LICENSE TO PRODUCE

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VALIO LTD

14.1.2019

ANIMAL BREEDING IS PART OF THE FOOD CHAIN

We all are totally independent on the ecosystems

- **Recycling nutrients, water**
- **Bacterial activity (N etc.)**
- **Pollination (bees etc.)**
- **Immunity systems (insects, animal and plant deseases)**
- **Decomposition of waist**
- **Diversity (genes etc.)**
- **Climate…**

WE ALL ARE MAKING BUSINESS ON NATURE RECOURSES - > BIG RESPONSIBILITY

Purity AND RESPECT FOR nature

GLOBAL TRENDS

– CHALLENGES AND STRENGTHS FOR ANIMAL PRODUCTION

More food, more animal protein

POPULATION GROWTH
- Middle class growth

Trans-parency

ENVIRONMENTAL AWARENESS AND A NEW WAY OF LIFE

Action

GLOBAL WARMING
CLIMATE CHANGE
- Diversity loss

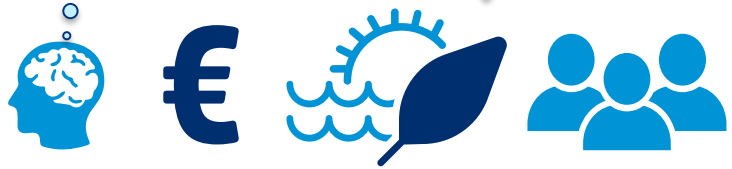
Efficiency

Services

DIGITALISATION
- Artificial Intelligence

Brains?

Feed - no food



INCREASING COMPETITION FOR RESOURCES

URBANISATION

Less arable land

THE UN SUSTAINABLE DEVELOPMENT GOALS FOR 2016–2030 AIM AT ERADICATING POVERTY AND SAFEGUARDING WELLBEING IN ENVIRONMENTALLY SUSTAINABLE WAYS

SUSTAINABILITY IS INCREASINGLY MORE SIGNIFICANT TO CUSTOMERS, CONSUMERS AND EMPLOYEES

53%

of Finns consider sustainability a very important or important quality in a product or service

73%

of Finns are willing to pay more for a sustainably produced product or service.

49%

of Finns have decided not to buy a product or service that was unsustainably produced.

36%

would not apply for a job with an employer who operates unsustainably.

28%

would refuse to work for an unsustainable employer.

Source: Hyvä yritys – 10 näkökulmaa yritysten ja yhteiskunnan suhteeseen (Aalto et al, 2016)



