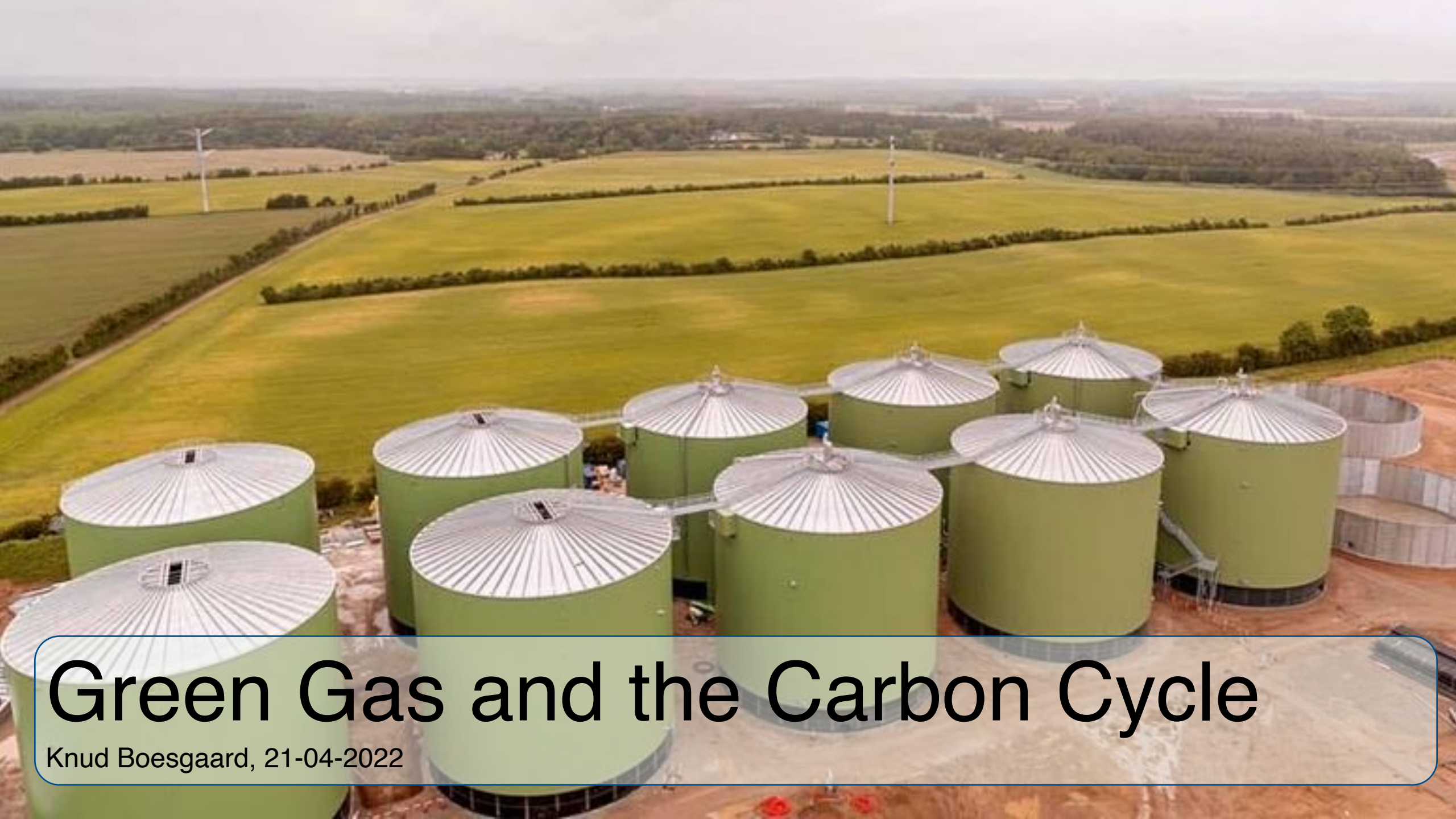




Green Gas and the Carbon Cycle

Knud Boesgaard, 21-04-2022

AGENDA

- 💧 Biogas production in Denmark
- 💧 The Carbon Cycle
- 💧 Documentation of climate effect

