Carbon footprinting of soy

Development and issues on methodologies, commitments, offsetting

March 28 2024, Theun Vellinga, Frank Gort

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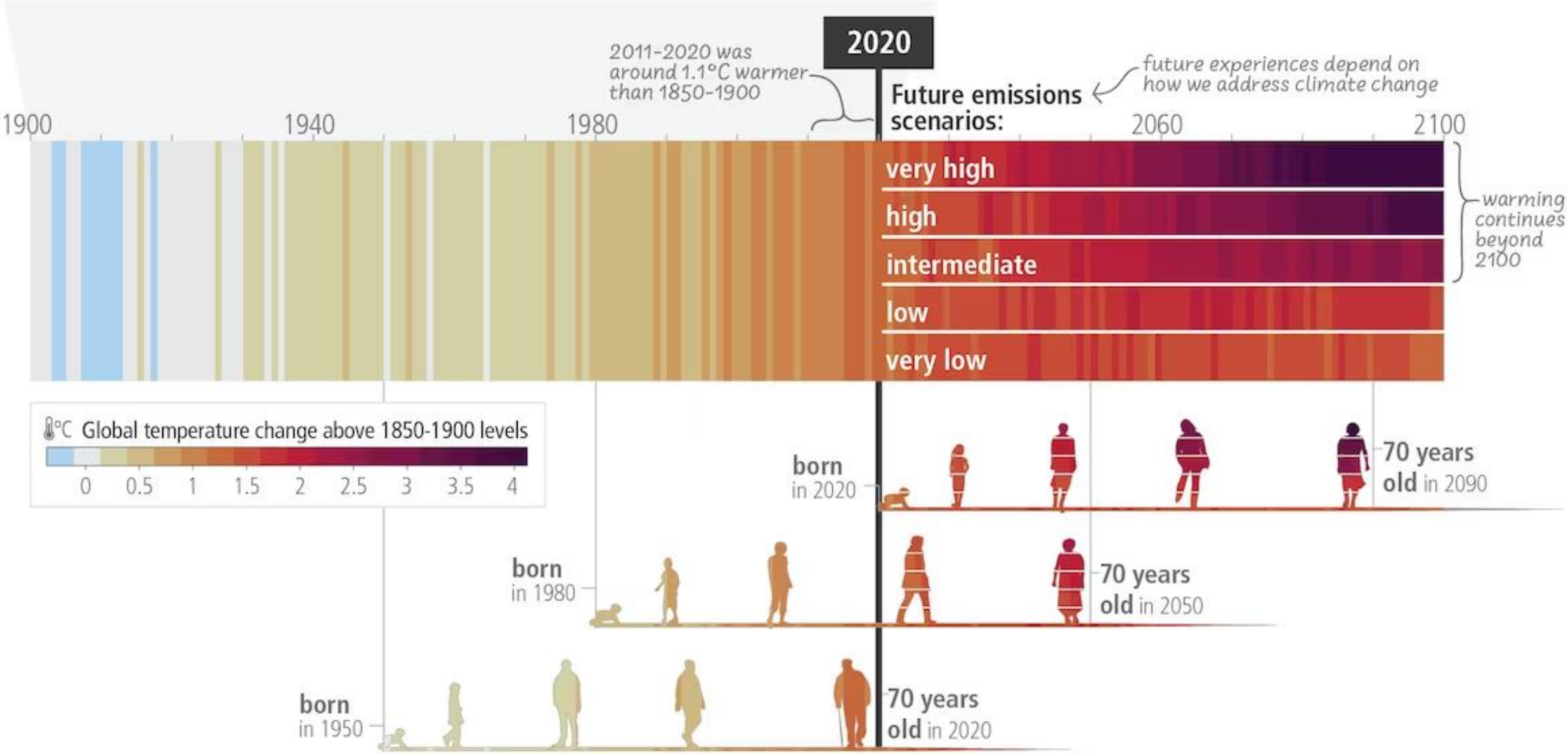
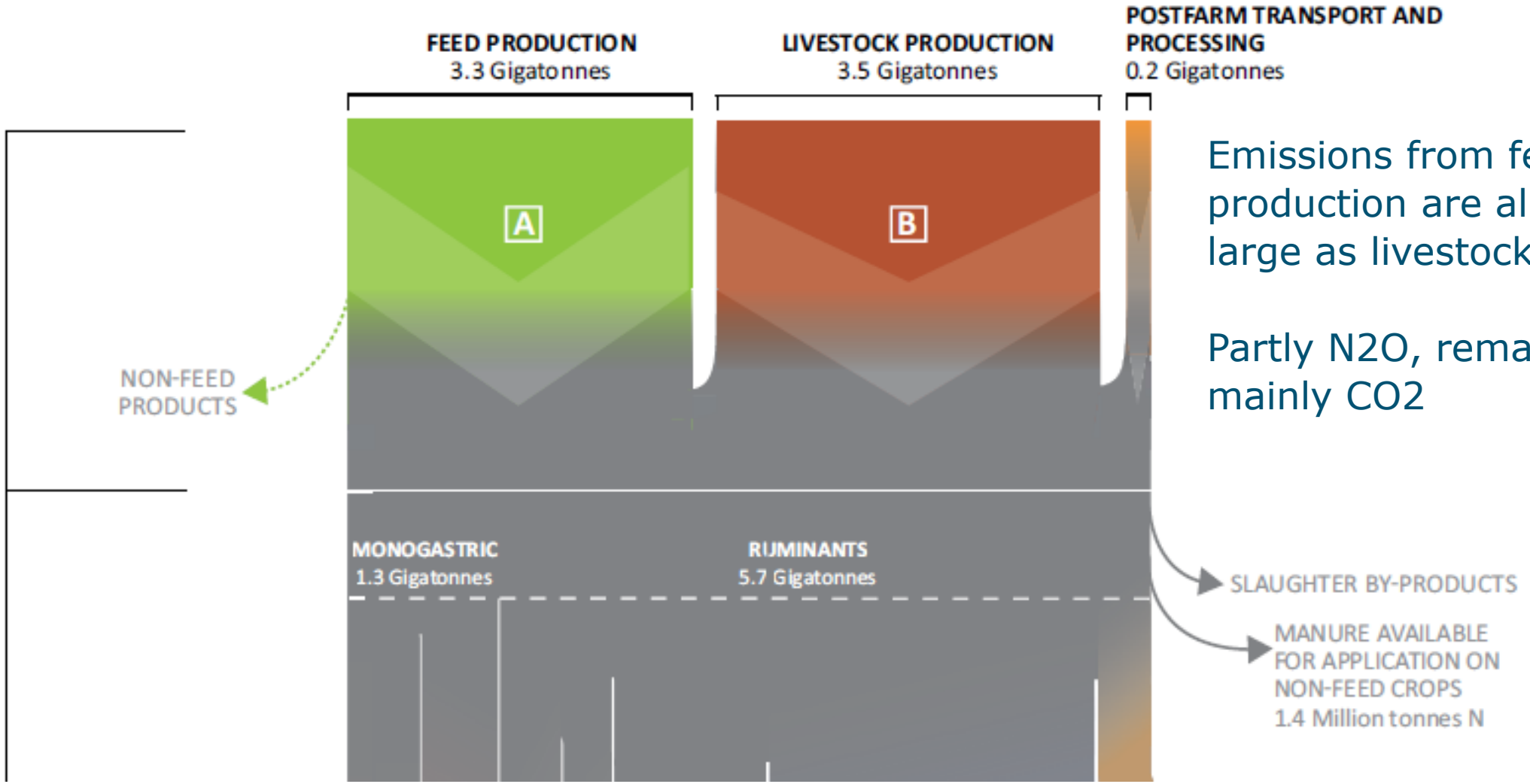
Overview