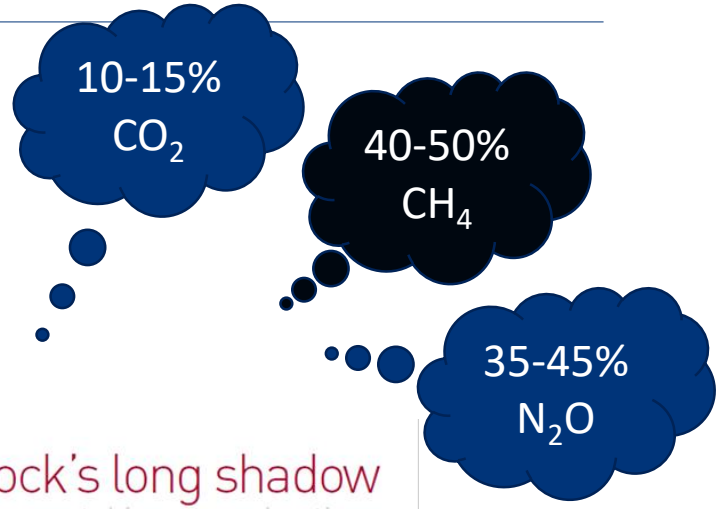

CONSUMERS EXPECT COMPANIES TO PROVIDE SOLUTIONS FOR GLOBAL PROBLEMS

NO MORE ONLY CLEANING FOOTSTEPS BUT LEAVEING MORE HANDPRINTS

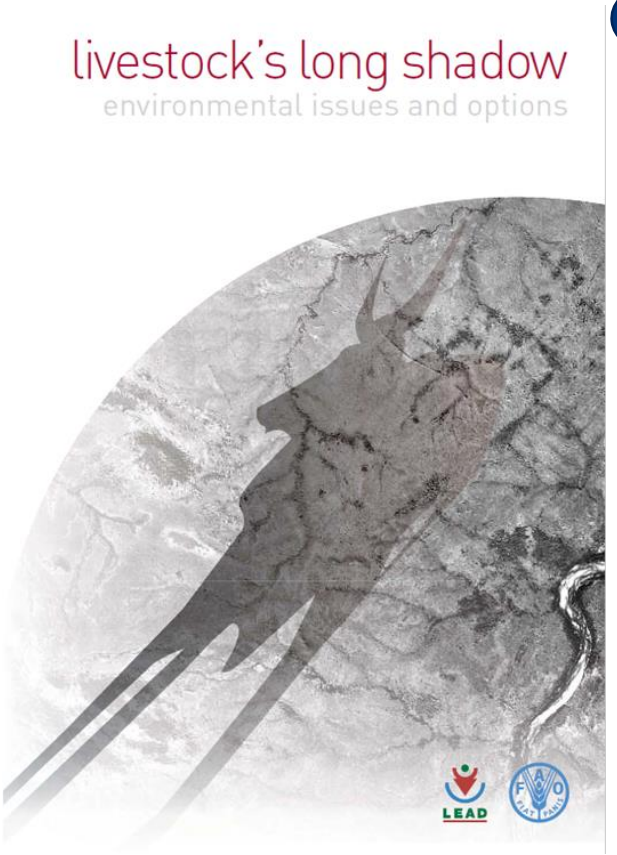

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

1. MITIGATION OF THE CLIMATE CHANGE

GHG IS THE PRIZE TO PAY FOR USING RUMEN BACTERIAS TO CHANGE FEED FOR HUMAN FOOD



- Methan
- Global animal production 7,1 gigatons CO^2 equiv. GHG
  = 14,5% all human coused GHG
- Footprint analyses do not pay attention on nutrition quality
- No clear standards on footprint analyses