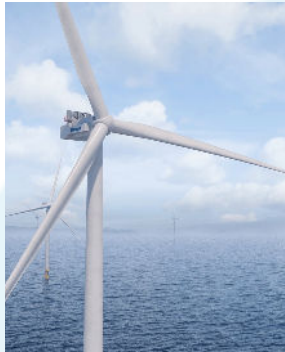
GREEN TRANSITION



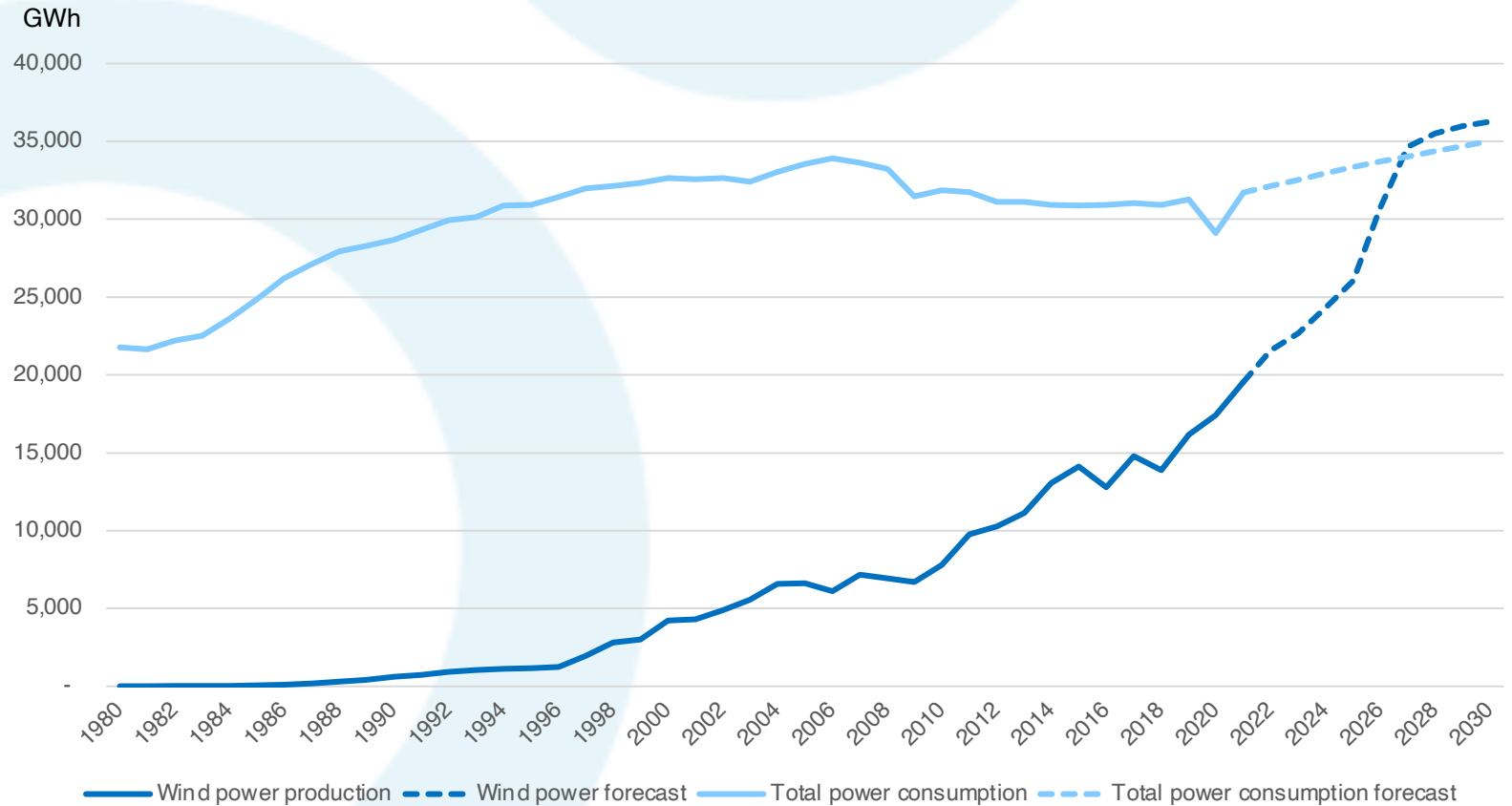
Gedsermøllen (1957)
24 m wingspan



Tvindmøllen (1975)
54 m wingspan



Vestas V236 (2022)
236 m wingspan



GREEN TRANSITION



Gedsermøllen (1957) 24 m wingspan



Tvindmøllen (1975) 54 m wingspan



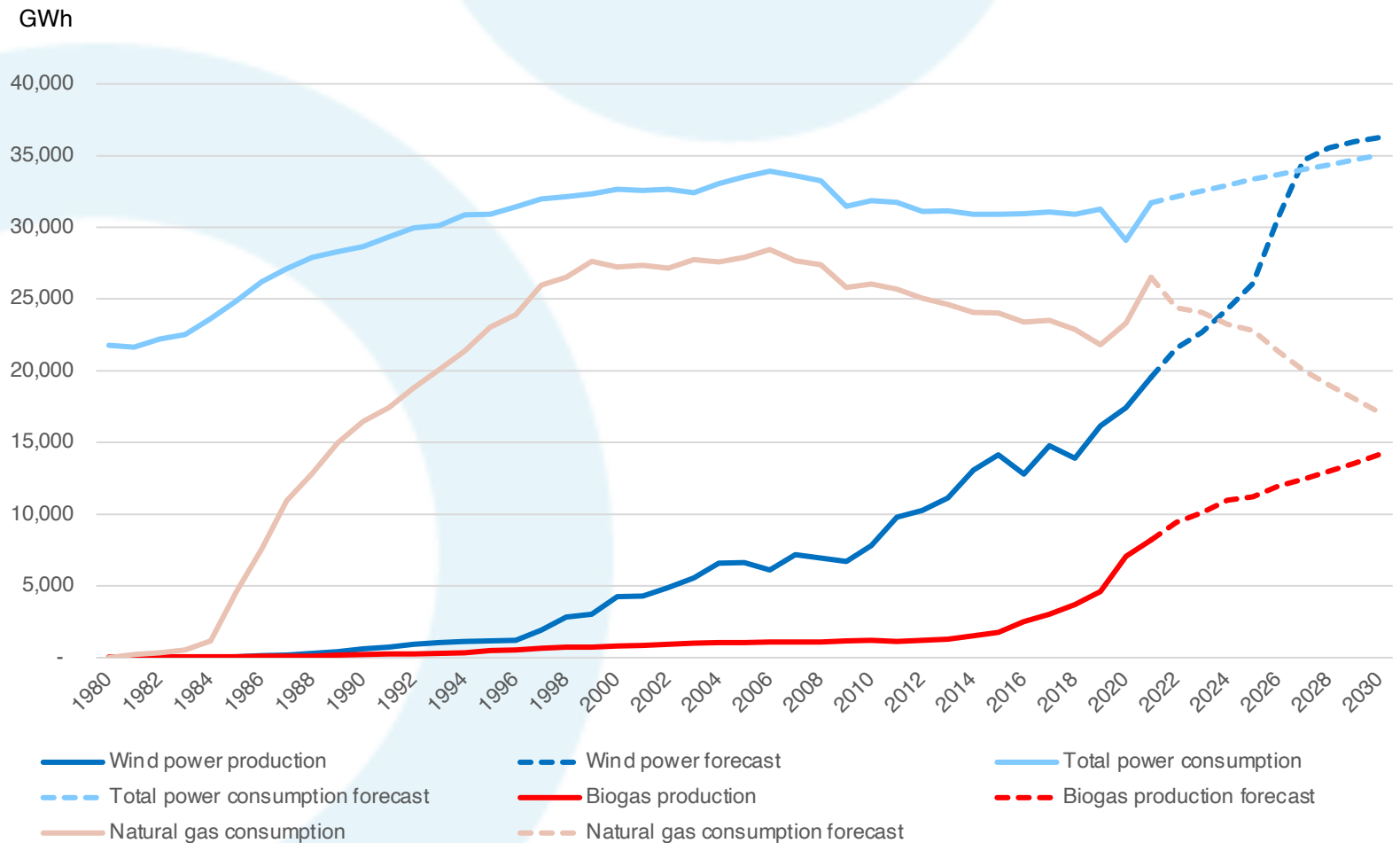
Vestas V236 (2022) 236 m wingspan



Højbogaard (1974) 1.200 ton/år



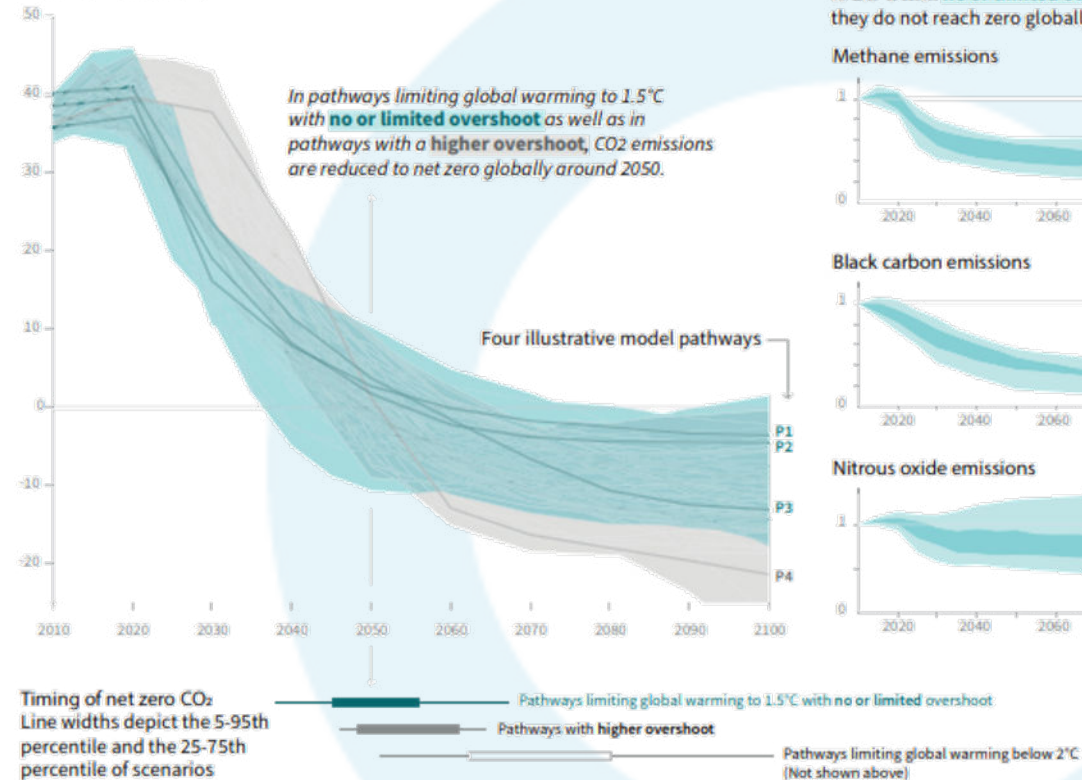
Kliplev (2022) 900.000 ton/år



REACHING THE PARIS AGREEMENT OF 1.5°C

Global total net CO₂ emissions

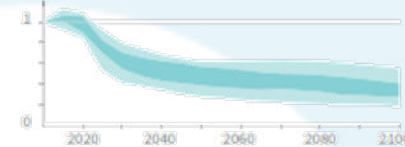
Billion tonnes of CO₂/yr



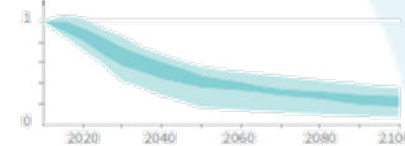
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.

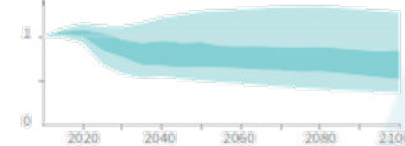
Methane emissions



Black carbon emissions

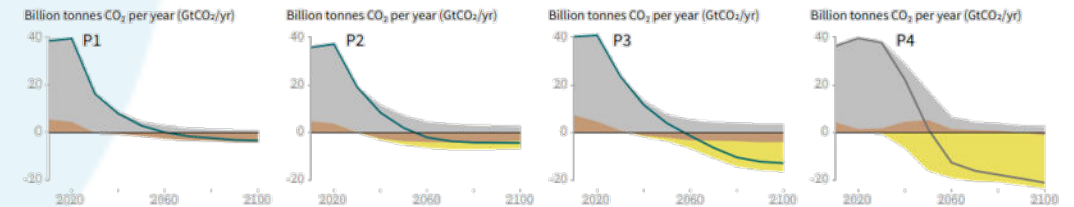


Nitrous oxide emissions



Breakdown of contributions to global net CO₂ emissions in four illustrative model pathways