- Rules of the game: calculating footprints
- Allocation?
- Land use Change?
- The long feed chain and the options for mitigation
- The need for primary data versus the aggregated footprint approach

Climate change affects our (grand)children



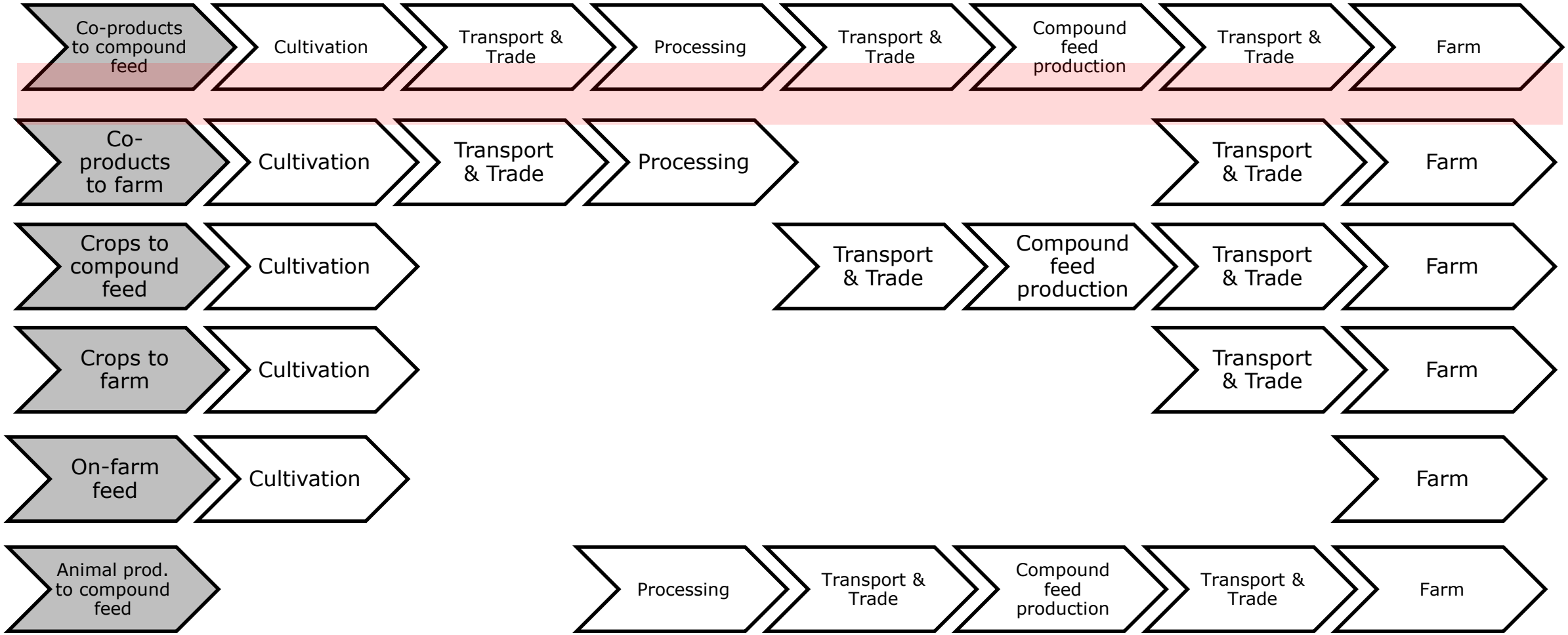
Feed Production is a large fraction



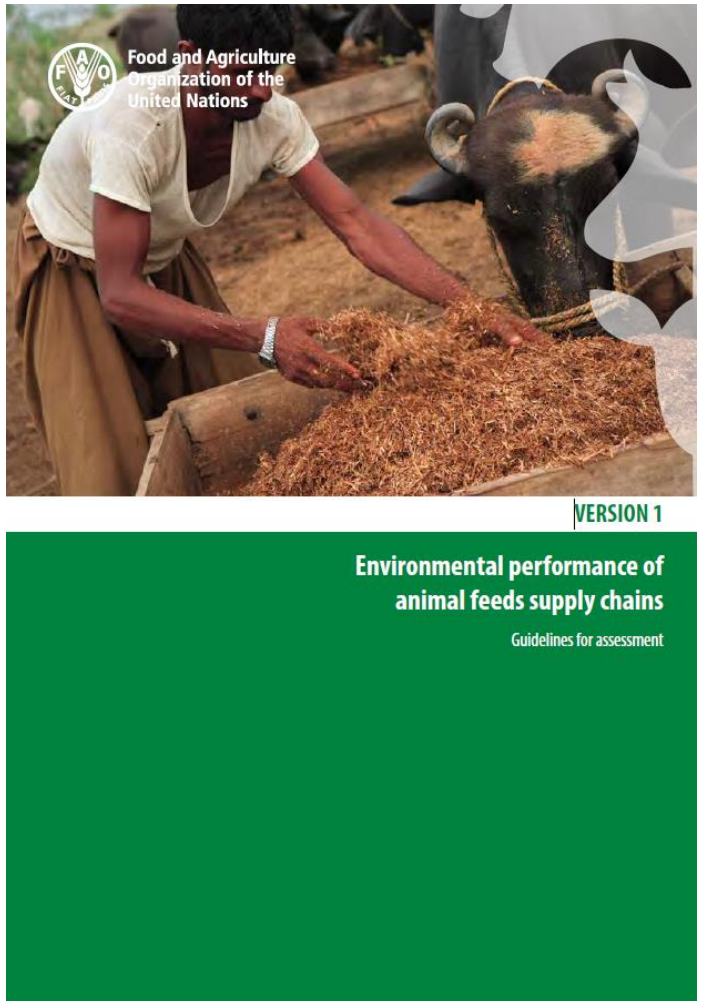
Emissions from feed production are almost as large as livestock emissions