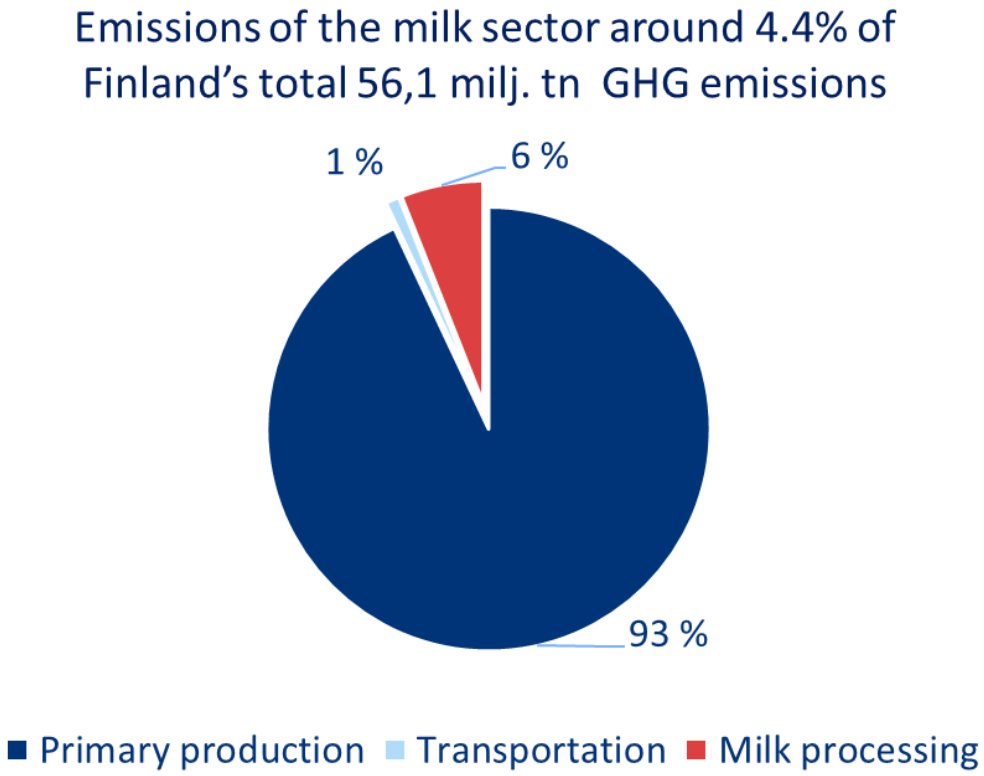
FAO 2006

IPCC

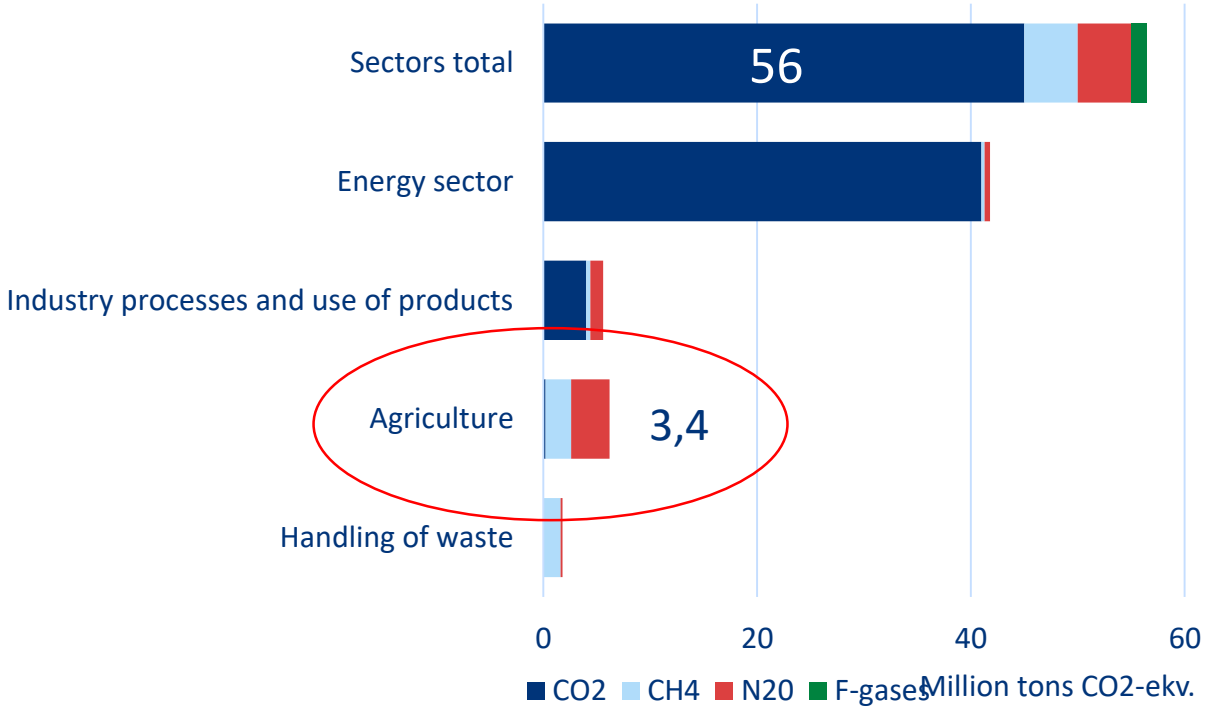
Media

Social media

SCALES AND PROPOTIONS ARE NOT CLEAR FOR MOST OF THE PEOPLE



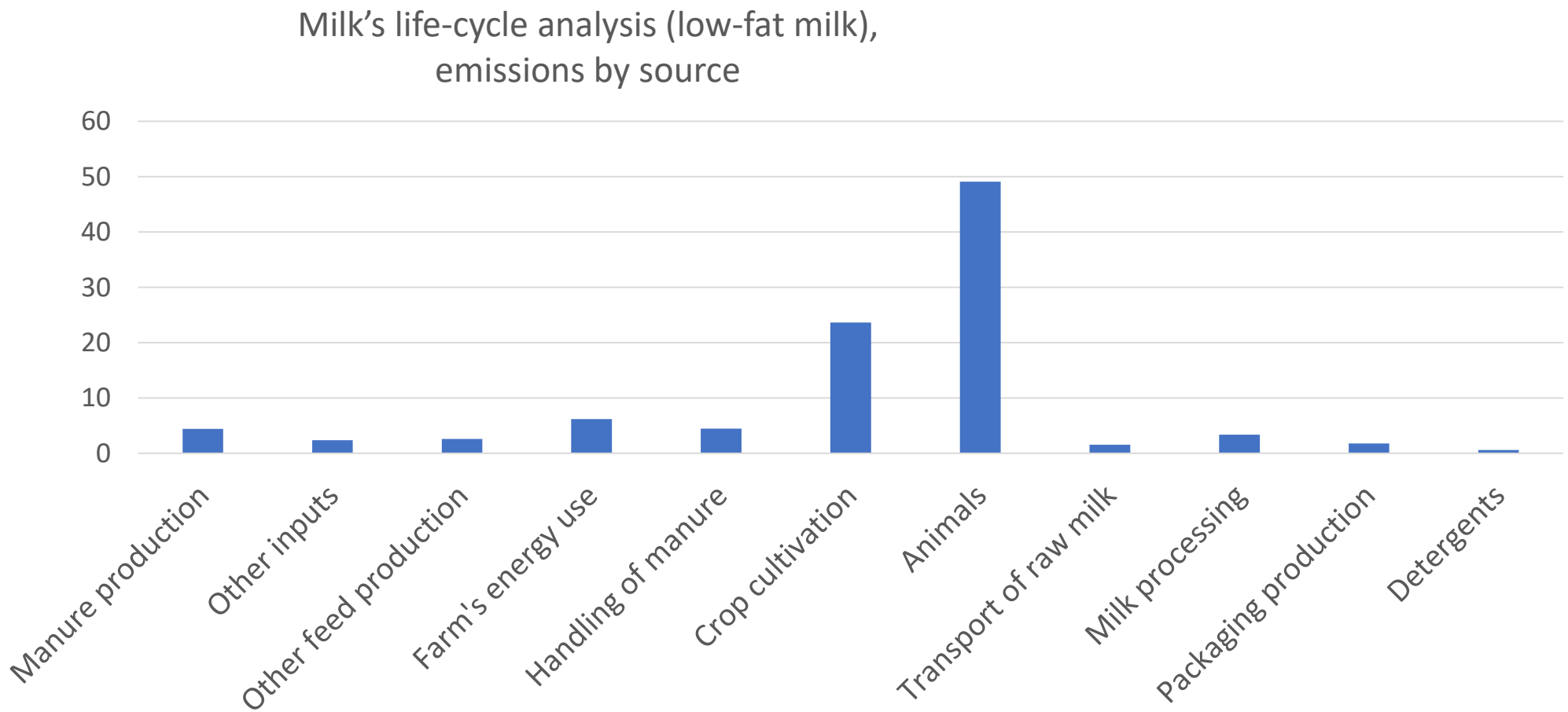
Greenhouse gas emissions in Finland 2017



Source: Statistics Finland, Greenhouse gas emissions in Finland 2017
https://tilastokeskus.fi/til/khki/2017/khki_2017_2018-05-24_kat_001_fi.html

CARBON FOOTPRINT OF MILK IS BORN ON THE FARM, 1 KG ECM = 1 KG CO^2 EQV.