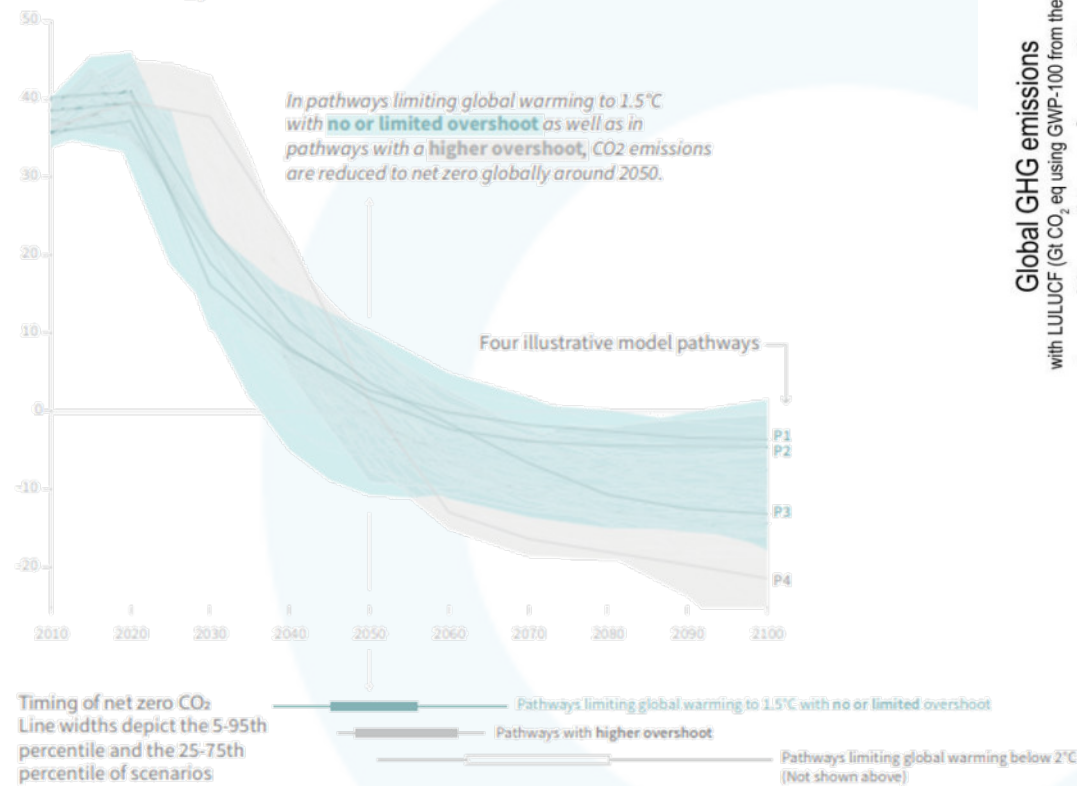
Fossil fuel and industry AFOLU BECCS



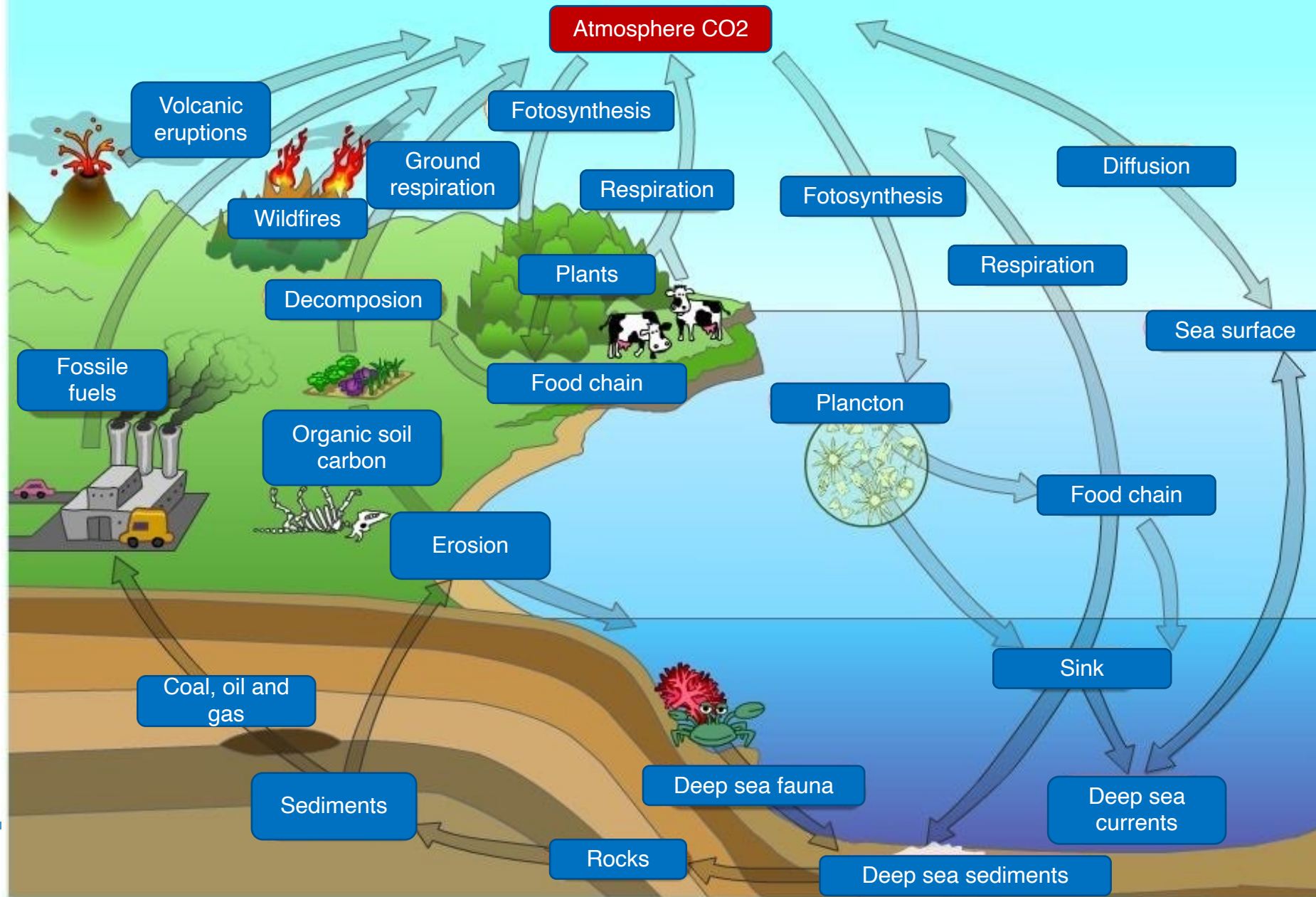
WHAT HAPPENED SINCE 2019?

