



SUSTAINABILITY IN PRIMARY PRODUCTION - PORK

ATRIA FINLAND

Merja Leino

ATRIA

Hyvä ruoka – parempi mieli.

Atria pork chain is controlled by vertical integration



Production chain is closed

Production is controlled according to meat consumption



Atria makes production agreements with all their producers

- Production quantities and number of spaces and quality
- Requirement for specific quality such as antibiotic free production
- The producer can not make new investments without production contract



Genetics is Topigs Norsvin motherline TN70 and DanBred Duroc



Atria is organising all transportation of animals



Piglet and finishing pig farms are networking with each other and production place has been agreed upon earlier



Most of the producers are using feed from A-Rehu

A-Rehu is owned by Atria and cooperative

Sustainability programme in Atria

- PLANET
- SBTi commitment
 - Scope 1 & 2
 - Scope 3
 - Carbon Footprint calculators
 - Sustainability Index
- PRODUCT / FOOD
 - Antibiotic free production
 - Animal feed
 - Carbon footprint
 - Animal welfare
- PEOPLE
 - Safely home from Atria
 - Diverse and equal Atria



ATRIA

Hyvä ruoka – parempi maailma

PLANET

**We care our environment.
Carbon neutral food chain is our
main target.**

- **CLIMATE:** Fewer emissions in the entire chain
- **ENERGY SOLUTIONS:** Renewable energy sources / emission-free solutions
- **ENERGY EFFICIENCY:** Improving energy efficiency
- **PACKAGING:** Ecological packaging solutions
- **VESI:** Sustainable water use and risk assessment
- **WASTE:** Less waste
- **BIODIVERSITY:** Choices that protect biodiversity

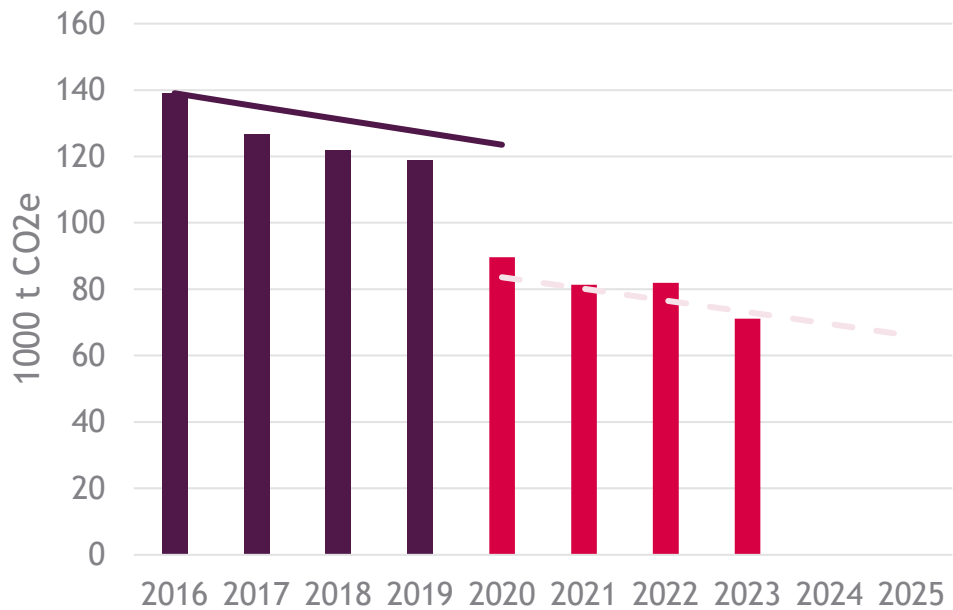


Atria's targets approved by SBTi:

Reducing greenhouse gas emissions by 2030 from 2020

42%
Scope 1 and 2

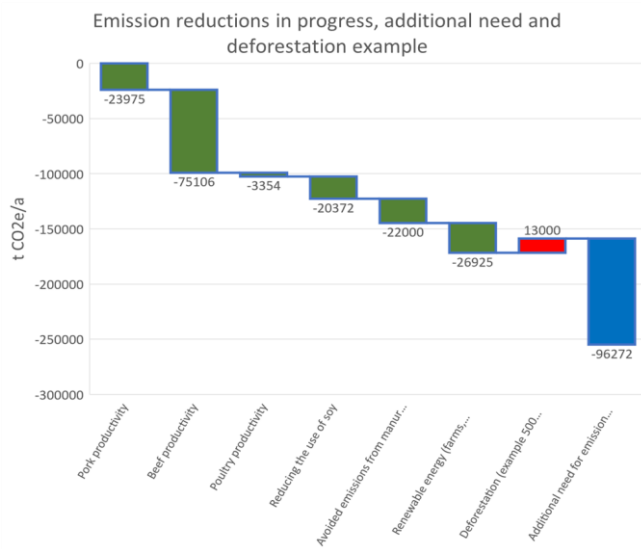
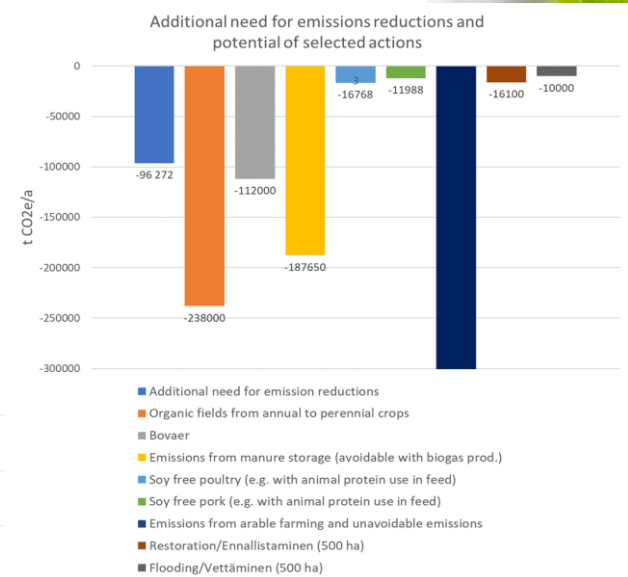
20%
Scope 3
(per tonne of meat processed)