Valio
Finland 2018



ACTIONS ARE NEEDED TO STOP GLOBAL WARMING

- Emissions must be reduced in all sectors
- Emissions must be removed from the athmosphere – only reducing emissions is not enough to achieve the targets of Paris climate agreement
- We must leave fossile economy to circular economy

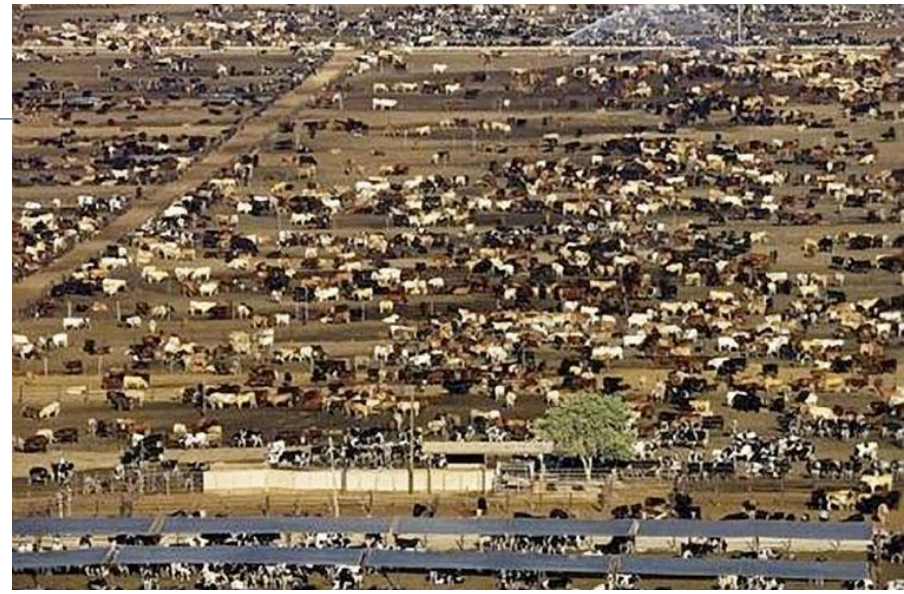
THE know-how AND LOVE OF MILK

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION :

2. KEEPING UP THE TRUST OF CITIZENS AND AUTHORITIES

EVERYTHING IS OK IN AGRICULTURE?

#EndTheCageAge - European Citizens' Initiative (ECI)



PESTICIDES

LIVE ANIMAL TRANSPORT

across the EU.

One million animals are transported every day in Europe, most of them for s
animal transport, especially over long distances, is a major animal welfare concer
often exposed to stress during loading and unloading, and can suffer because of h
exhaustion, lack of space or rest. Transporting live animals also poses serious ri
hea tific evidence shows that
tran ls even more vulnerable to d

Wh rent legislation to reduce an
ani isting rules need to be be

PICTURE OF ANIMAL BREEDING: MORE PRODUCTION

CLONING

Cloning is a technique of artificial reproduction to create identical animals.
However, the cloning process is inefficient, wastes animal lives and has a huge potential to cause pain, suffering and distress at all stages of the process.
It also has very low success rates: 10% in cattle and 6% in pigs. In addition, cloning compounds the view of farm animals as commodities rather than sentient beings. EU consumers and citizens are against this technique to produce food.

Download our latest briefing

BIOTECHNOLOGY

Modern biotechnologies are applied to animals for res
altered (GA) animals. They are also used to develop a
cloning) for the breeding of farm animals.