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



Carbon cycle

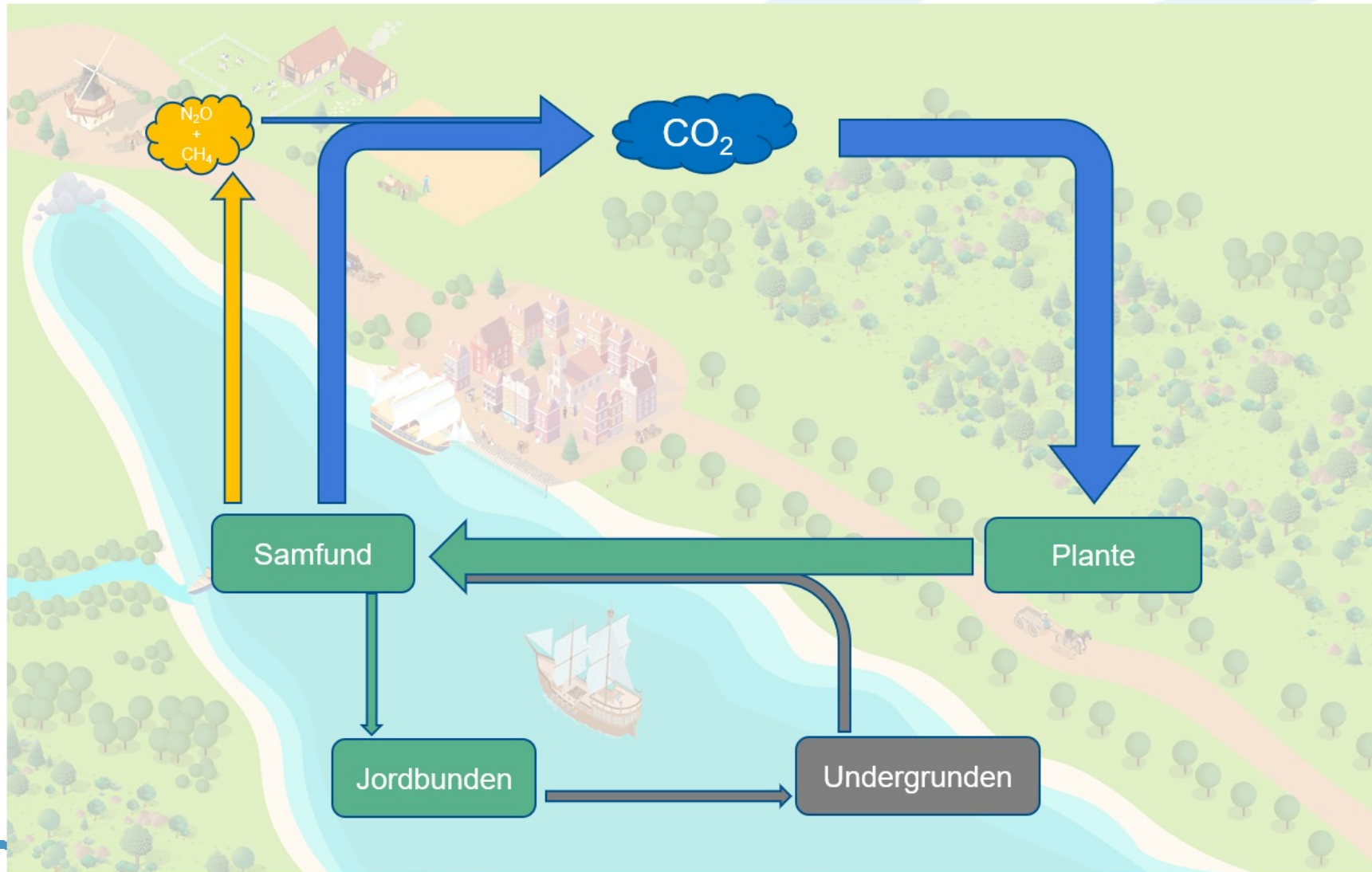


Figur: Hovedet i havet

BEFORE THE INDUSTRIAL REVOLUTION



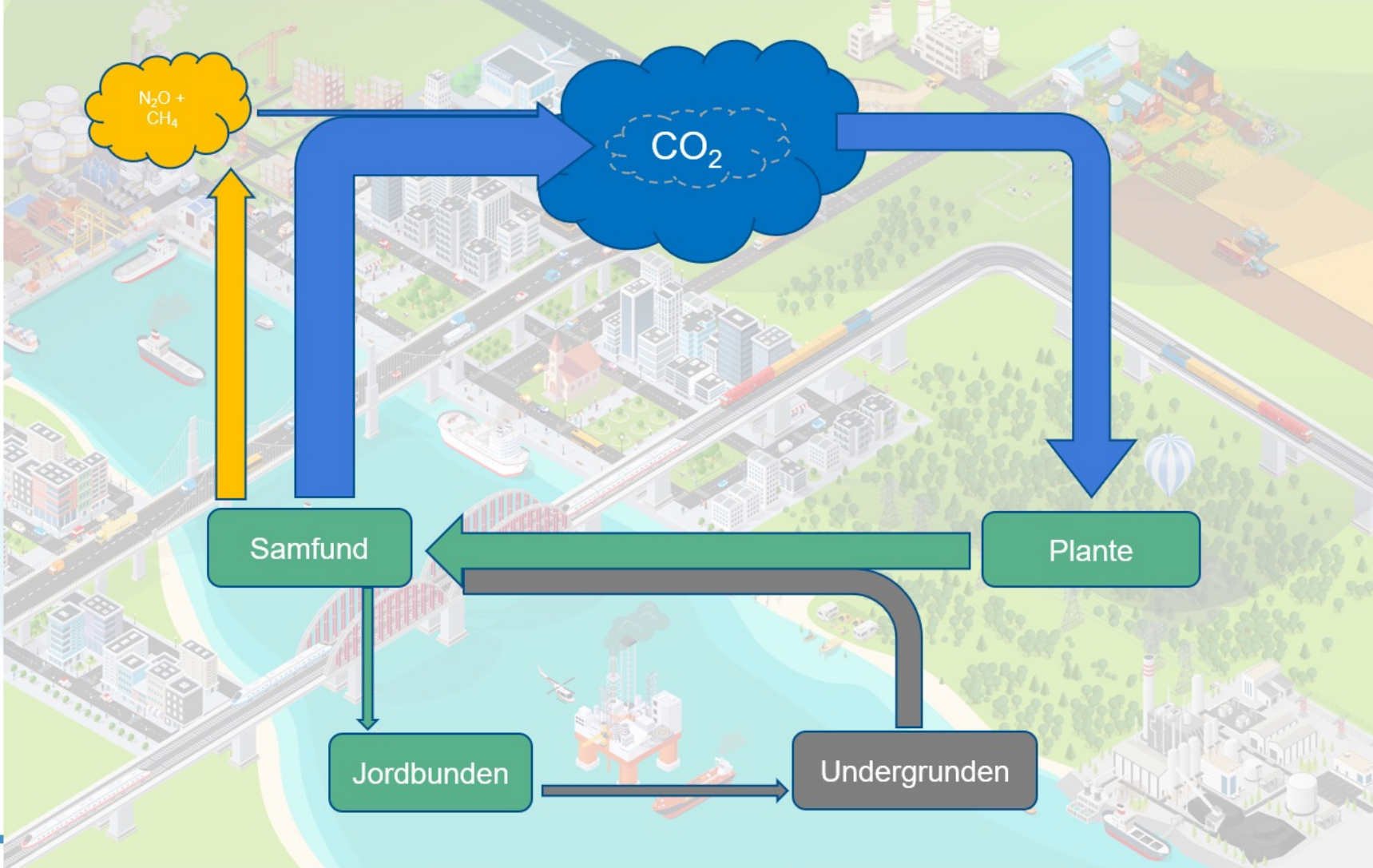
