Climate tool project

24 March 2020

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Promilleafgiftsfonden for landbrug

Several ways to calculate the climate impact

MAP OF THE WORLD

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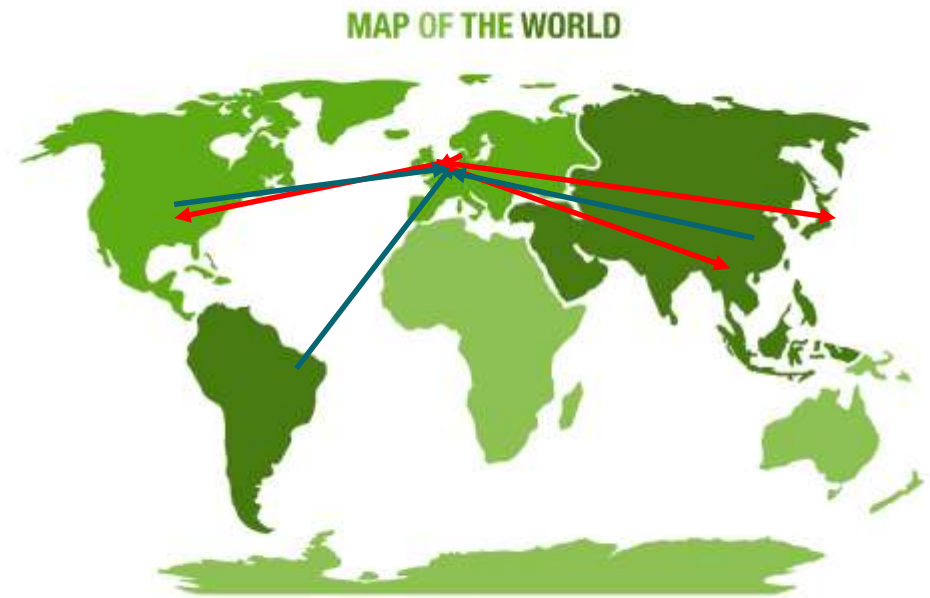
PAF call for development of Climate tool

- PAF call on 7.6 million DKK for development of a tool for farm level climate accounts.

- Research and development of a concept for reliable and transparent calculations of climate effects at farm level and research and development of consultancy services for the farms as well as test of the tool and the consultancy concept on selected farms.

- The concept shall calculate the climate impact of farms and allow farmers a solid basis for evaluating possible actions concerning climate friendly production – ecologists as well as conventional farmers of relevant production types.

Farm climate reports				
Plants	Cattle	Dairy	Pig	Poultry

API's

Common climate toolbox
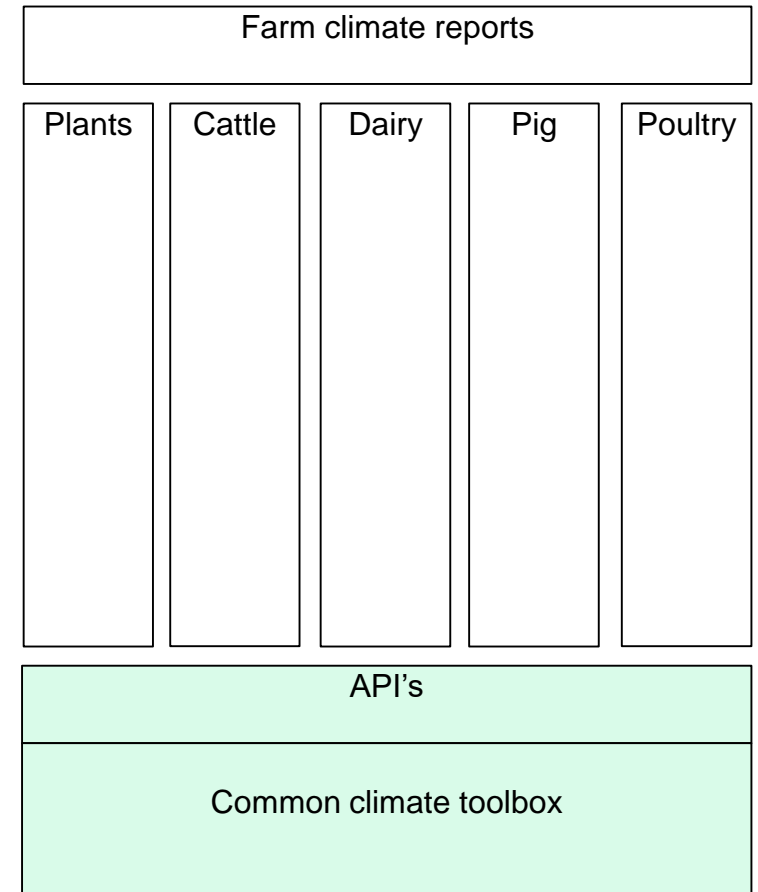
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The Agriculture's Climate Tool (SEGES/ØL)

