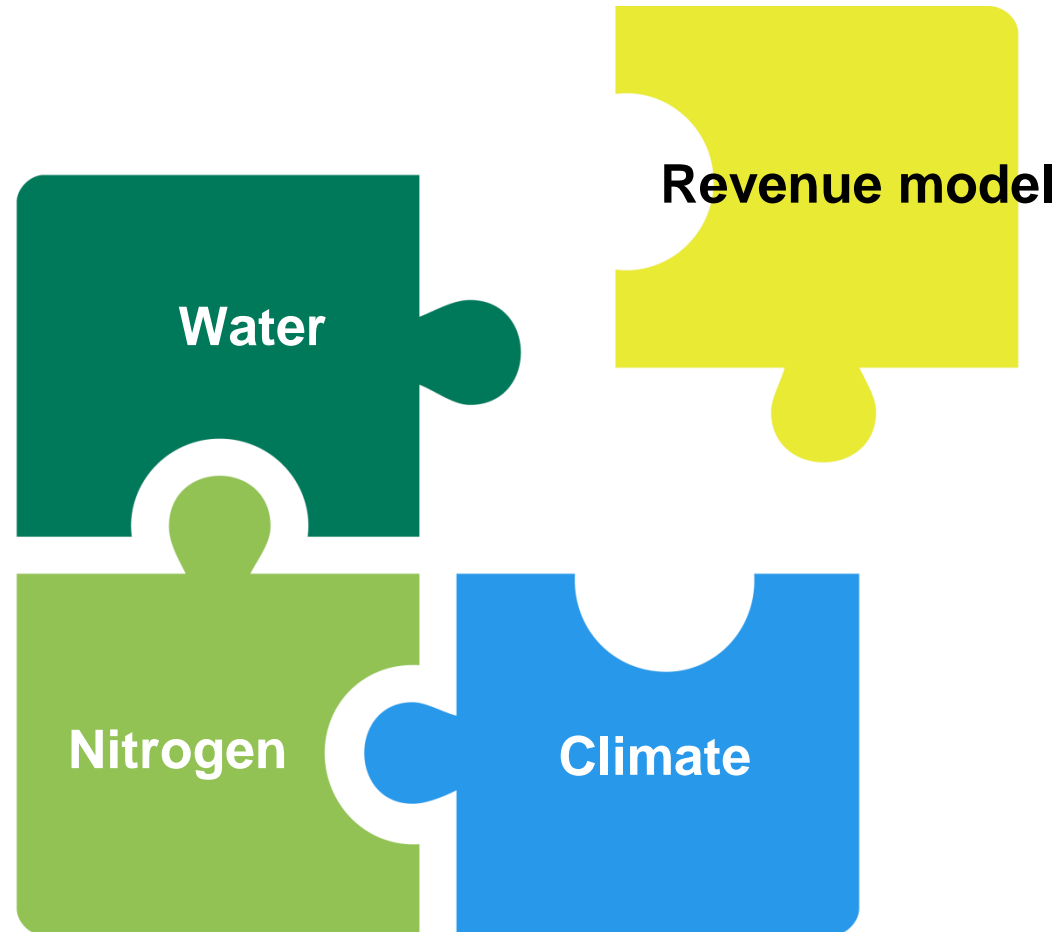
And the rest....