BEFORE THE INDUSTRIAL REVOLUTION



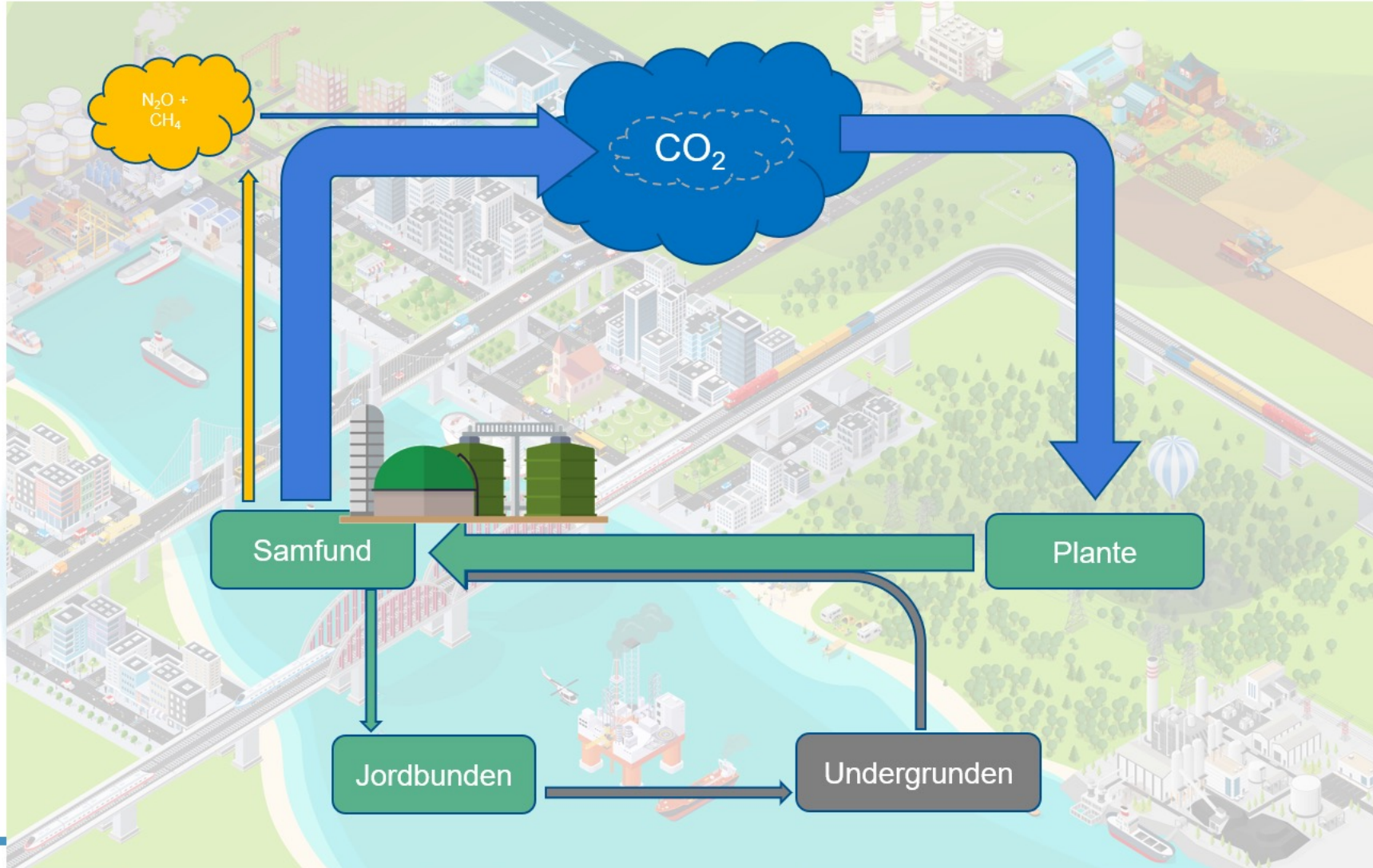
IN 1996



WORK IN 1996



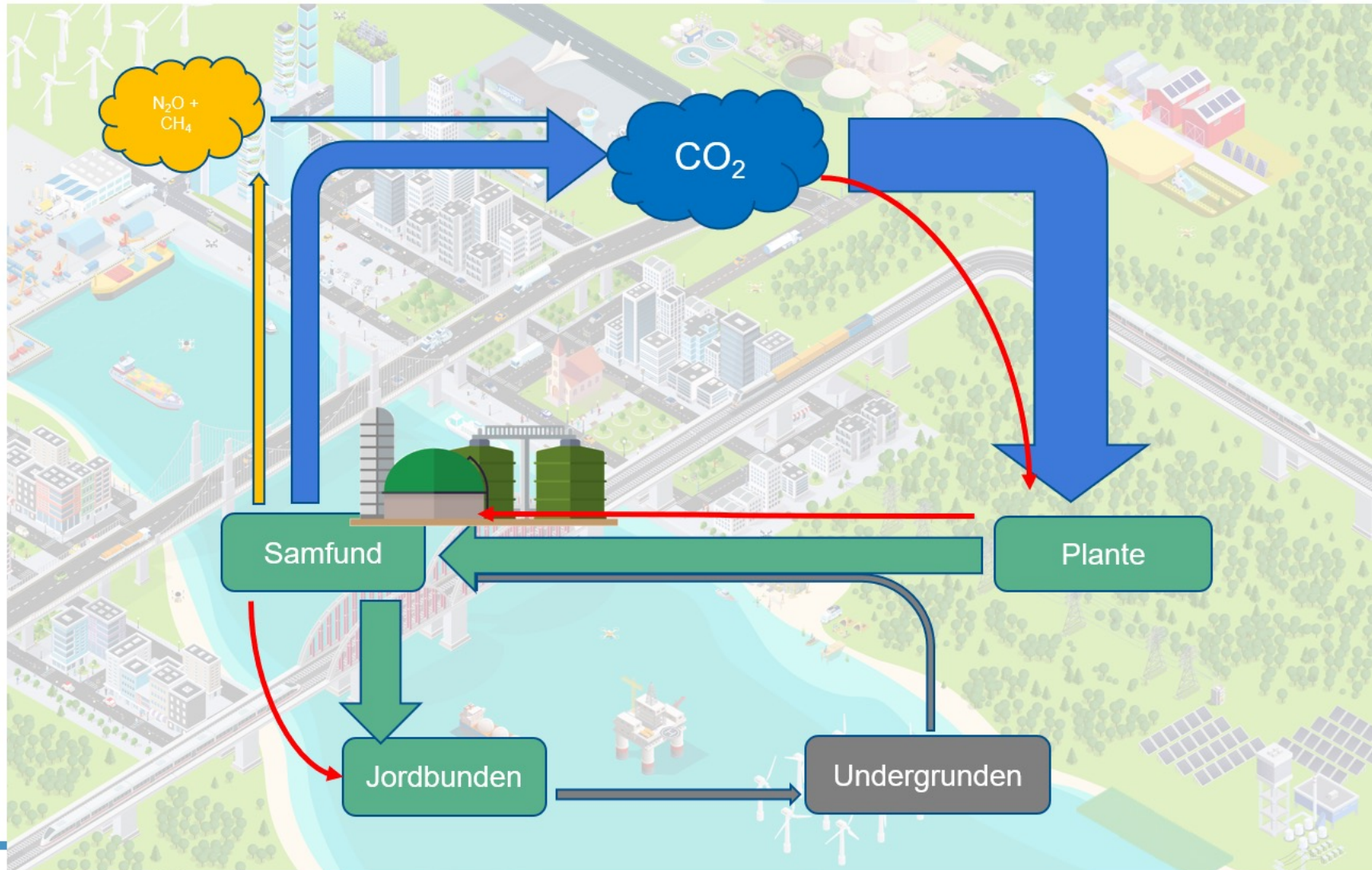
DANISH EMISSIONS PEAK IN 1996



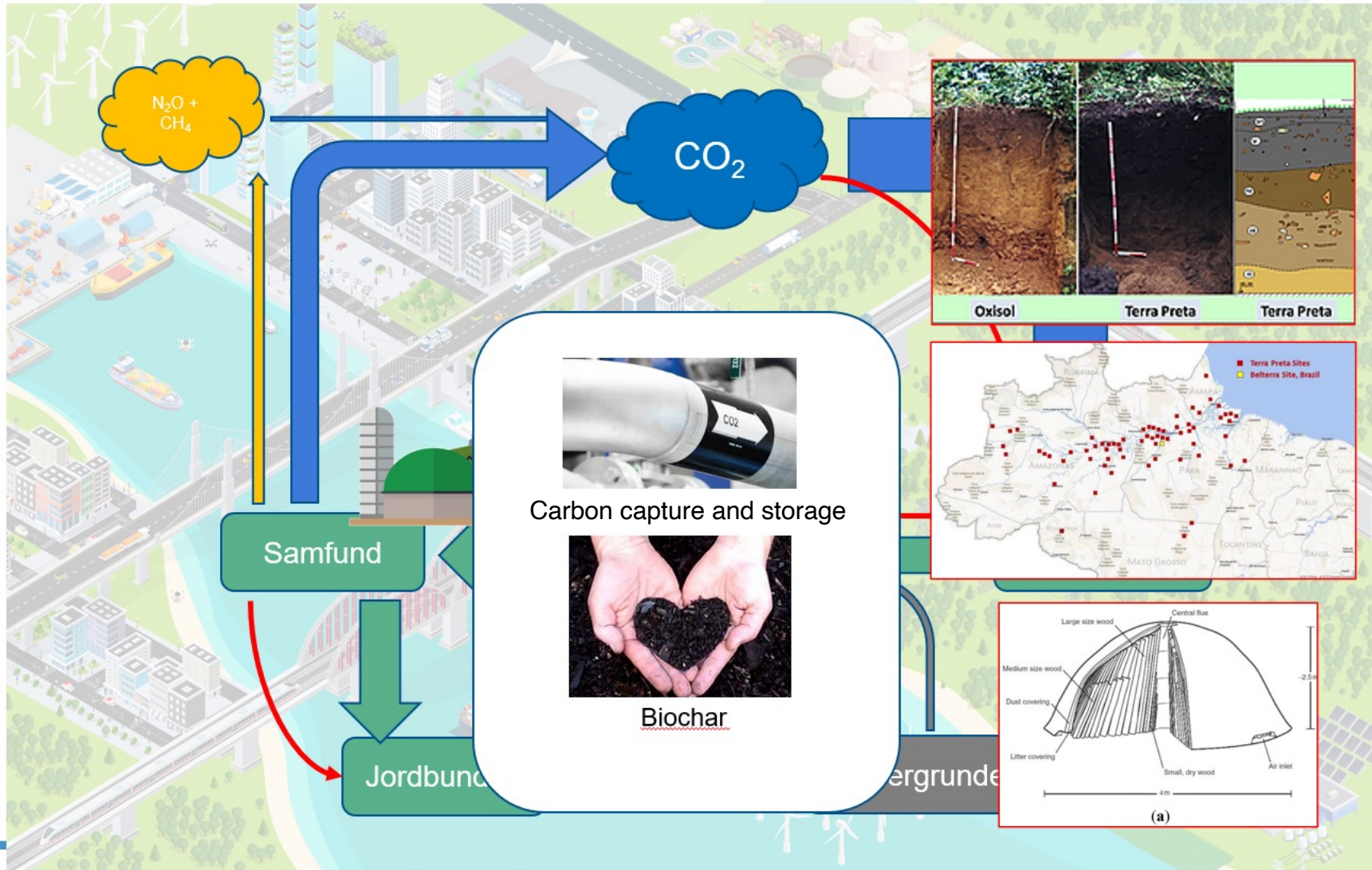