■ Scope 1 and 2

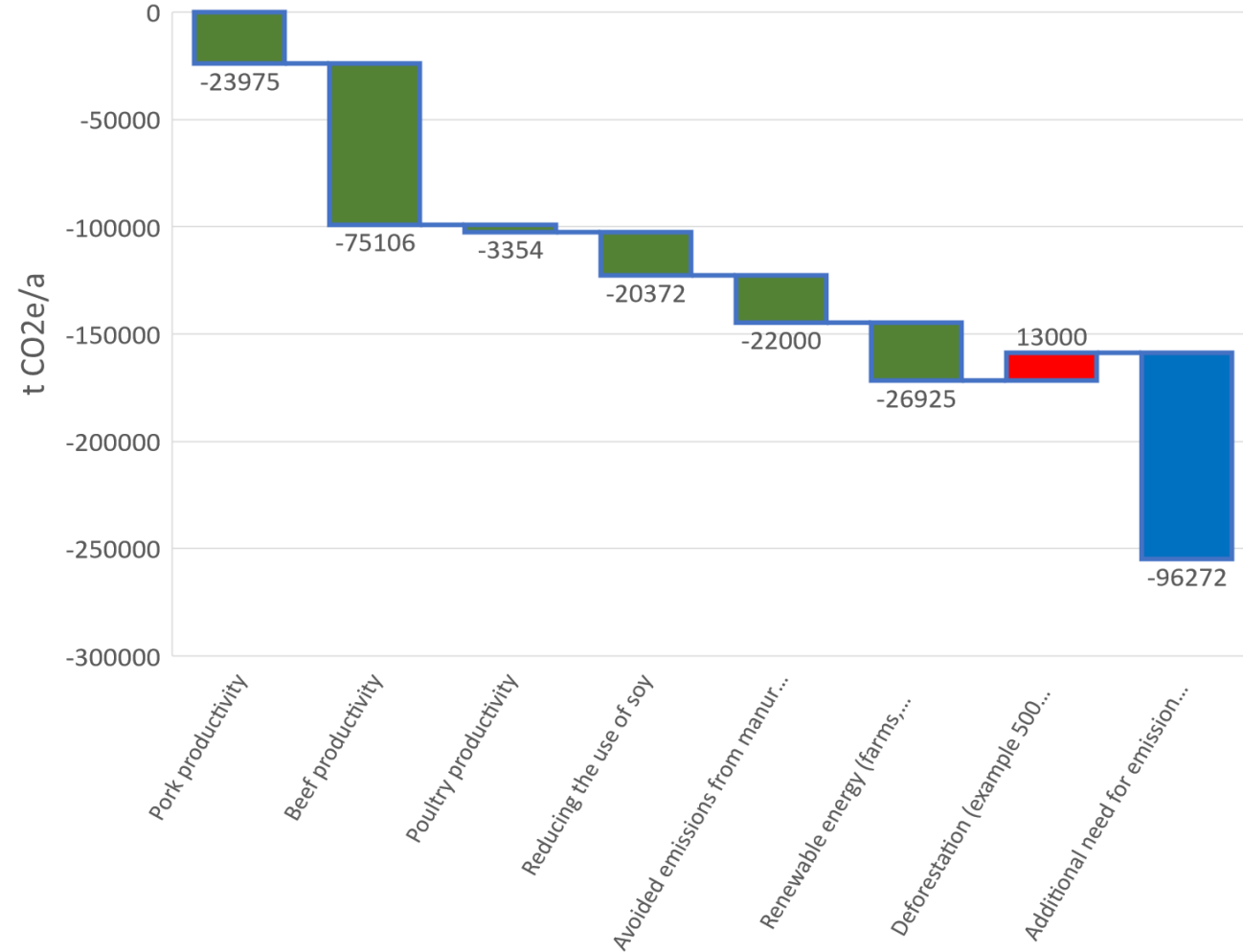
— Target -25 % 2016-2025

- - - SBTi target 2020-2030

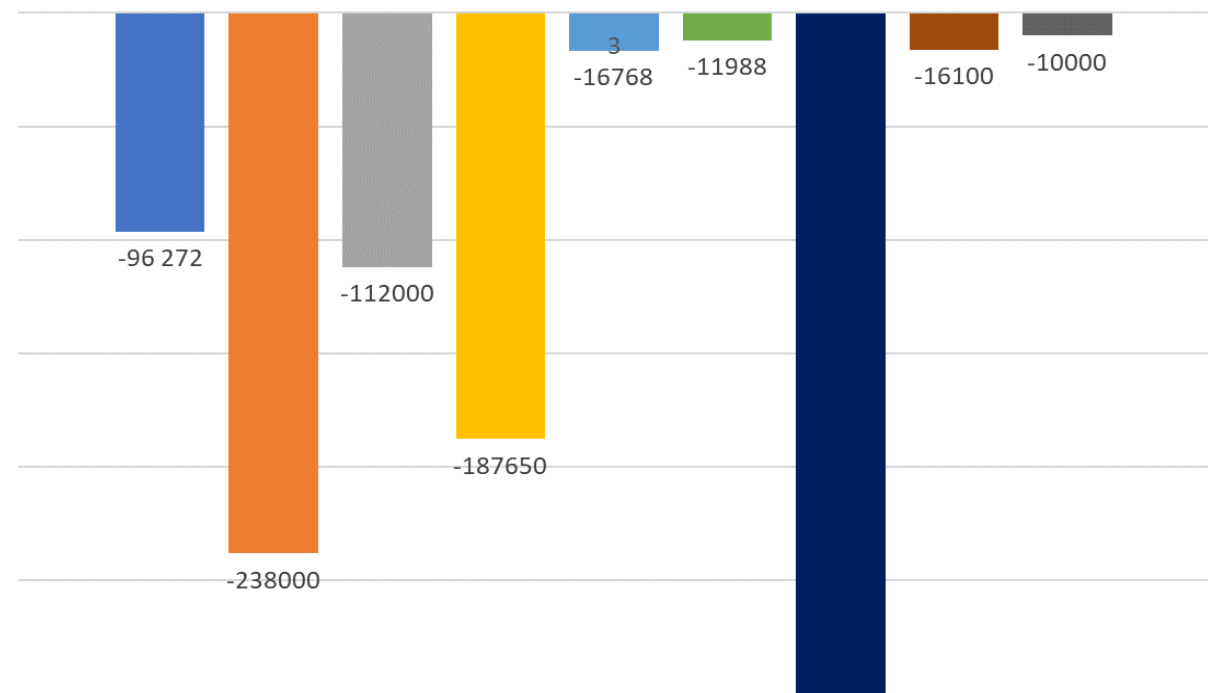


SBT Scope 3 Roadmap