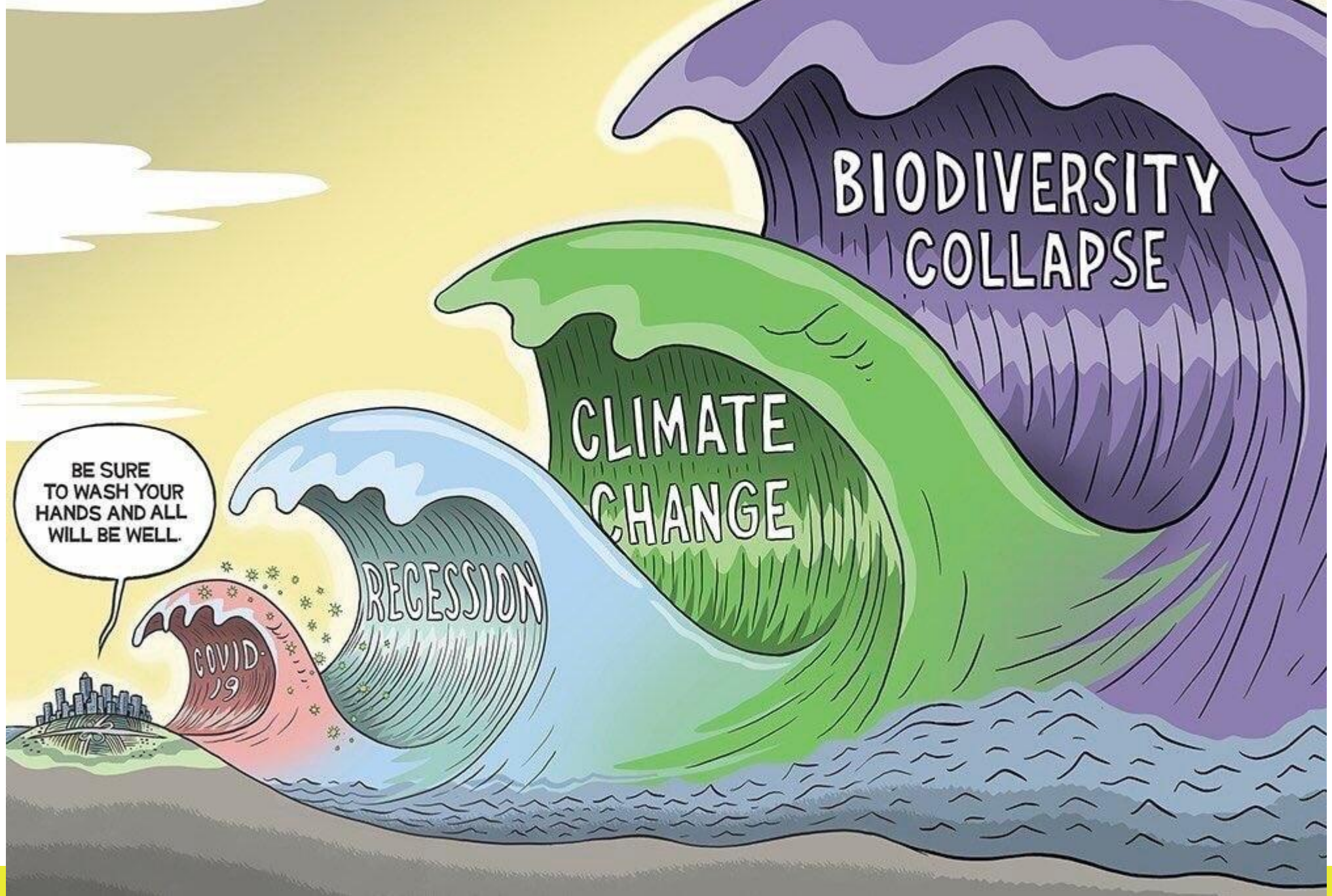
- Ground boundary dairy farming in 2030??
- New CAP, more for less.....
- Import of concentrates?
- Use of fertiliser?
- Animalwelfare: dehorning, transportation, calf with cow...

Most pressing Sustainability Issues in the Netherlands

Topic	Today's situation	Future goal
Ammonia emissions	-63% since 1990	Another 50% reduction needed by 2030
Greenhouse gasses	-15% since 1990	Greenhouse horticulture climate neutral in 2040 Livestock farming –5 Mton in 2030 (-25%)
Water	Phosphate fertilizer -85% since 1990 Nitrogen fertilizer – 39% since 1990	Reach status of 'good' quality requires: <ul style="list-style-type: none"> • Reduction of nitrate use in sandy soils • Reduction of phosphate in surface water
Chemical Crop Protection	15% decline in exceeding limits since 2017	90% reduction in exceeding limits & Ref. EU Biodiversity Strategy Dashboard
Fine dust	Stable; poultry causes more than half of emissions	50% reduction in 2030 compared to 2016
Antibiotics	-64% between 2009-2018	Target is 70% reduction
Biodiversity	Ref. EU Biodiversity Strategy Dashboard	

But will the puzzle fit?