THE ENERGY SYSTEM IN 2030



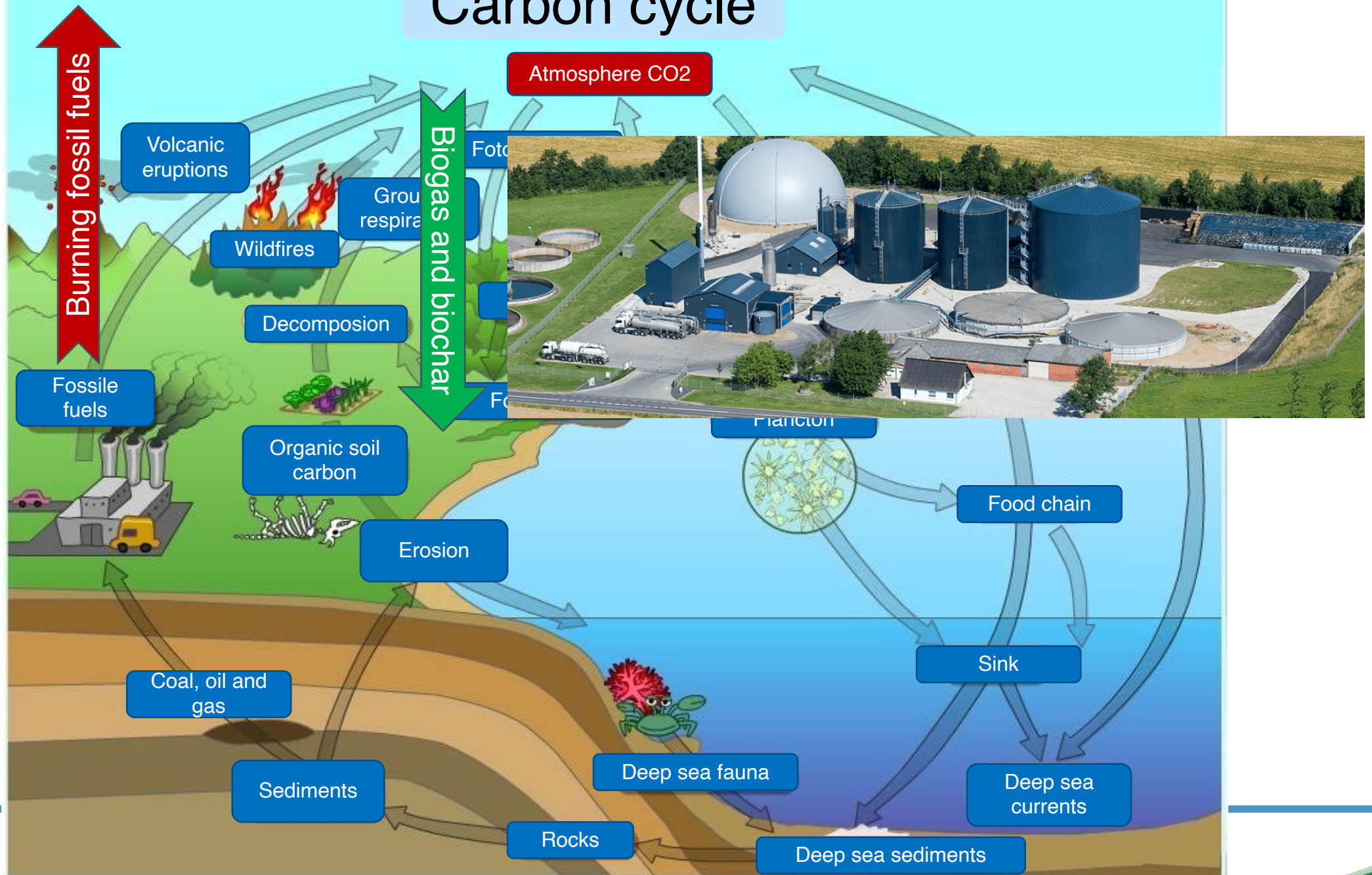
THE ENERGY SYSTEM IN 2030



THE ENERGY SYSTEM IN 2030

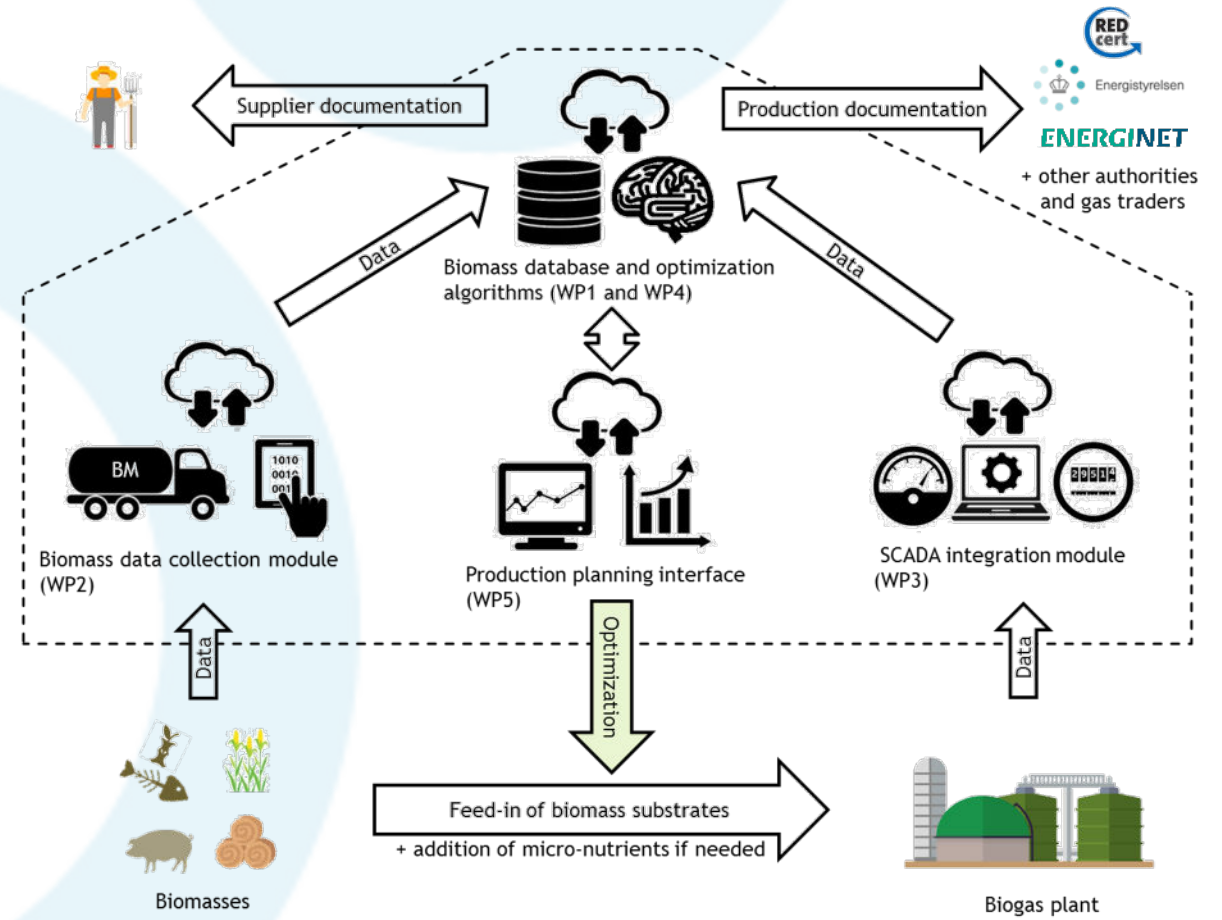
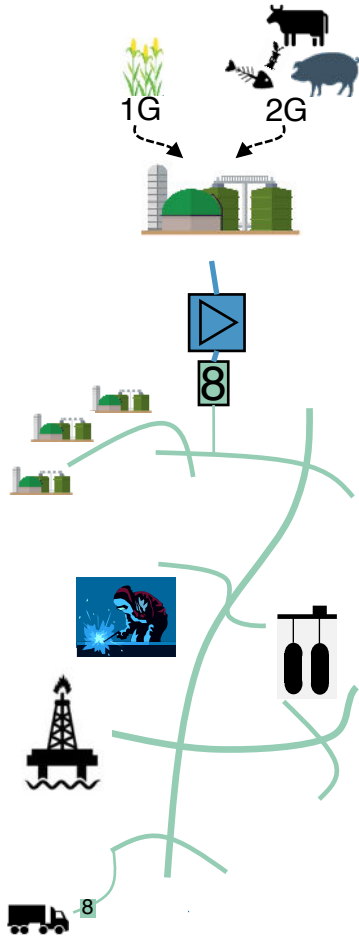