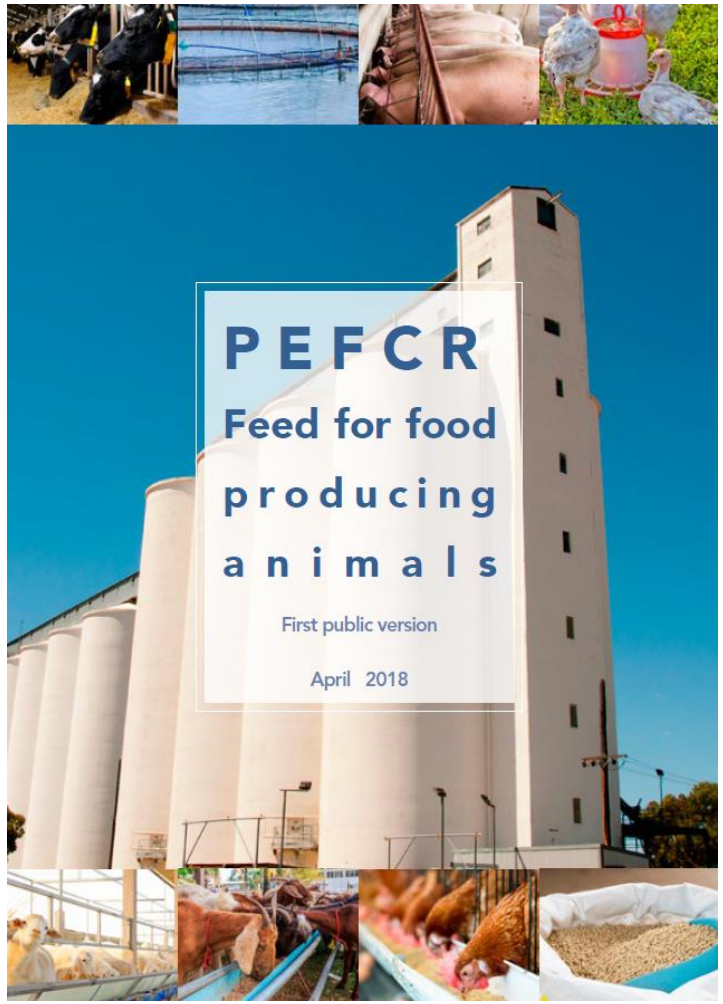
Partly N2O, remaining is mainly CO2

It’s a long way from field to farm (sometimes)



Calculating footprints of soy are well defined





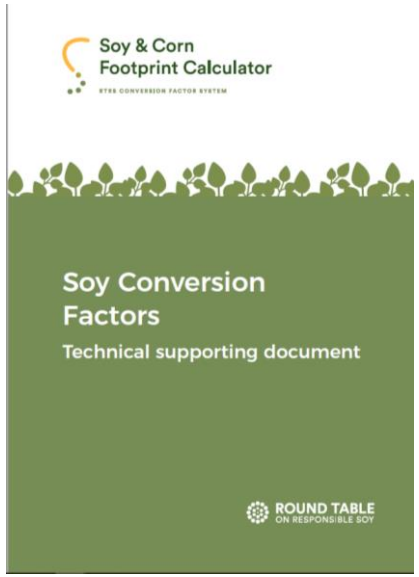
Are they?

LCA approach based on ISO Data Quality

What about:

- Allocation
- Land Use Change
- Primary data use

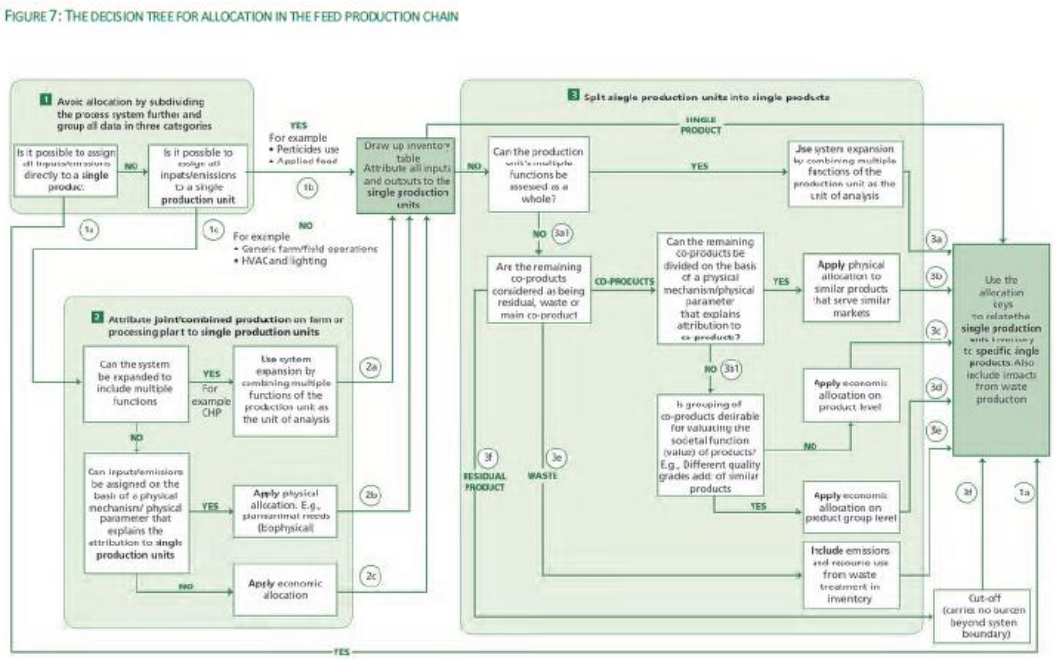
Much attention for allocation

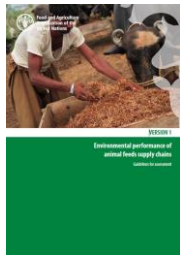


The Soy Conversion factors (RTRS) are helpful in allocation

Allocation is driven by a mix of business interests and ease of calculation

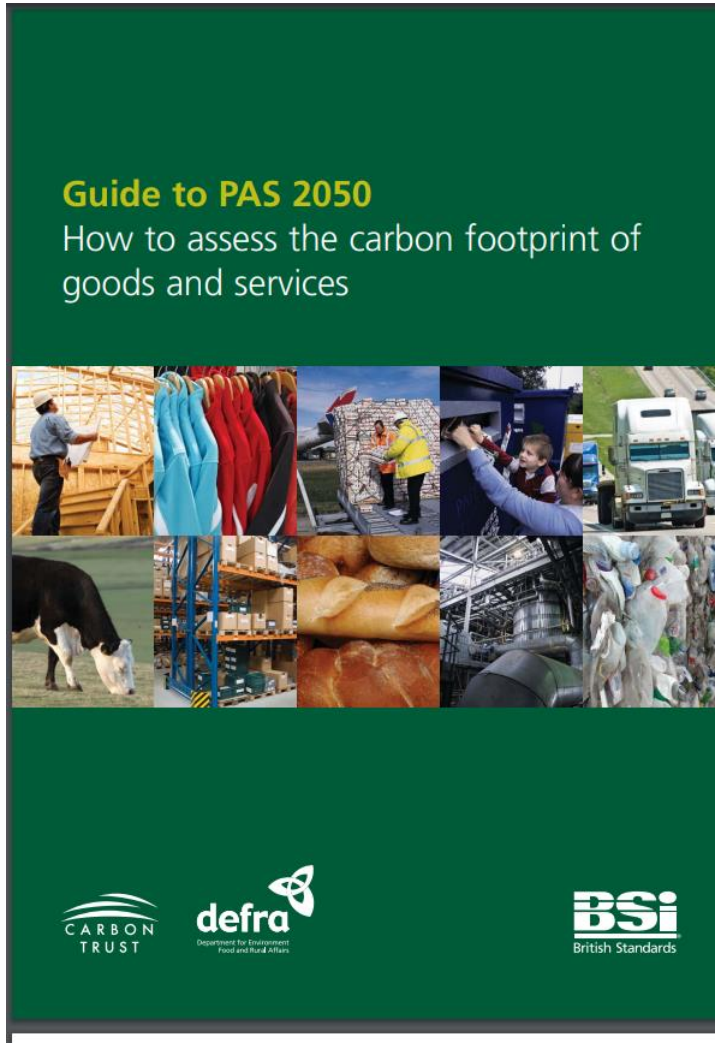
Science cannot provide a solution, but only an accepted approach