- The purpose of the climate tool is to:

    - Boost the individual herd's knowledge of the production's environmental consequences

    - Give the individual herd the possibility to assess which initiatives to carry out in order to reduce the climate impact

- A user-friendly climate tool to calculate climate results on herd level will be developed

    - Forms the basis of completing a climate action plan that contributes to initiatives in the specific herds

    - Prototype primo 2021 – operation ultimo 2021

- In order to calculate net emission, the used methods of calculation are similar to the national Danish methods in force at the time in question (IPCC/UN standards) and the PEF method (product environmental footprint), which focuses on life cycle assessments on product level
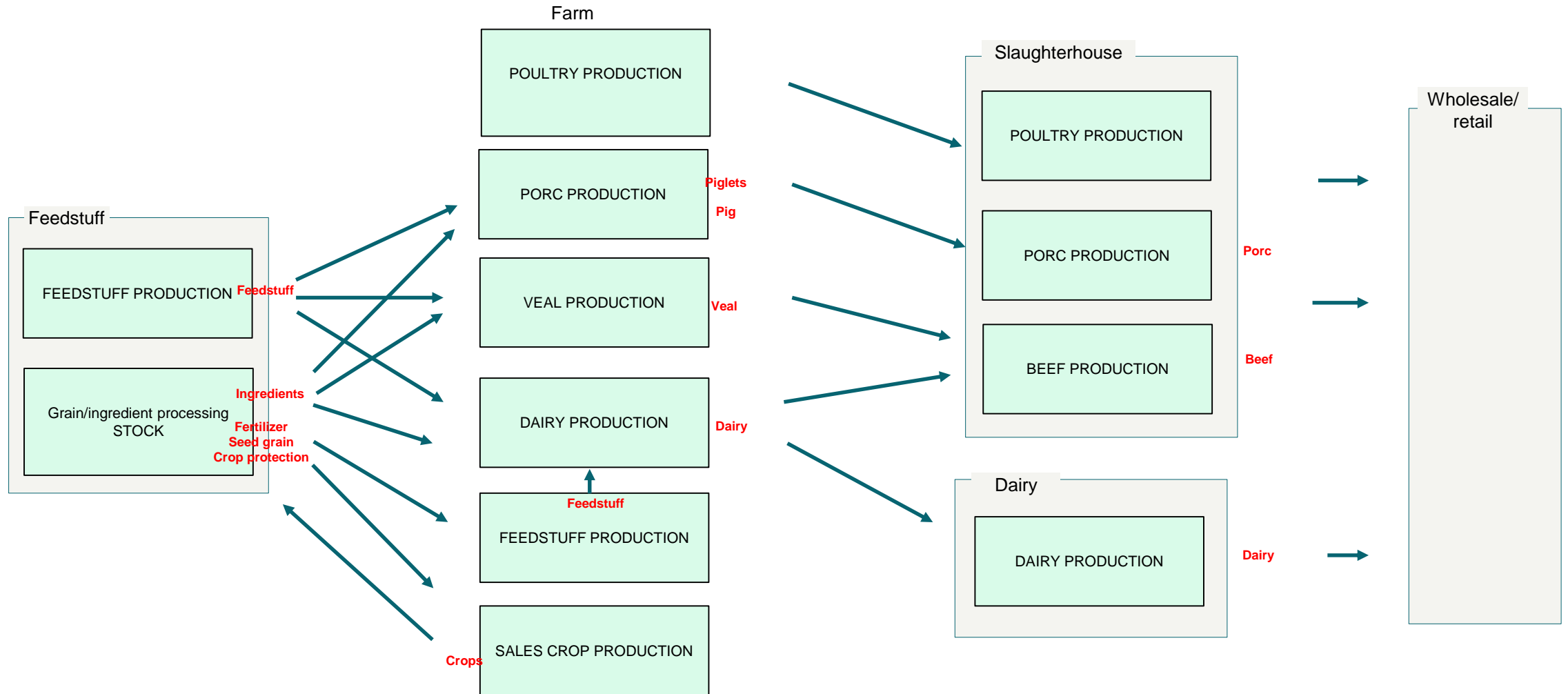
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Cooperations