Carbon cycle

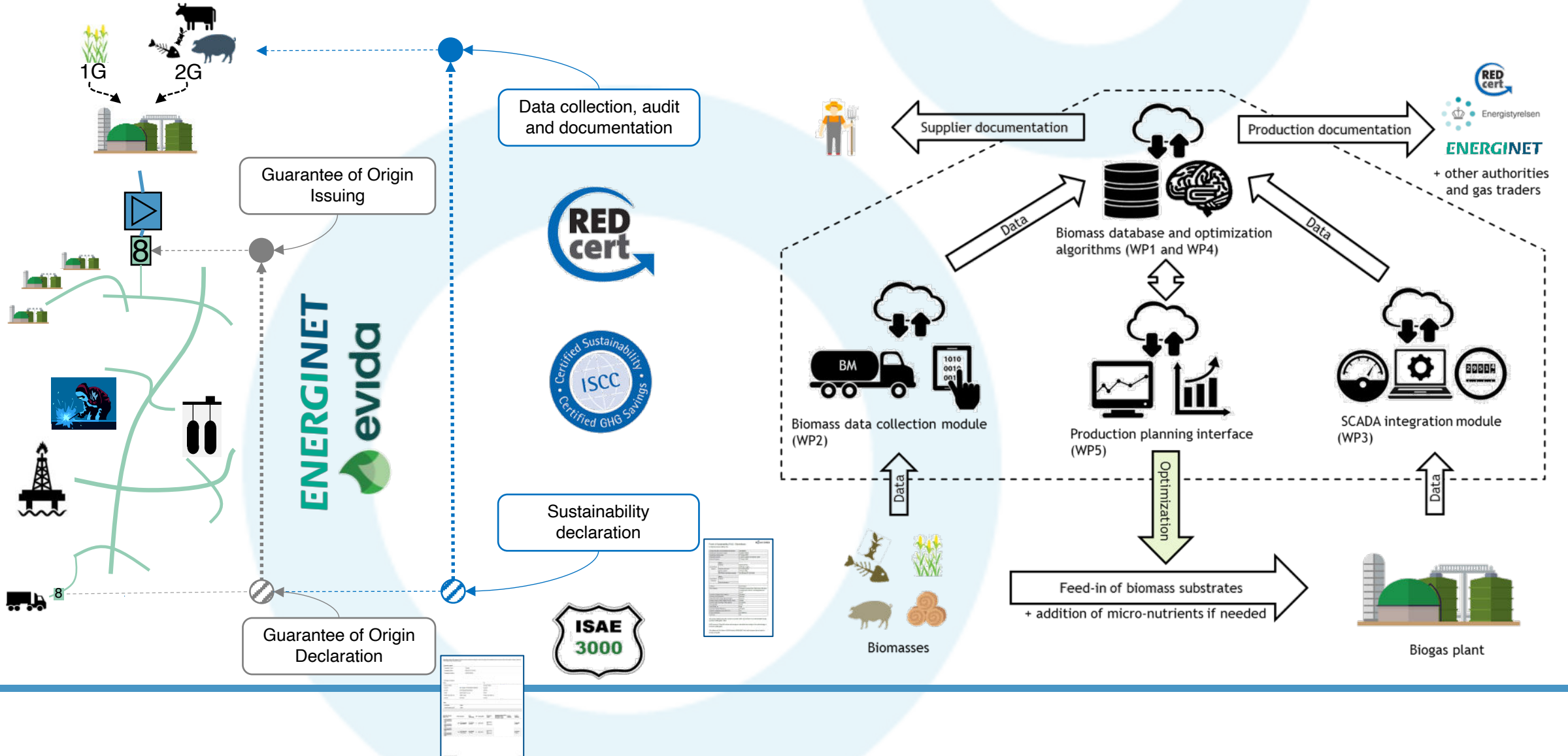


Figur: Hovedet i havet

SUSTAINABILITY DOCUMENTATION



SUSTAINABILITY DOCUMENTATION



THANK YOU FOR YOUR ATTENTION

Knud Boesgaard

knud@fremsyn.net

+45 6171 8811

VISION

We utilize the natural carbon cycle to capture climate emissions of the past

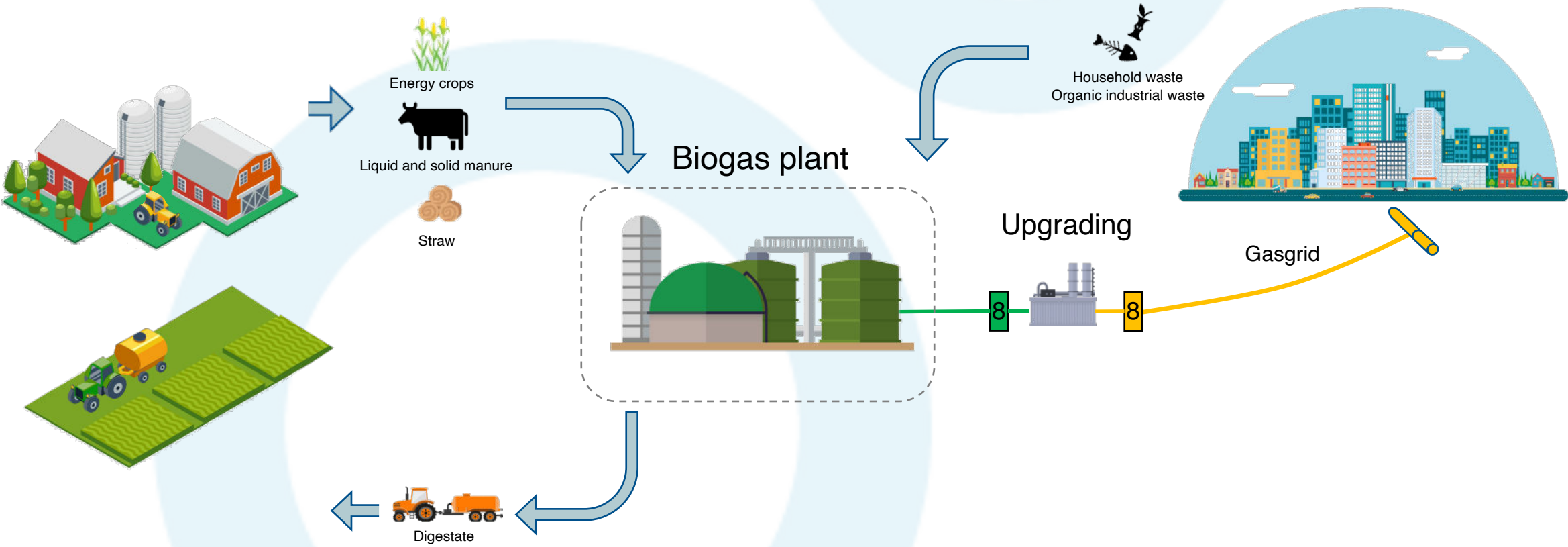