What is



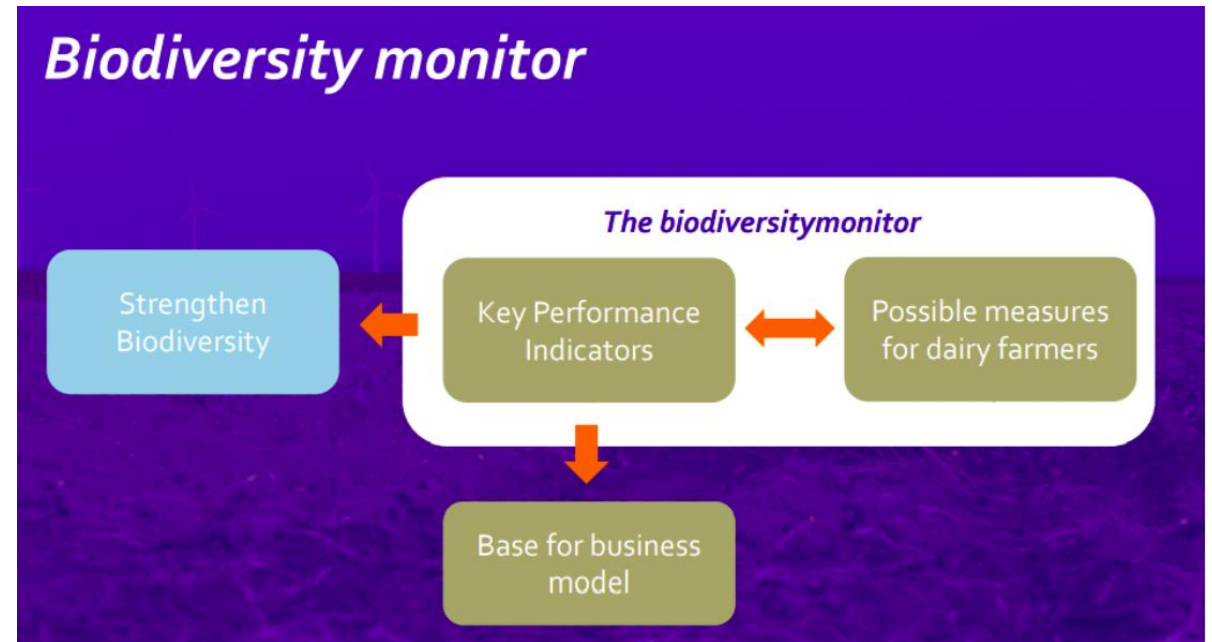


DUURZAME ZUIVELKETEN



Features of the Biodiversity monitor

- Target-based on biodiversity indicators
- Integral approach
- Data-driven (using existing available data)
- Science-based
- Standardisation of KPI's
- Multi-stakeholder



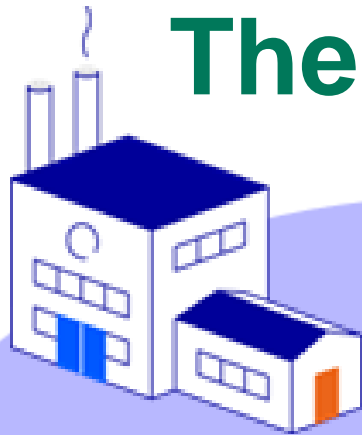
Shared set of 7 target based KPI's

- Greenhouse gas emissions
- % of permanent grassland (>5 year)
- % protein produced by own operations
- Ammonia emissions
- Nitrogen soil surplus
- Nature & Landscape
- % herb-rich grassland
- Water quality and quantity?
- Use of phosphates
- Use of pesticides



The carrot? Or the stick?

- Higher milk price



Processors



Bank

- Less interest



NGO/TBO

- Less rent for nature land
- Allies/opponents

- Payment for fewer emissions



Government



7 KPI's

- Payment for green/blue services



Others

- Less rent for land
- Less payment for insurance

Future

- Work on the missing KPI's
- More different rewarding organisations
- Guarantee and certify data
- Translate KPI's to net impact on Biodiversity



Farm

- 185 cows
- 90 young stock
- 45 sheep



- 1,7 million kg milk
- 4,4 % fat
- 3,6 % protein



- 2 sheds
- High production, robot
- Low production, milking parlor



- High production,
120/6 hour grazing
- Low production,
240/8 hour grazing



- Total 125 hectare
- 84 grassland
- 35 nature grassland
- 6 wheat



Manure

- 15 February- 1 September
- Inject slurry in the ground (slurry spray)
- Mix with water 1/3