Download our latest briefing

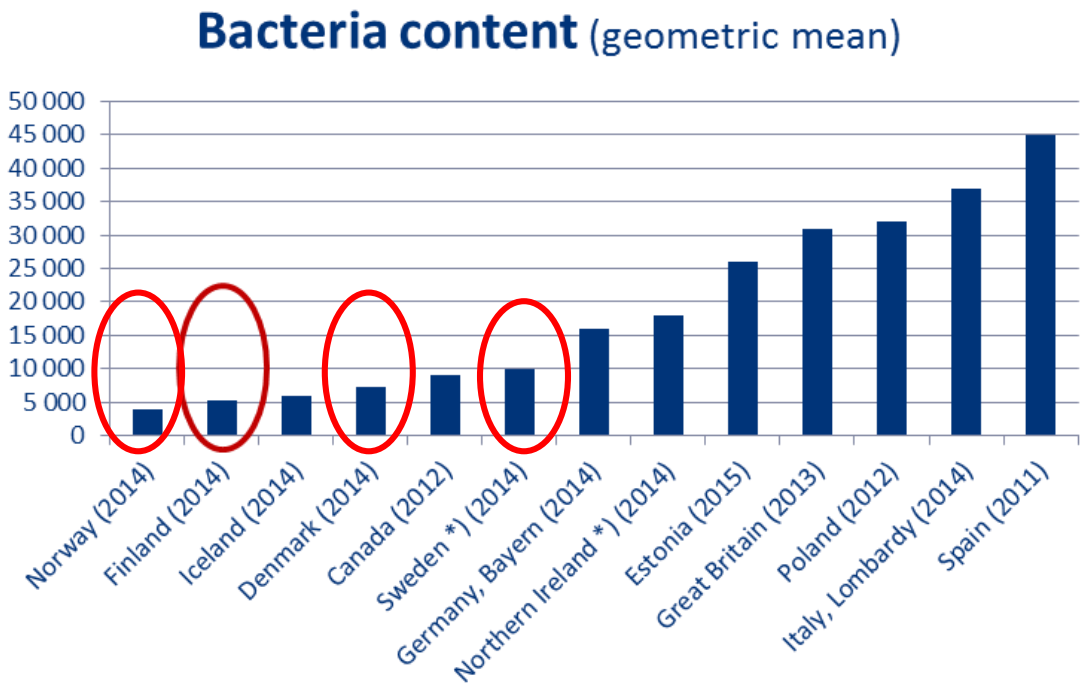
Source Eurogroup for Animals, SEY

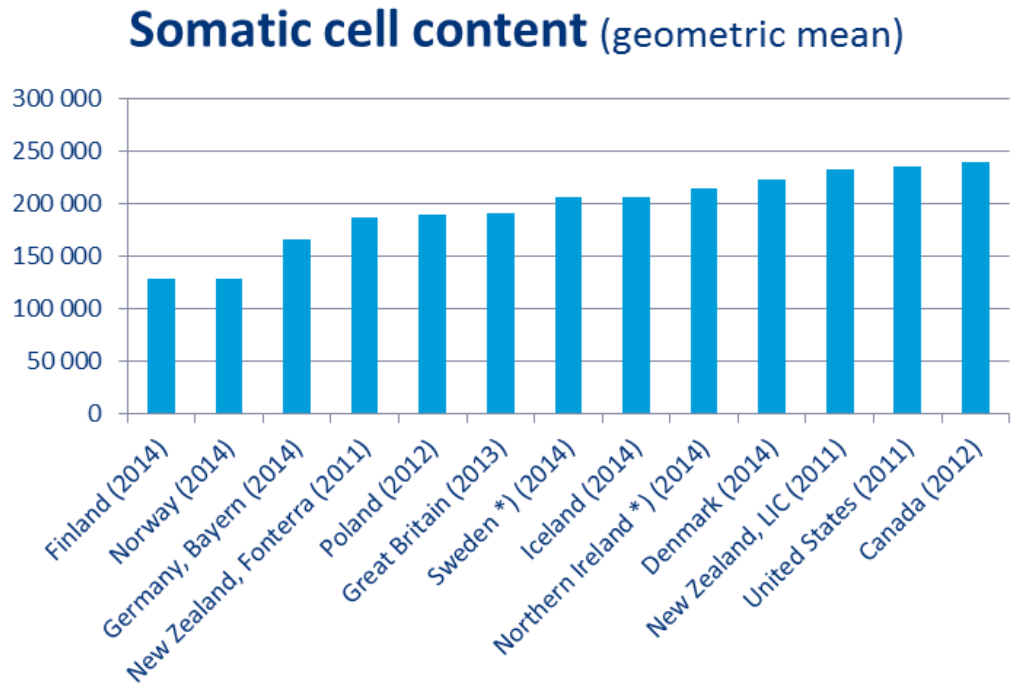
GMO – MORE EFFICIENCY

GENE EDITING – FOR BETTER HEALTH?

NORDIC MILK – AMONG THE CLEANEST IN THE WORLD

Cows in Nordic countiries are among the healthiest in the EU and we use antibiotics only by a veterinarian to treat a sick animal.





CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

3. ANIMAL WELFARE

CONSUMERS' CONCERN

- Bigger and bigger farms
- More and more production / animal
- No access to the pasture, tie-up barns
- Calf rearing

We have to get out of our silos and bubbles
- even if we are sure that we know best

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

4. NATURE DIVERSITY

DIVERSITY MEANS SAFETY AND RESOURCES

- Resistance against increasing weather phenomenas, rain, floods, dryness, storms…
- Genetic diversity
- Breeds (learn from poultry, pork…)
- Soil care
- Recilience in cultivating
- Soy-free feeding saves rainforests

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

4. INTERNATIONAL COMPETITION

SOSIAL AND ECONOMICAL FAIRNESS

- Economics
- Ownerhip of the breeding sceme
- Ownership of the gene resources
- Transparency inside and outside
- Democracy
- Co-operative principles – who gets the profit

GENE POOL FOR THE FUTURE

INNOVATIVENESS as A DRIVING FORCE

- Adapt the global warming
- New traits?