Allocation always adds up to 100 %

Land Use Change



Methodology is developed, consensus

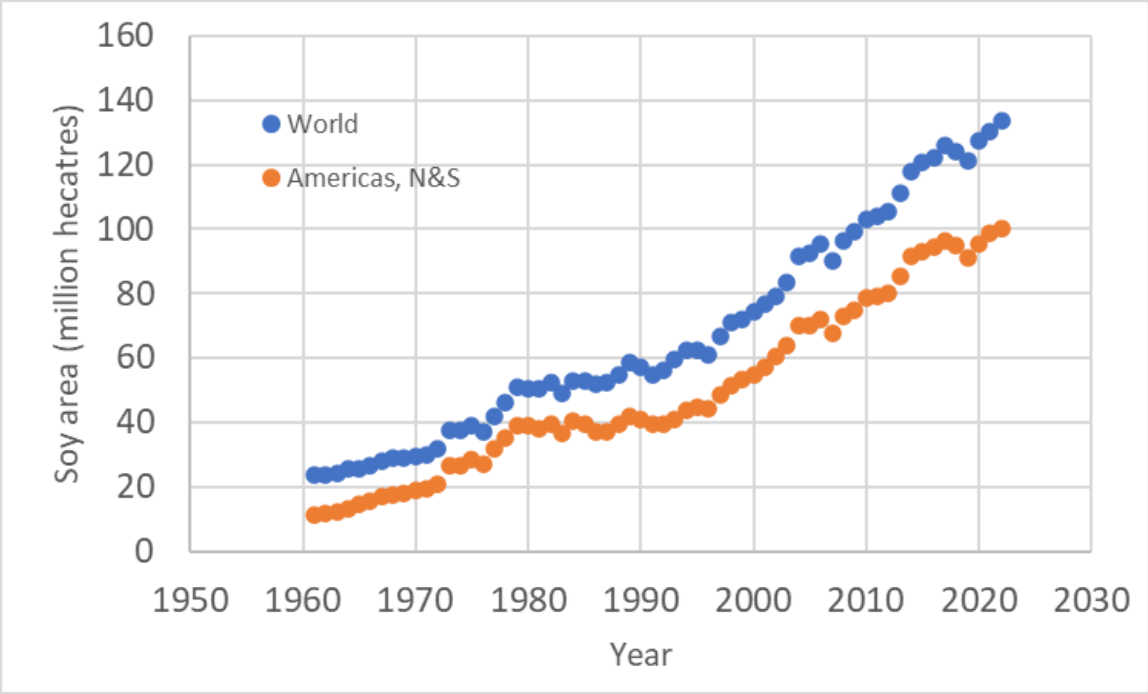
Discussion is about LUC free soy (RTRS and others)