Emission reductions in progress, additional need and deforestation example



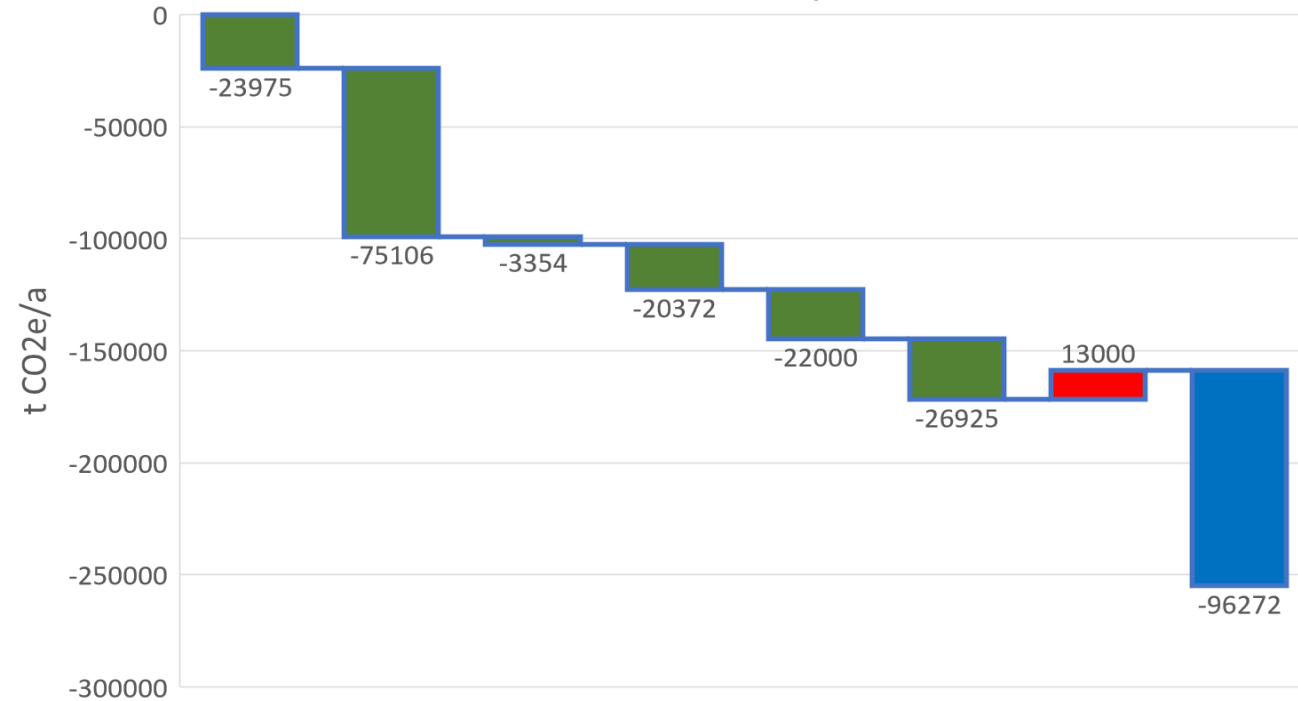
Additional need for emissions reductions and potential of selected actions