Herb grassland

- 4 herbs, 3 clovers, grass
- 3 + 3 hectare
- Better dry resistance
- No fertiliser
- More biodiversity
- Happy villagers



Meadow birds

- More biodiversity
- Financial surplus
- Happy passers-by



Nature land

- Silage and grazing dry cows and heifers
- 35 hectare (16,6 ha own)
- Fit in the farming system



Making silage



No plowing

- Better for organic matter
- Better for the soil
- Better soil live



Wheat in stead of maize

- Better for soil
- Wet autumn
- Rotation will fit



Bokashi

- Roadside clippings
- Extra organic matter
- Financial surplus



Pilot Bovear

- Pilot FrieslandCampina and Agrifirm
- Reduce 30 % methane
- Cost € 0,01
- Mix with minerals in feed wagon

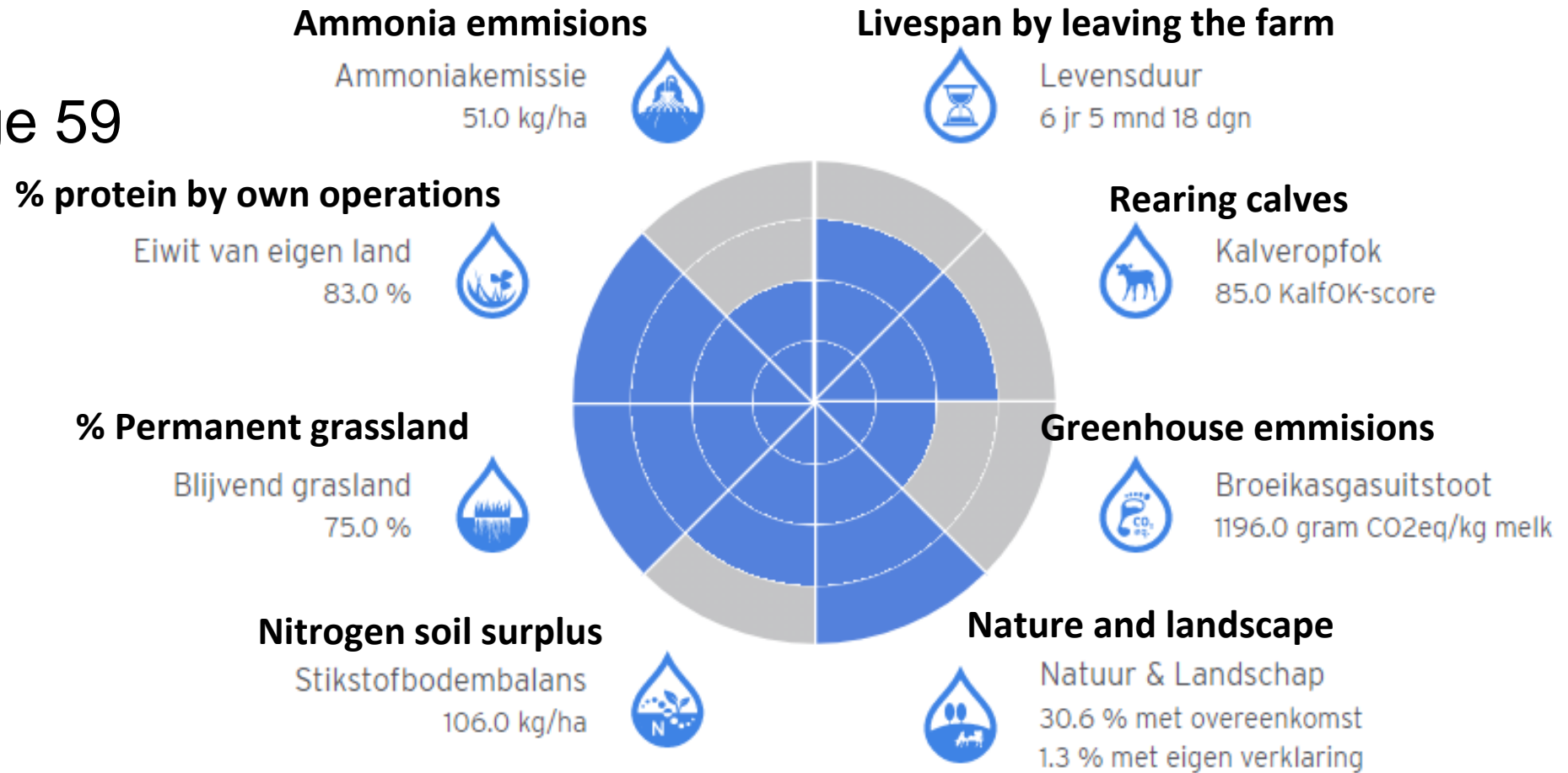


Future?