The total **demand** for soy is driving land use change

LUC free soy is just green washing

Finding alternatives is shifting to other (worse) products

Soy area since 1960



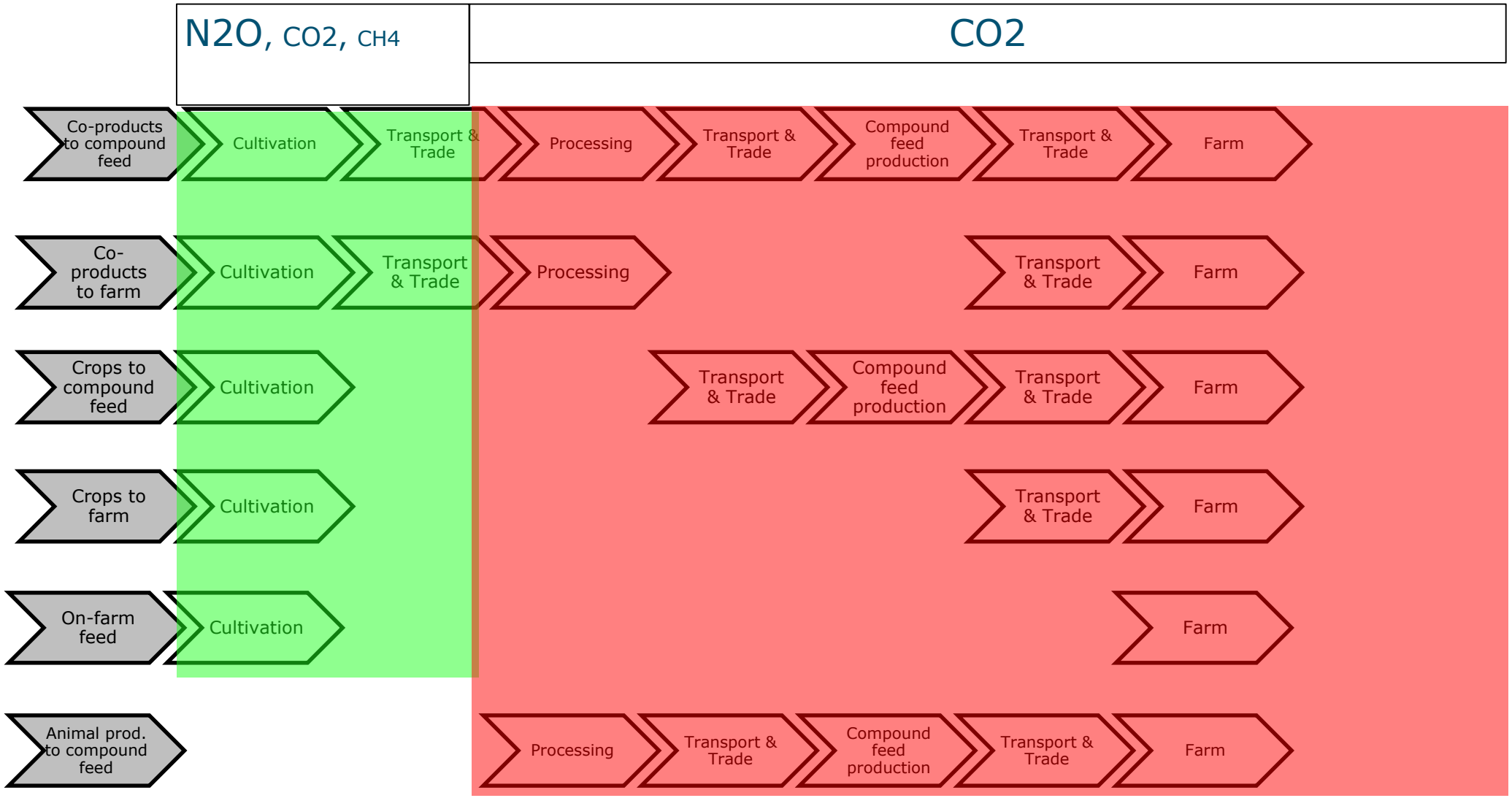
Source FAOstat, 25-03-2024