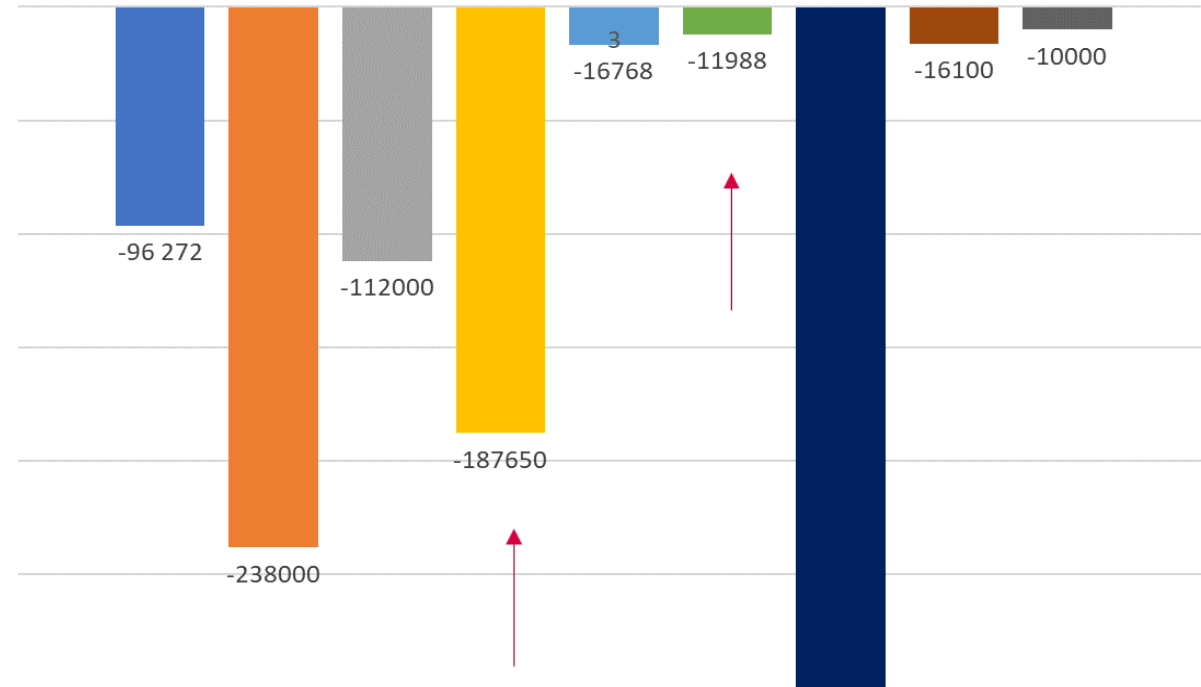
- Additional need for emission reductions
- Organic fields from annual to perennial crops
- Bovaer
- Emissions from manure storage (avoidable with biogas prod.)
- Soy free poultry (e.g. with animal protein use in feed)
- Soy free pork (e.g. with animal protein use in feed)
- Emissions from arable farming and unavoidable emissions
- Restoration/Ennallistaminen (500 ha)
- Flooding/Vettäminen (500 ha)

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Land area need for pork (impacts to nature)

Finnish pork

| | m2 per teuraskilo | m2 per 100 g proteiinia |
|-------------------------------|-------------------|-------------------------|
| Tavallinen possu | 9,78 | 5,09 |
| Atrialainen possu keskimäärin | 7,40 | 3,86 |
| Kiertotalouspossu | 6,40 | 3,33 |