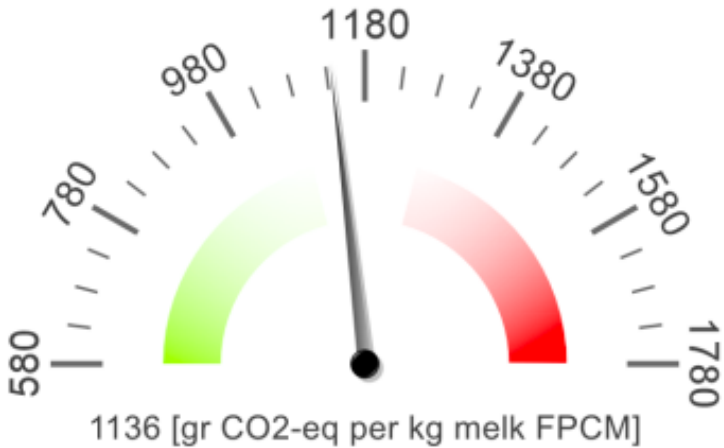


Our data 2019

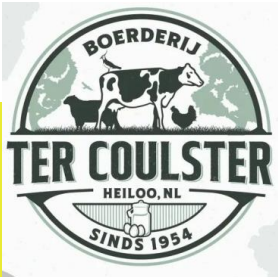
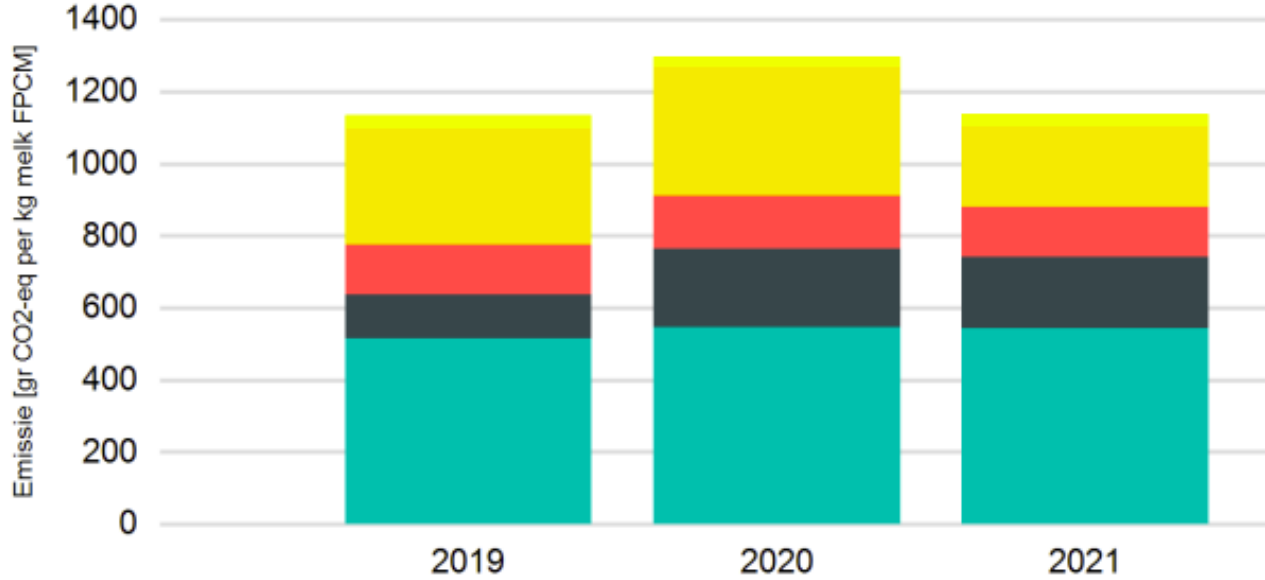
- 84 points, average 59
- € 3016



Greenhouse emmissions



- Pensfermentatie
- Voederproductie
- Mestopslag
- Aankoop (voeders, etc.)
- Aankoop (energie)