  - feed efficiency
  - resistance for new deceases?
  - resitance for heat stress?
  - calf care?
  - utilization more grass in diet?
  - ?

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

5. FEEDING THE FUTURE

ANIMALS HAVE A ROLE IN THE FUTURE FOOD SYSTEMS - BUT

”We should re-think the way - specially in the Europe - how the animals are used.

Re-think and avoide feed – food competition, breed and feed and house the animals in such a way that they utilize those biomass streams that we can not eat or do not want to eat – in a most efficien way. That also goes with consuming maybe a bit less animal source food in high income countries to allow the increase in other areas in the world”

https://www.youtube.com/watch?v=rUs_UwhMQLU

Imke de Boer: Do animals have a role
in future food systems?” ,
Leroy Award 69th EAAP Annual Meeting, Dubrovnik.

CHALLENGES FOR ANIMAL BREEDING AND PRODUCTION:

5. STAY IN BUSINESS


TWO WAYS TO REACT
DEFEND
OR
ACT

MORE EFFICIENCY

- More efficiency – less emissions
- More efficiency – less accpetable by consumers?

- Meat and milk with from the same animal?

- Feed – food, no food for animals
- Carbon-neutral milk chain

ANIMAL BREEDING IN THE FUTURE

- Make possible to feed the increasing global population in a sustainable and safe way
- Nutrition needs of humans
- Support farmers´economics
- Environment issues
- Consumers´ expectations