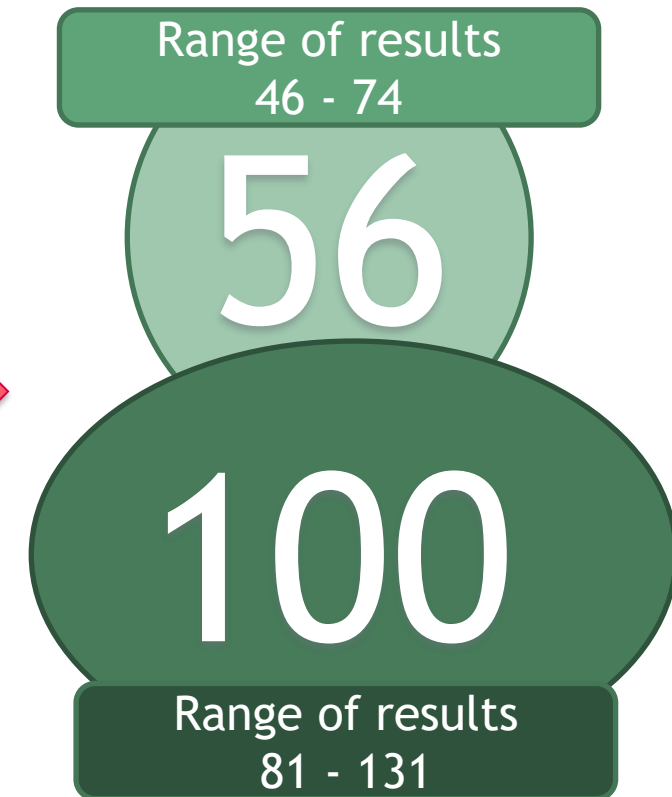
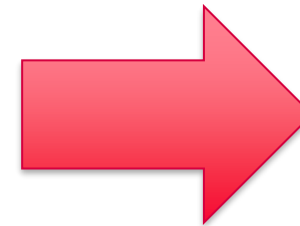
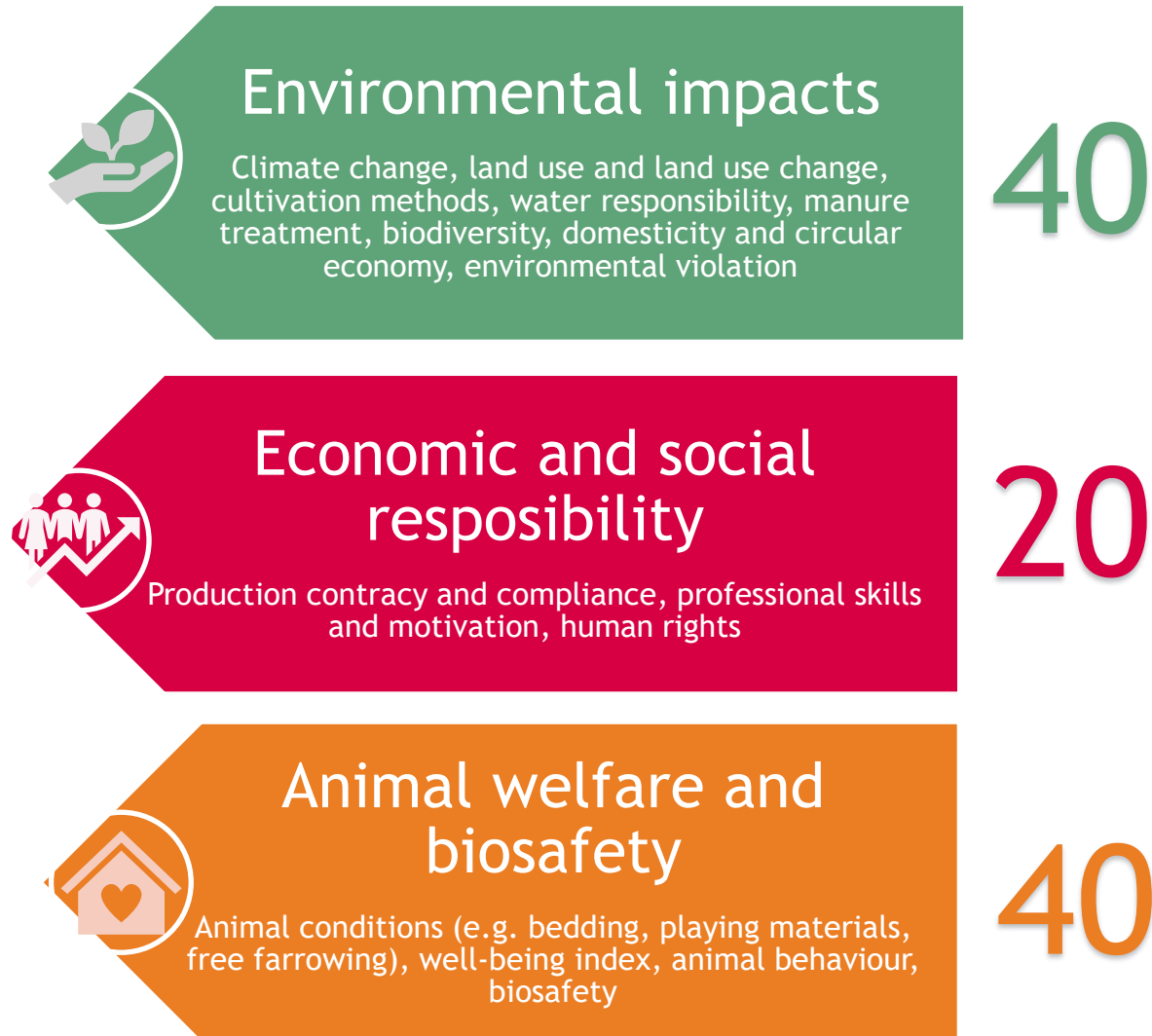
| Ingredient | Average land use per 100g protein (m ²) |
|-----------------|---|
| Nuts | 7.9 |
| Tomatoes | 7.3 |
| Other Pulses | 7.3 |
| Poultry Meat | 7.1 |
| Oatmeal | 5.8 |
| Eggs | 5.7 |
| Potatoes | 5.2 |
| Brassicas | 5.0 |
| Grains | 4.6 |
| Rice | 3.9 |
| Insects | 3.6 |
| Groundnuts | 3.5 |
| Peas | 3.4 |
| Root Vegetables | 3.3 |
| Wheat & Rye | 3.2 |
| Maize | 3.1 |
| Onions & Leeks | 3.0 |
| Tofu (soybeans) | 2.2 |

Poore ja Nemecek:

- **pork 11 m²/100 g protein**
- **International level**

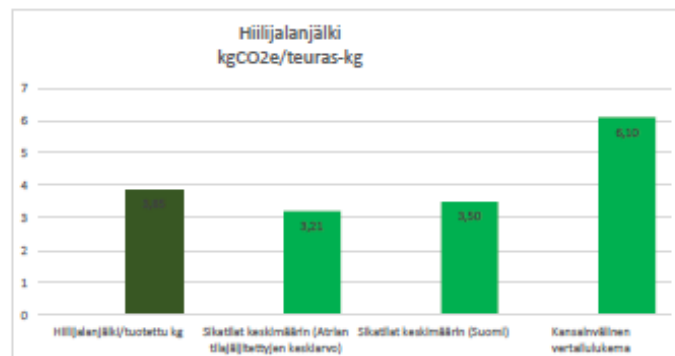
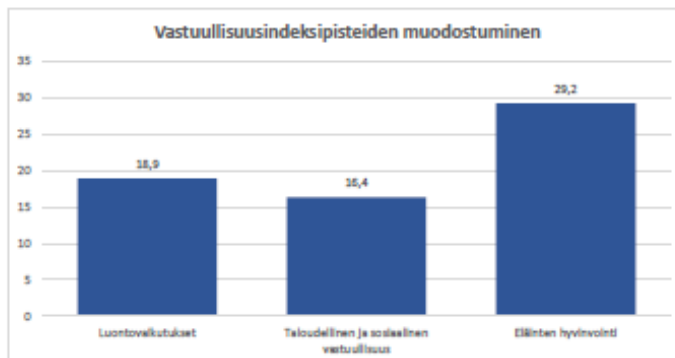
CASE: Sustainability index: sub-areas, weighting and the first result of the pilot group