- Aarhus University, DCE – Danish Centre For Environment And Energy

- Aarhus University, AGRO, Department of Agroecology

- Local Consultants

- Farmer panel (supplier for HK Scan)

- Business panel (HK Scan)

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5 million DKK for farm level climate accounts

- The parties to the agreement have agreed to allocate DKK 5 million in 2021 for the development of farm level climate accounts that will contribute to a better regulation of greenhouse gas emissions from agriculture

- The funding will support and supplement an already existing joint project by SEGES and Økologisk Landsforening in which we are developing a concept of farm level climate accounts and information – the project is funded by the Ministry of Environment and Food of Denmark

- - We already have a well-functioning regulation basis for the regulation of nitrogen at farm level – our fertiliser accounting system. But we need a basis on which we can regulate climate emission and absorption.

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Overview stakeholders / products / chain

Farm

POULTRY PRODUCTION

Feedstuff

FEEDSTUFF PRODUCTION — **Feedstuff**

Grain/ingredient processing STOCK

Ingredients
Fertilizer
Seed grain
Crop protection

PORC PRODUCTION — **Piglets** **Pig**

VEAL PRODUCTION — **Veal**

DAIRY PRODUCTION — **Dairy**

Feedstuff

FEEDSTUFF PRODUCTION

Crops SALES CROP PRODUCTION

Slaughterhouse

POULTRY PRODUCTION

PORC PRODUCTION — **Porc**

BEEF PRODUCTION — **Beef**

Dairy

DAIRY PRODUCTION — **Dairy**
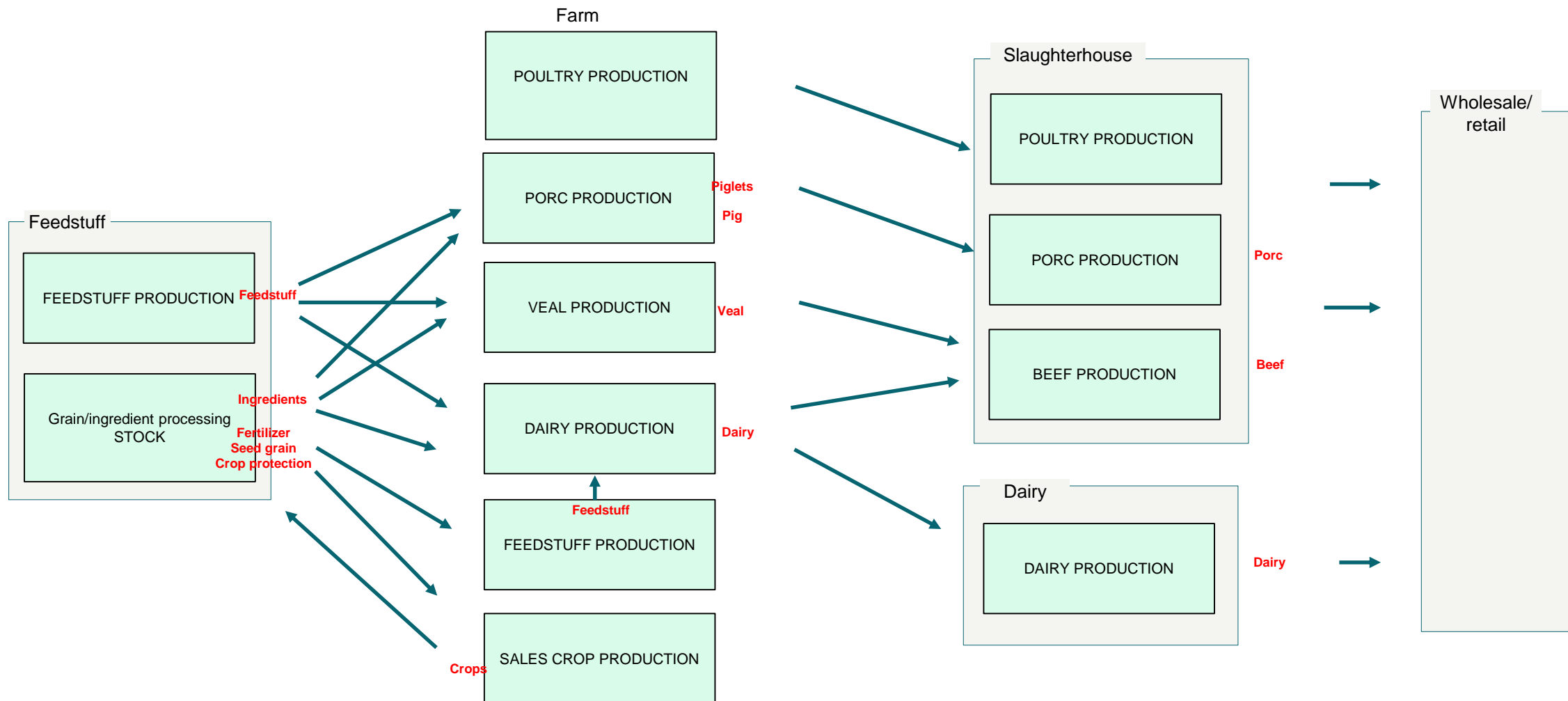
Wholesale/ retail

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Climate impact calculation in a PEF mind-set (product focus)
Assumption 1: In principle, climate impact measurements should be possible for all the green boxes seperately - and/or for the full up-stream chain?