- Land Use Change is driven by the global demand for feed protein
- Growth in soy area takes place in America, mainly South America
- LUC free soy is not a solution, reducing demand for feed protein is.

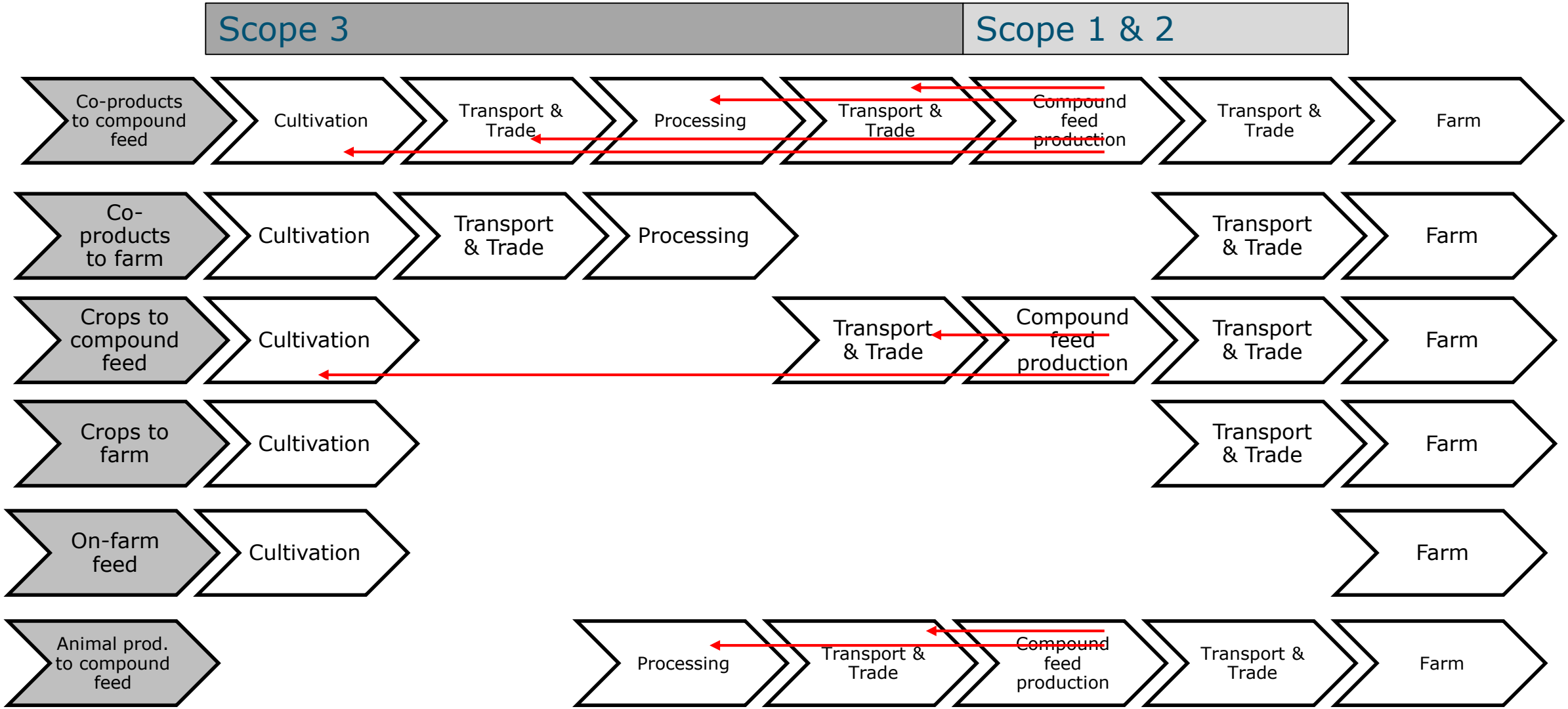
How to reduce demand for feed protein?