The sum of the sub-areas form an index reflecting the overall sustainability of the farm 0-100 or the average of the results of the pilot group with a baseline of 100



Farm report example

TUOTANTOSUUNTA Lihasiikatuotanto
 Tarkasteluvuosi 2022-23 Pääosa tiedoista vuodelta 2022



- Tilallasi keskimääräistä paremmin
1. Avoimuus ja tiedonvaihto, tuotanto-ohjeiden noudattaminen
 2. Rehuhyötysuhde, soijaton tuotanto
 3. Eläinten olosuhteet, hännänpurenta

| VASTUULLISUUSINDEKSI | MUUTOS |
|----------------------|----------|
| 115 | - |

| OMAN TILASI TULOKSET | Osa-aluepisteet | Painotus | Kokonaisindeksiin |
|--|-----------------|----------|-------------------|
| OSA-ALUEET | 0-100 | % | |
| Luontovaikutukset | 47,4 | 40 | 18,9 |
| Taloudellinen ja sosiaalinen vastuullisuus | 82,0 | 20 | 16,4 |
| Eläinten hyvinvointi | 73,1 | 40 | 29,2 |
| Vastuullisuusindeksipisteet | | 100 | 64,6 |
| VASTUULLISUUSINDEKSI | | | 115 |

VASTUULLISUUSINDEKSIIN VERTAILU

| | |
|------------------------------|-----|
| Oman tilasi tulos | 115 |
| Tuotantosuunnan keskiarvo | 104 |
| Sikatilojen keskiarvo | 100 |
| Paras neljännes sikatiloista | 110 |

HIILIJALANJÄLKI/TUOTETTU KG (kgCO₂e/teuras-kg)

3,85

- | | |
|--|------|
| Hiilijalanjälki/porsas (30 kg) | - |
| Keskimäärin sama tuotantosuunta (Atrian keskiarvo) | - |
| Hiilijalanjälki/tuotettu kg | 3,85 |
| Sikatilat keskimäärin (Atrian tilajäljitettyjen keskiarvo) | 3,21 |
| Sikatilat keskimäärin (Suomi) | 3,50 |
| Kansainvälinen vertailulukema | 6,10 |
- Tilan tulosta heikentää pellon raivauksen aiheuttamat päästöt (vaikuttaa tulokseen 20 vuotta).
 Tilan satotasot ja viljelyn tehokkuus muutoin keskimääräistä paremmat.

- Tilallasi kehitettävää
1. Pellonraivauksen välttäminen
 2. Sähkön kulutus
 - 3.

ETHICALLY PRODUCED PURE, AND SAFE FOOD

FOOD SAFETY : We take care of product quality and safety

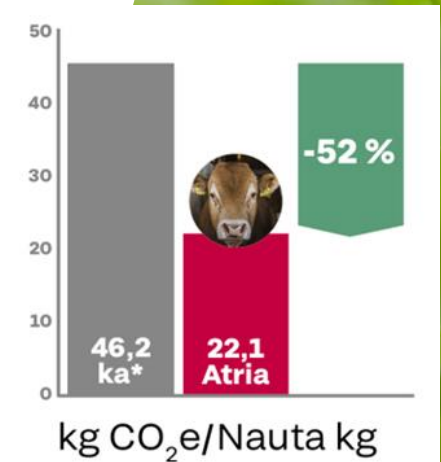
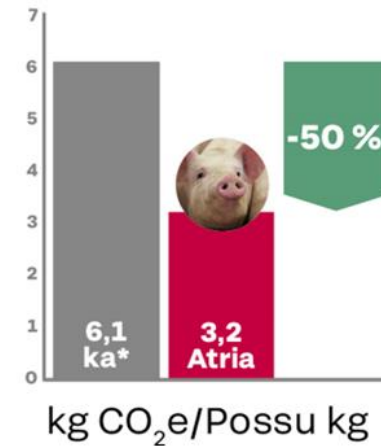
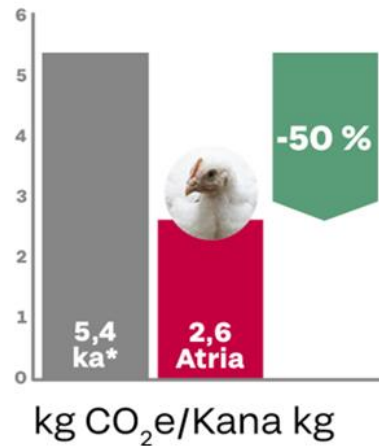
BIOSAFETY: We strengthen biosafety of our chain