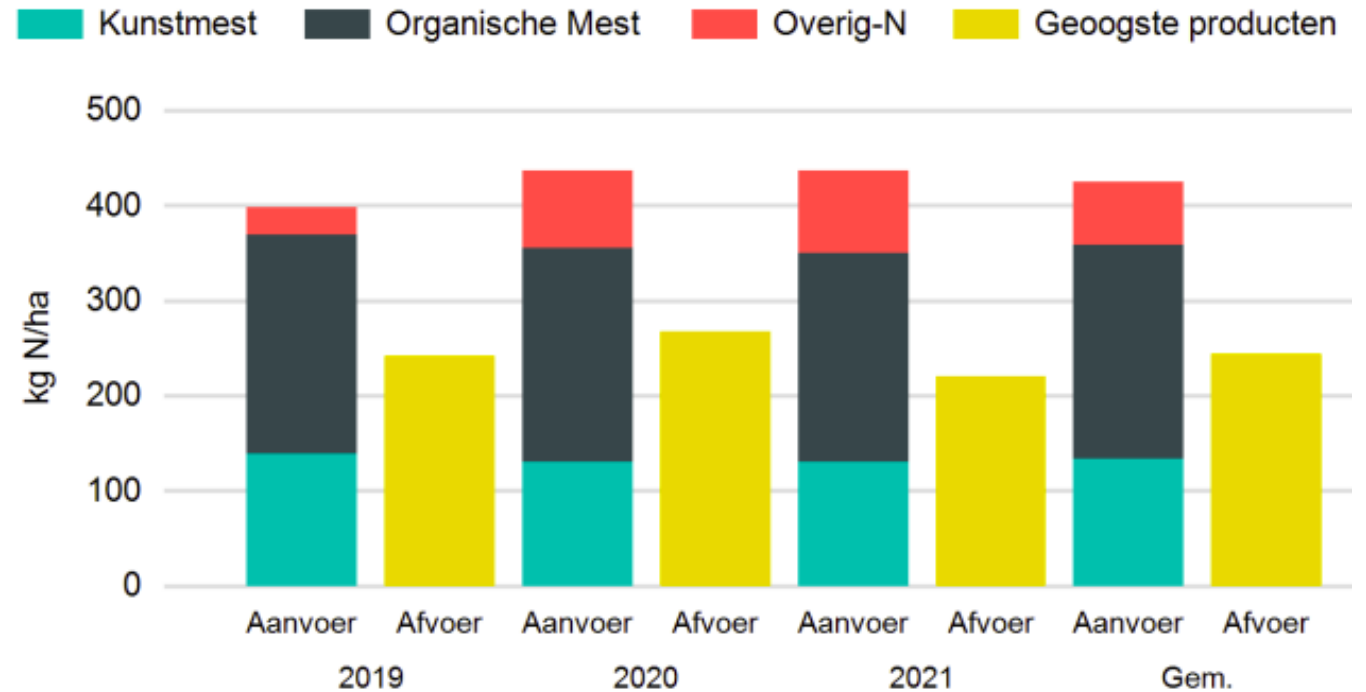


Nitrogen soil surplus

Stikstofbodemoverschot



Stikstofbodemoverschot

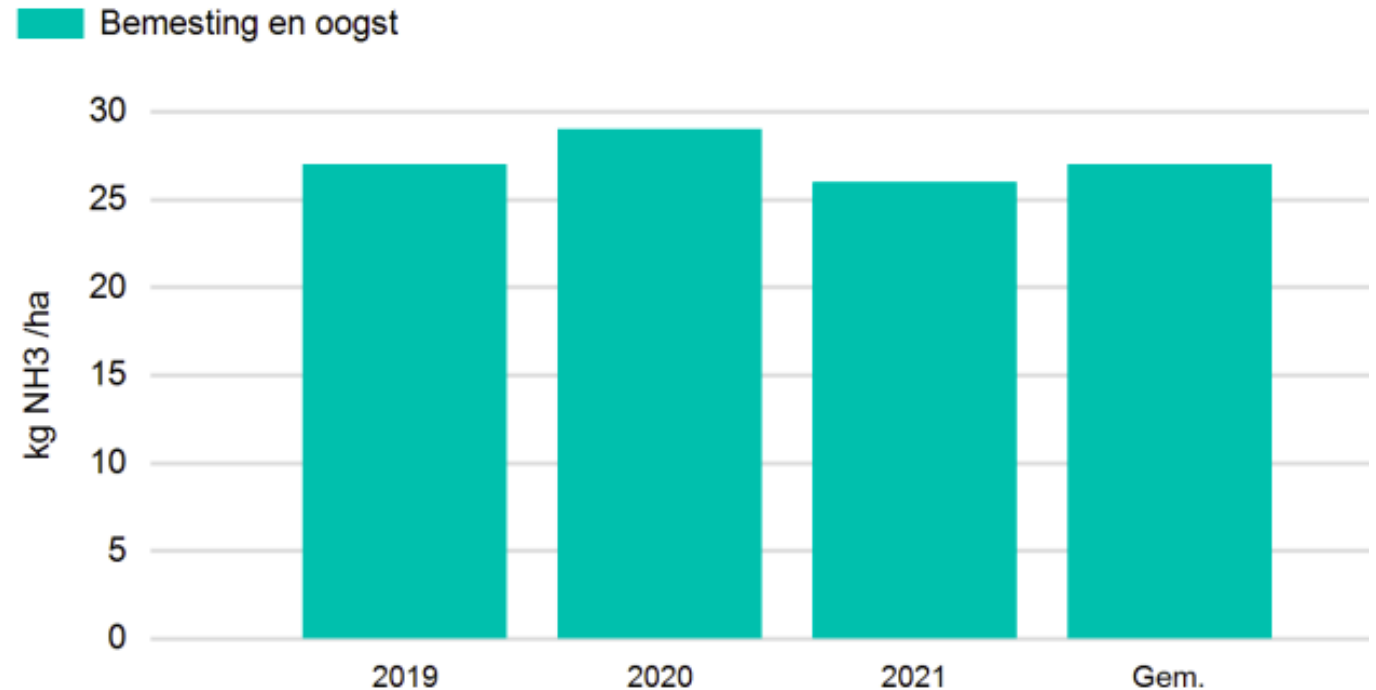


Ammonia emmisions / hectare

Ammoniakemissie per ha



Ammoniakemissie per ha

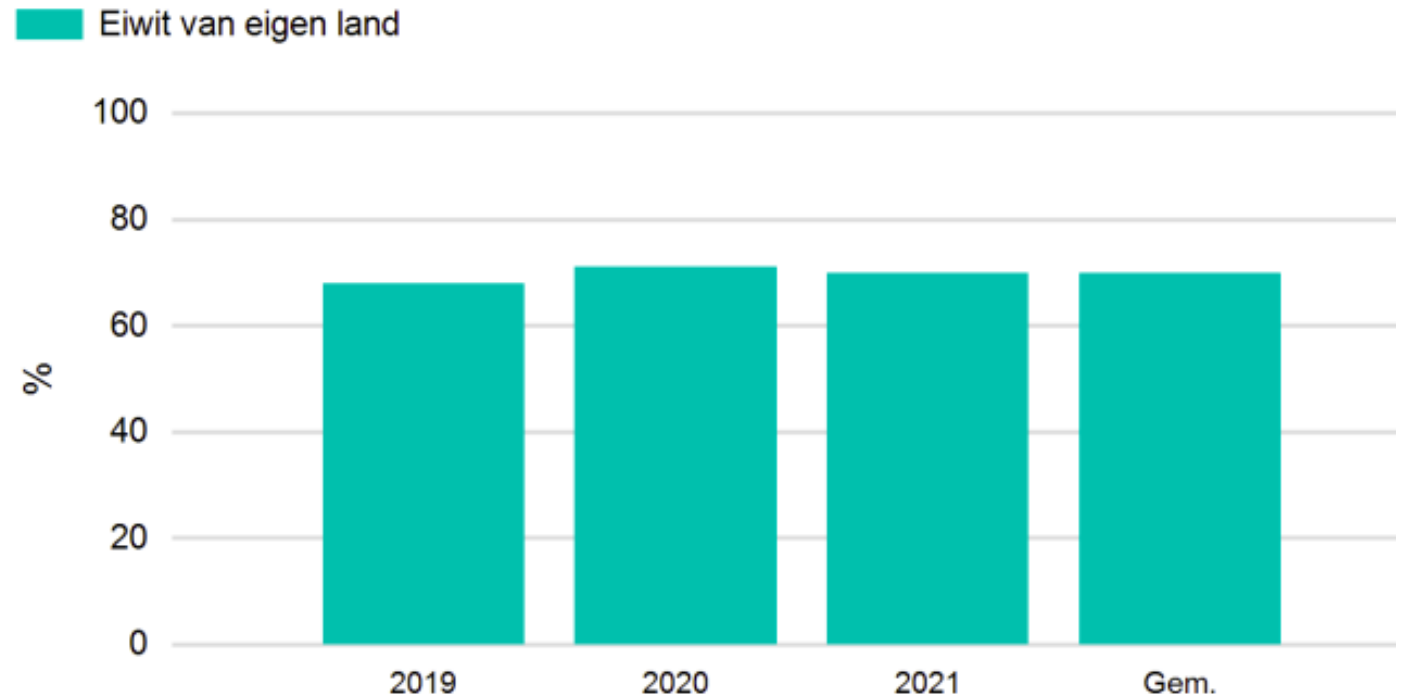