Assumption 2: Each calculation demands: A model, collected data (incl. production scale) and/or access to norm data for the factors in the model
Assumption 3: The calculated climate impact per product (red elements) shall/can be available for the next part of the chain as they represent the input factors for calculations

Farm

POULTRY PRODUCTION

PORC PRODUCTION

Piglets

Pig

Slaughterhouse

POULTRY PRODUCTION

PORC PRODUCTION

Porc

Feedstuff

FEEDSTUFF PRODUCTION

Feedstuff

VEAL PRODUCTION

Veal

BEEF PRODUCTION

Beef

Ingredients

Grain/ingredient processing
STOCK

Fertilizer
Seed grain
Crop protection

DAIRY PRODUCTION

Dairy

Wholesale/
retail

Dairy

DAIRY PRODUCTION

Dairy

FEEDSTUFF PRODUCTION

Feedstuff

SALES CROP PRODUCTION

Crops

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Formulas – calculation of climate impact of slaughter pigs

Piglets	Feedstuff	Energy	Stable emission	Environmental technology	Manure management

(No. of piglets X CO2e per piglet) + (total feedstuff X CO2e per kg feedstuff) + (no. of prod. pigs X kwh per prod. pig X CO2e per kwh) + (no. of prod. pigs X CO2e per styplace) + (no. of prod. pigs X CO2e per pig) + (no. of prod. pigs X CO2e per pig)

Number of produced pigs

Black values = based on data registered on the farm

Red values = based on farm specific calculated data <u>or</u> calculated standard values/country averages

Blue values = ackknowledged norm values for climate impact

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Relevant data in the common toolbox

- Norm data, eg. emission factors used in PEF calculations

- Standard values (eg. country averages) used in PEF calculations

- Climate declarations for input factors used at the farms – (eg. feedstuff formulas from feedstuff companies)

- Documentation of calculation methods (PEF calculations)

- Instruments and their impact

Supported by the necessary technical interfaces (API's) as well as security and user management

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