ANIMAL WELFARE: We enhance animal welfare

ANTIBIOTICS: We develop antibiotic free production chain

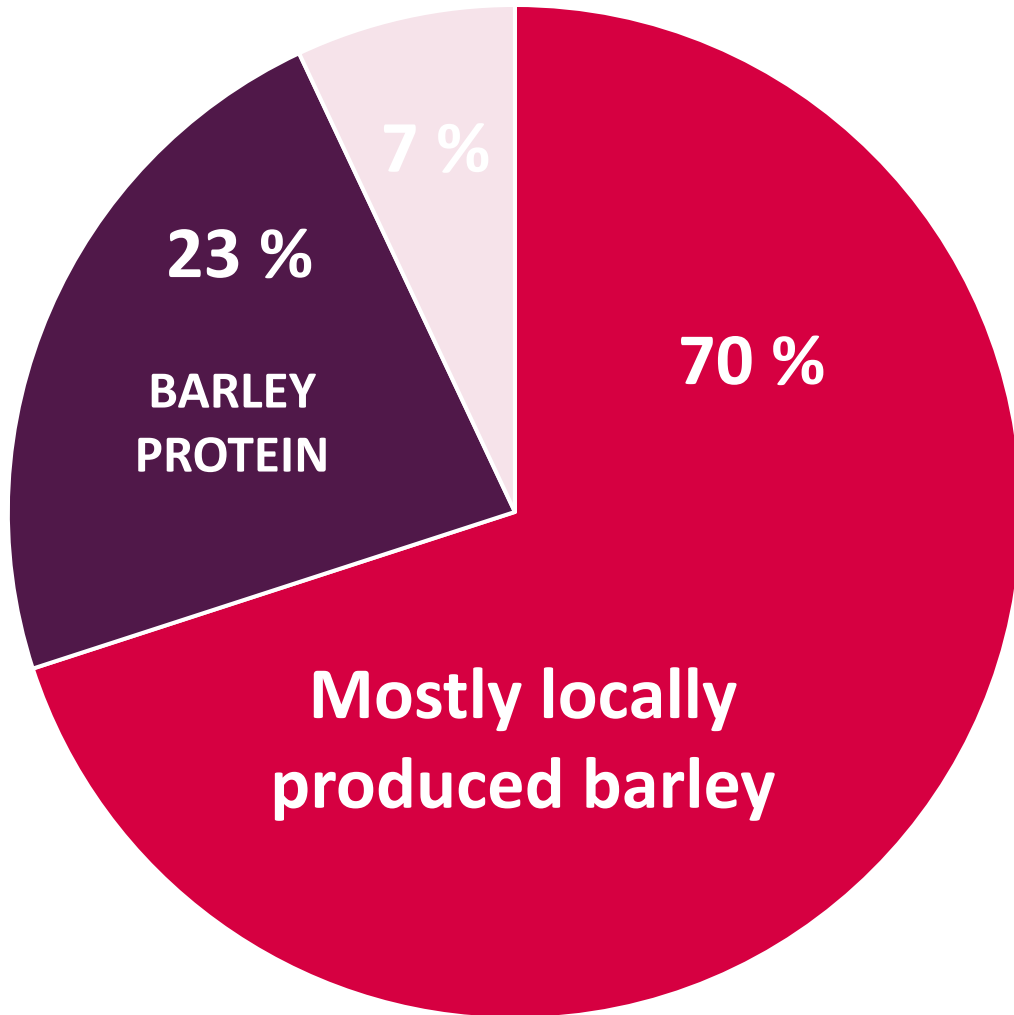
TRACEABILITY: We promote traceability of raw materials in our chain

- Carbon footprint in Atria's primary production is significantly smaller than the *world average
- The carbon footprint of farm-traced pork is 3.2 kg Co₂e/kg carcass weight.
- It is 50% lower than the international average

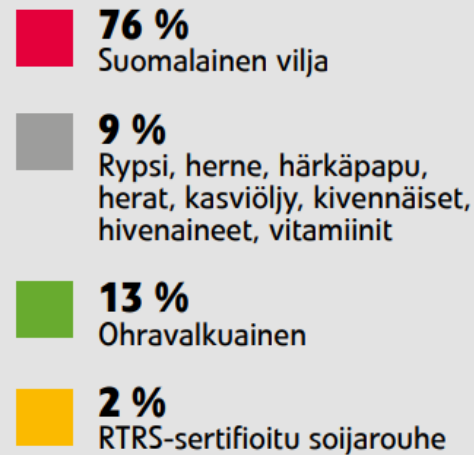
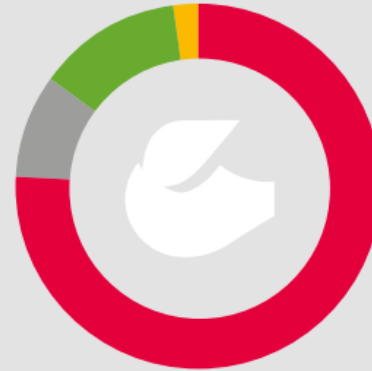


Pig's menu

(7%) Concentrates
(essentials minerals,
vitamins)