- Reduce consumption of animal protein by consumers
- Reduce protein in animal's rations,
    - Reduce the "insurance fee", the surplus for "just in case"
    - More use of synthetic amino acids
    - Go for the best protein crop (soy?)
- Finding alternatives for soy is not the solution:
    - Soy is an excellent and leguminous crop
    - It will shift land pressure to another crop

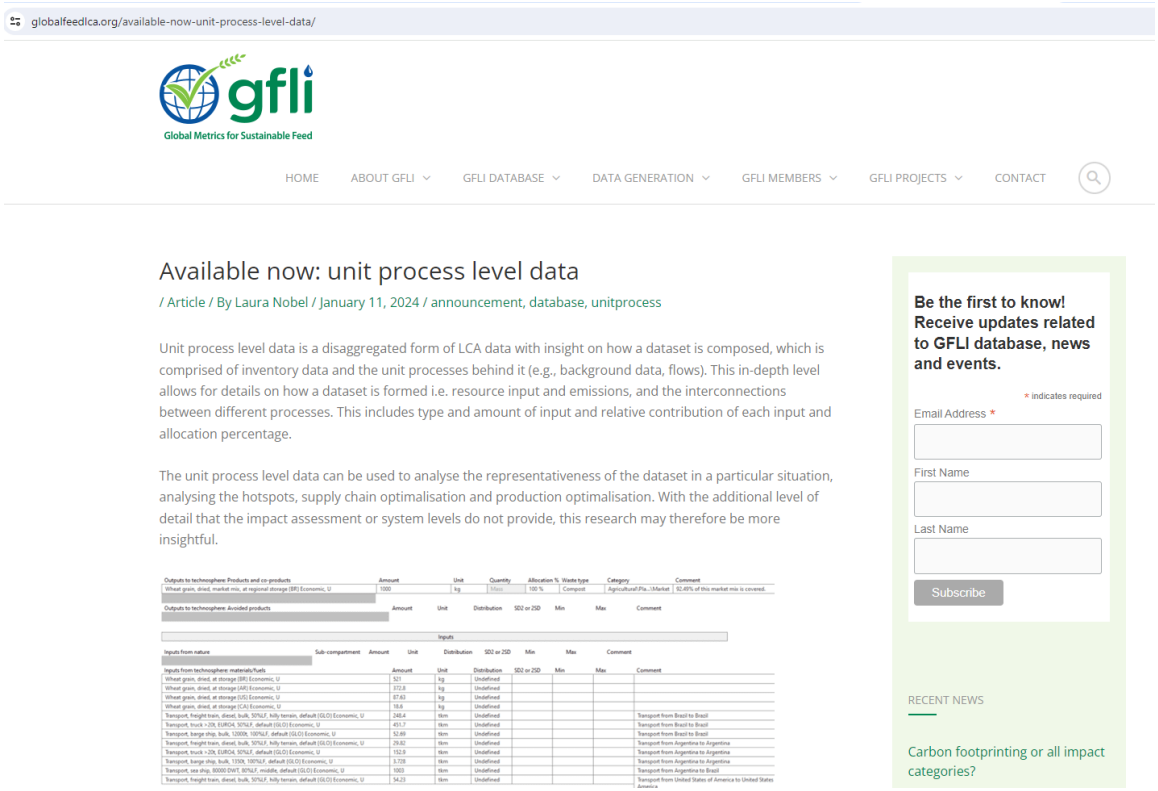
It’s a long way from field to farm (sometimes)



Actions to be taken, energy transition



The need for primary data



Aggregated data don't provide the opportunity to show improvements in the chain:

- You don't get insight in the breakdown of emissions
- No insight in potential action in the (long) feed chain
- Selecting other feed materials is the only action to be taken

All feed databases should have:

- The option to incorporate primary data
- Facilitate and stimulate the use of primary data for all phases in the feed chain

See example GFLI

Thank you

Responsible soy?

- Reduce demand for feed protein
- Energy transition
- Primary data

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