% protein produced by own operations

Eiwit van eigen land



Eiwit van eigen land



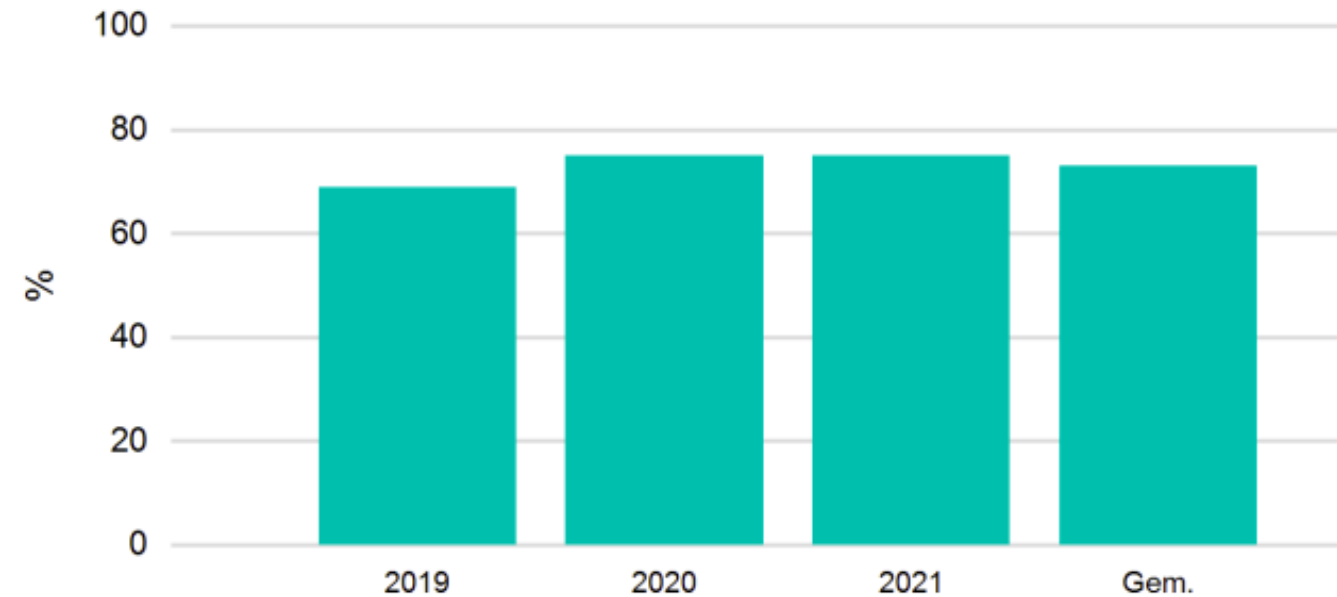
% of permanent grassland (>5 year)

Blijvend grasland



Blijvend grasland

Aandeel blijvend grasland



Nature and landscape

- 15,9 % in 2021 (5% average)
- 35 hectares of nature land
- 100 pollard willow trees
- 23 hectares with meadow bird protection
- 4 water pumps for wet land
- Bird facilities on the farm



Connection

- Sell: cheese, eggs, meat and honey
- Website
- Facebook
- Twitter



Open farm





Wilco Brouwer de Koning,
www.boerderijtercoulster.nl, wbdk@live.nl