ATRIALAISET POSSUT RUOKITTAAN PÄÄASIASSA ILMAN SOIJAA

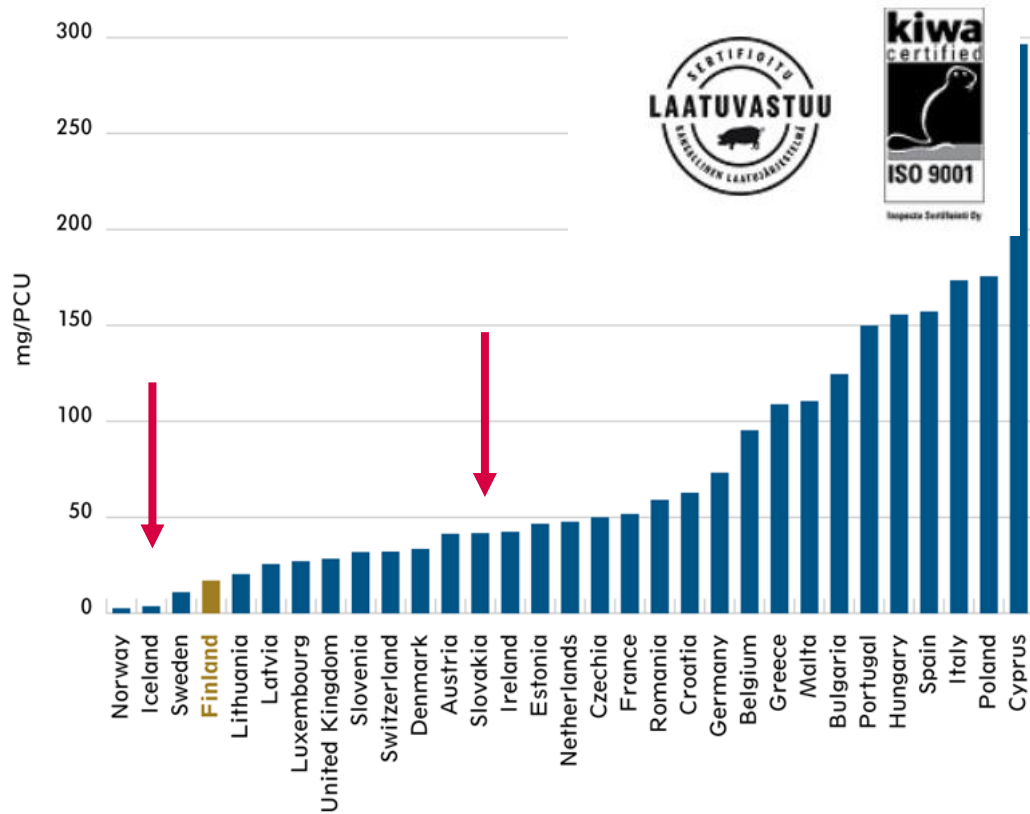


- Animal-based raw materials are not used in feed
- Pigs are reared without soya
- 93% of pig feeding is based on cereal, mostly barley (wheat, rye and oat as well)
- Protein feed is manufactured from barley at Altia and liquid barley protein is a byproduct of their process



Antibiotic Free Grown Pork

Sales in tonnes of active substance of antibiotic VMPs marketed mainly for food-producing animals¹, PCU in 1,000 tonnes and sales in mg/PCU in 31 European countries in 2021



- In Finland, antibiotics are used only for identified needs, based on a veterinarian's diagnosis
- Atria's antibiotic-free pig has never been treated with antibiotics during the course of its entire life
- Only sick animals are medicated
- A green eartag on pig's ear = pigs has never medicated with antibiotics

¹Tablets are excluded as they are used almost exclusively in companion animals. On the contrary, sales of some injectable antibiotic VMPs and a few other products that are solely or also used in companion animals are included in the sales for food-producing animals given that their proportional use in companion animals is minor.

The pigtail is a Finnish rarity

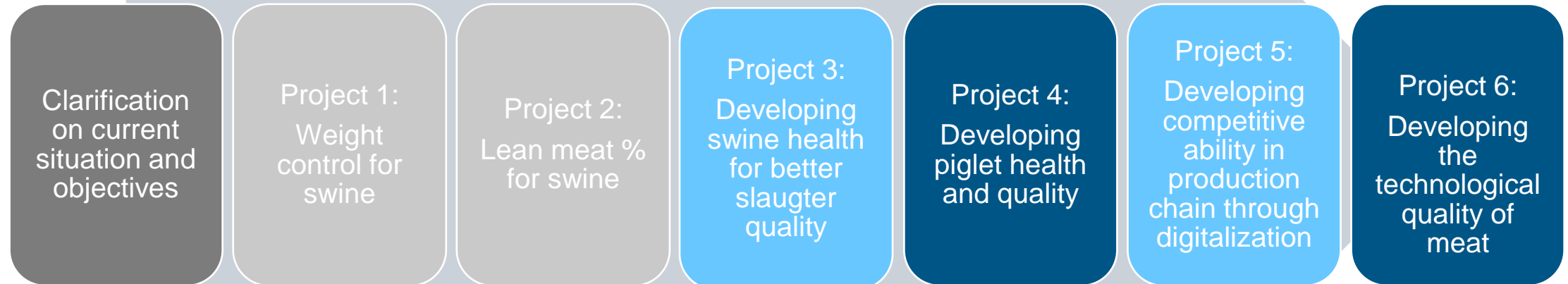
- The tail is an indicator of a pig's welfare.
- The EU has banned the docking of tails, but only Finland and Sweden comply with the law.
- In other countries, tails are docked because in poor conditions, pigs have disruptive behaviours, such as biting each other's tails.
- Finnish pigs have 25 % more space than in Central Europe.



For the transition towards pig farming without tail docking, an analysis has been performed of the cost increase, of conditions for supply chain implementation, and of the possibilities and feasibility of a calamity fund. Costs are mounting up to €26 per delivered pig, and to €29 per pig during the learning phase. Under

Projects in vertical integration for 2021-2025

PRIMARY PRODUCTION- INDUSTRIAN PROCESS – MARKET – CONSUMER =
competitive ability



Increasing understanding for vertical production chain

Smart pig farm - pilot



- Intelligent Animal Production
 - Focus on developing a vertical pig production chain
 - Generate real-time and reliable data
- Data-Driven Integrated Production Chain
 - Enhances competitiveness
 - Supports producers better

Pilot phase

Electronic Ear Tags for Data Collection

- Approximately 8 000 piglets tagged
- Facilitates and automates data collection

Piglet Handling Cart Automation

- Simplifies attachment of electronic ear tags
- Weighs piglets and records initial data

Weaning and Fattening Facilities

- Automatic scales for free movement
- Provides accurate daily growth data

Thank you !