Purity AND RESPECT FOR nature

- Transparency
- Open the farms
- Put the animals on pasture

ACTIONS ARE NEEDED TO INFORM THE CONSUMERS

SUSTAINABLE MILK PRODUCTION
AND CIRCULAR ECONOMY

REDUCING THE CLIMATE IMPACTS OF MILK PRODUCTION

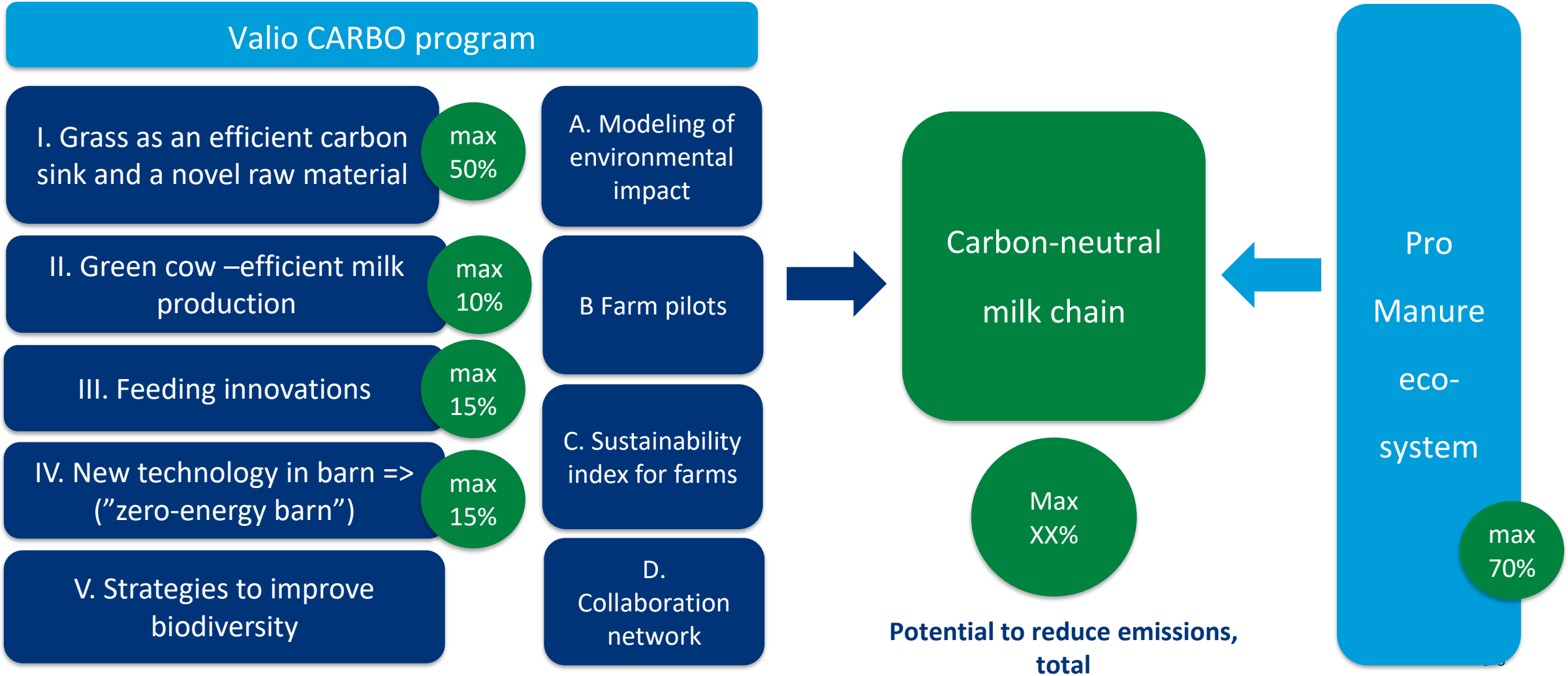
The methane emissions of Finnish dairy farms have declined by nearly 50% over the past 25 years, mostly because of selective breeding

Current methods for reducing emissions include, e.g., the breeding and feeding of cows.

STOP CLEANING FOOTPRINTS – LEAVE HANDPRINTS


ANIMAL WELL-BEING
CO-OPERATIVE OWNED BY FARMERS
Together
WE MAKE LIFE BETTER
SUSTAINABLE MILK PRODUCTION AND CIRCULAR ECONOMY
INNOVATIONS PROMOTING HEALTH AND WELL-BEING
TRANSPARENT PROCUREMENT

TOWARDS A CARBON-NEUTRAL MILK CHAIN: THIS IS HOW WE WILL DO IT IN VALIO




Valio
Together
WE MAKE LIFE BETTER