MISSION

We optimize the value stream to build up the CCR industry

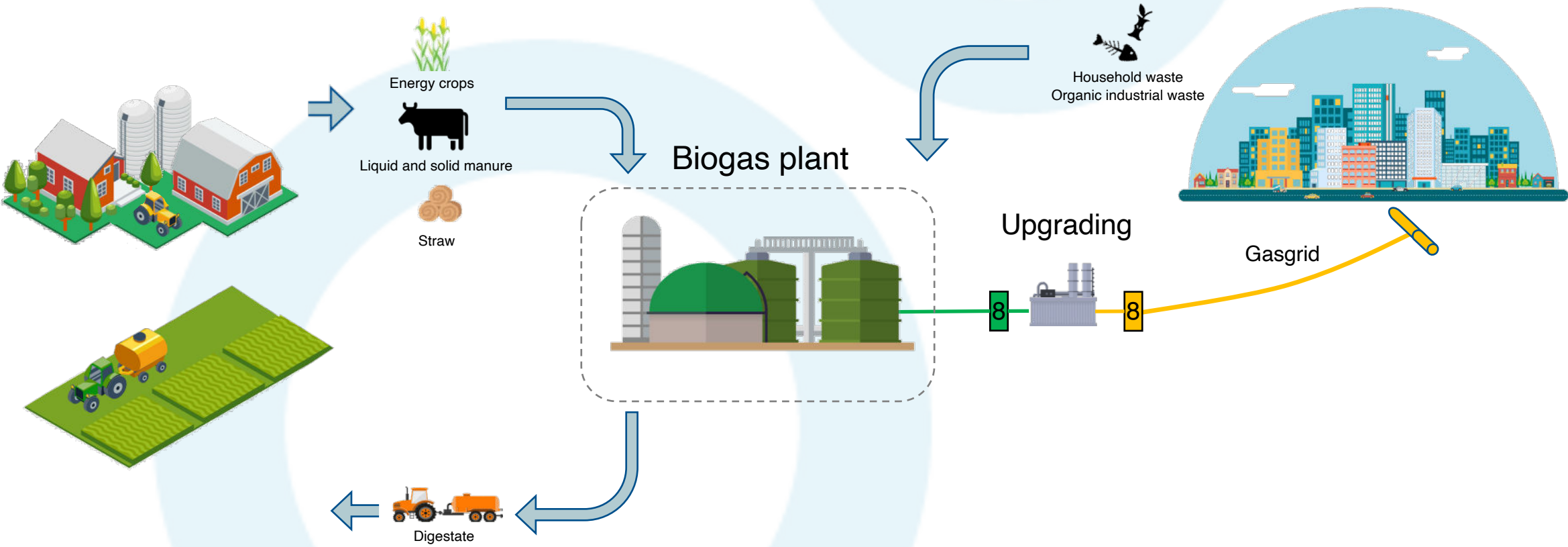
VALUES

We are a trustworthy and timely business partner

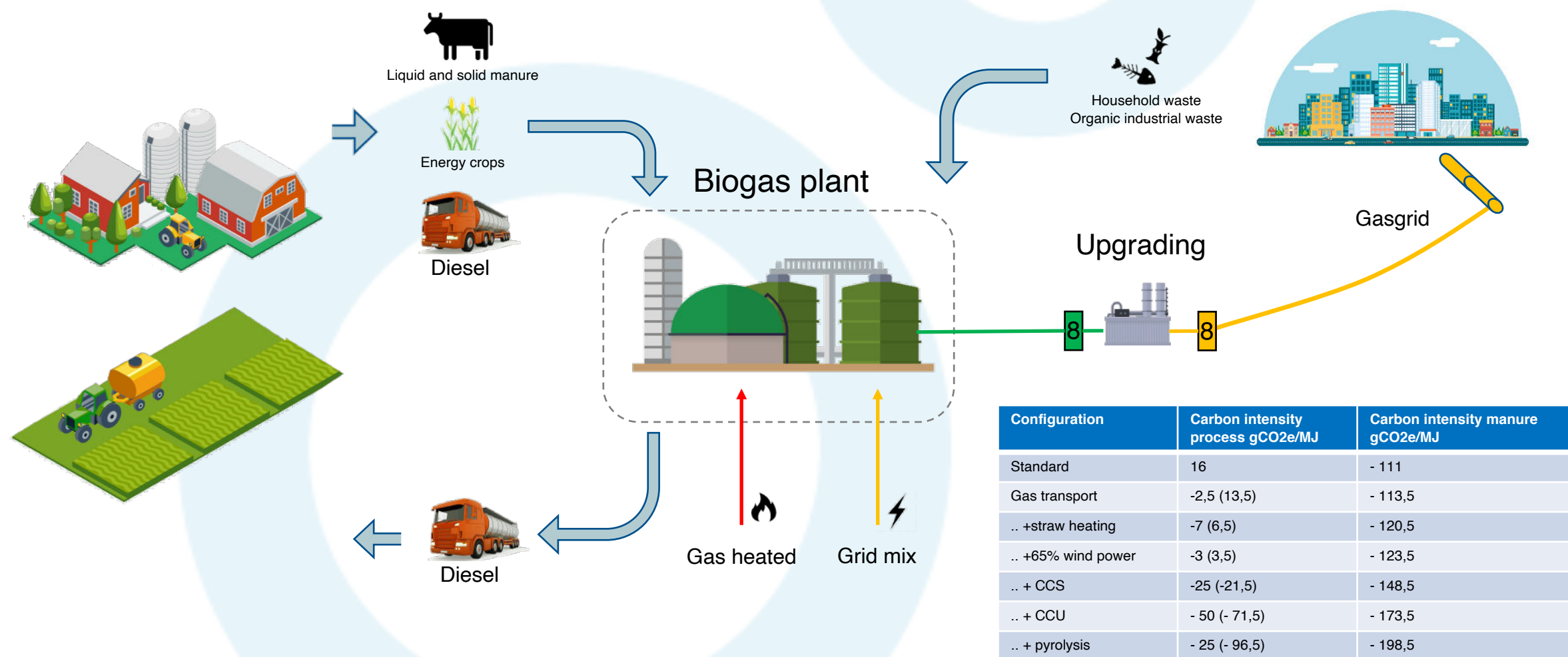
BIOGAS



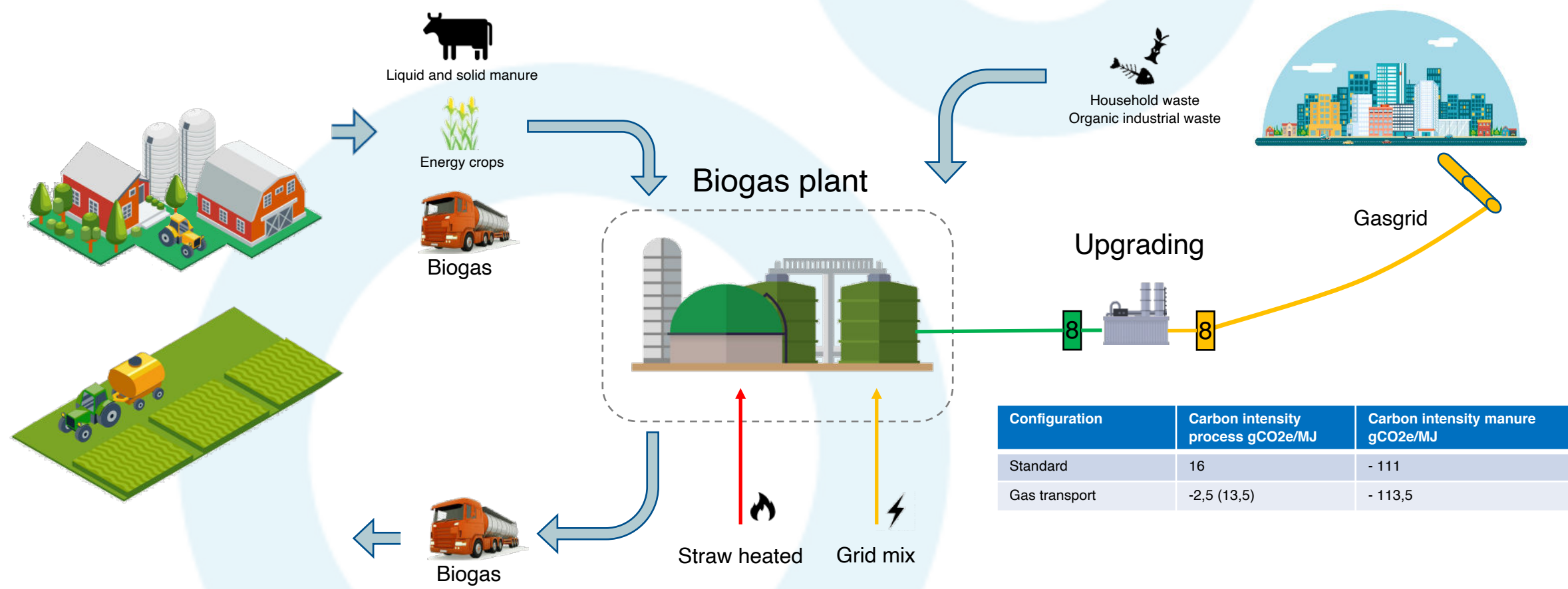
BIOGAS



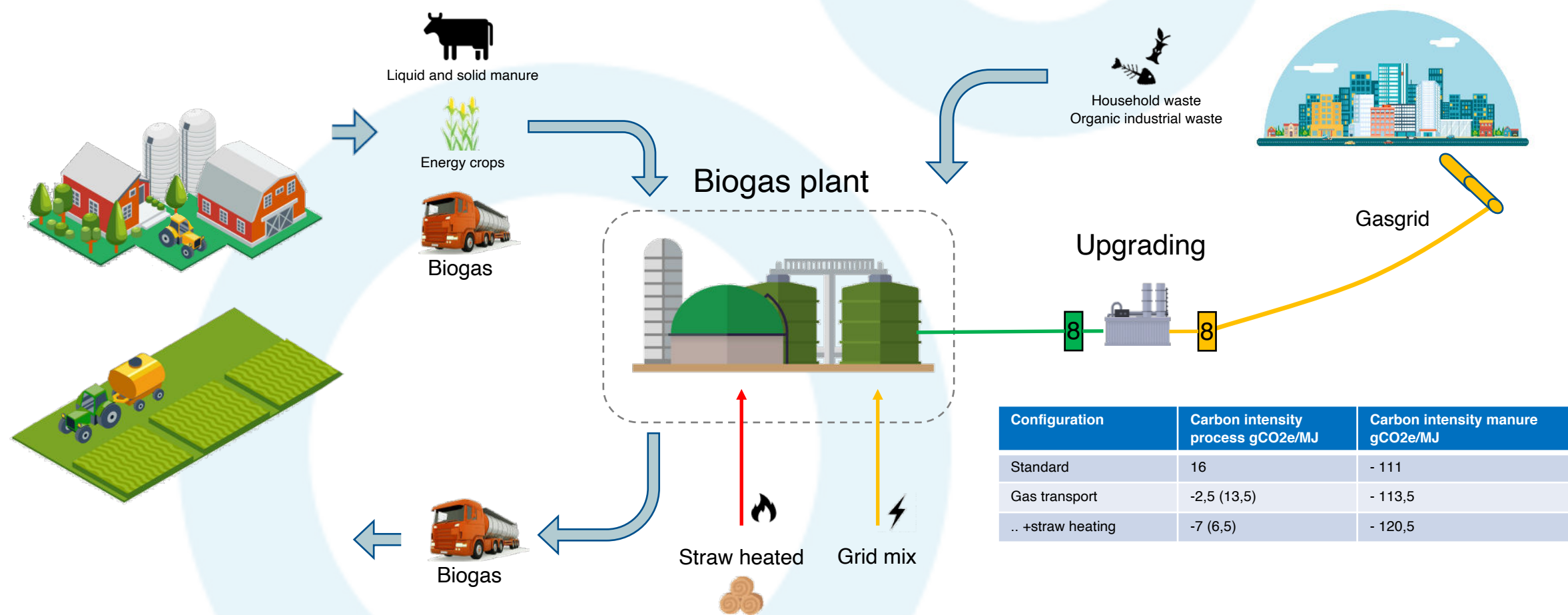
REPAYING THE CARBON DEBT



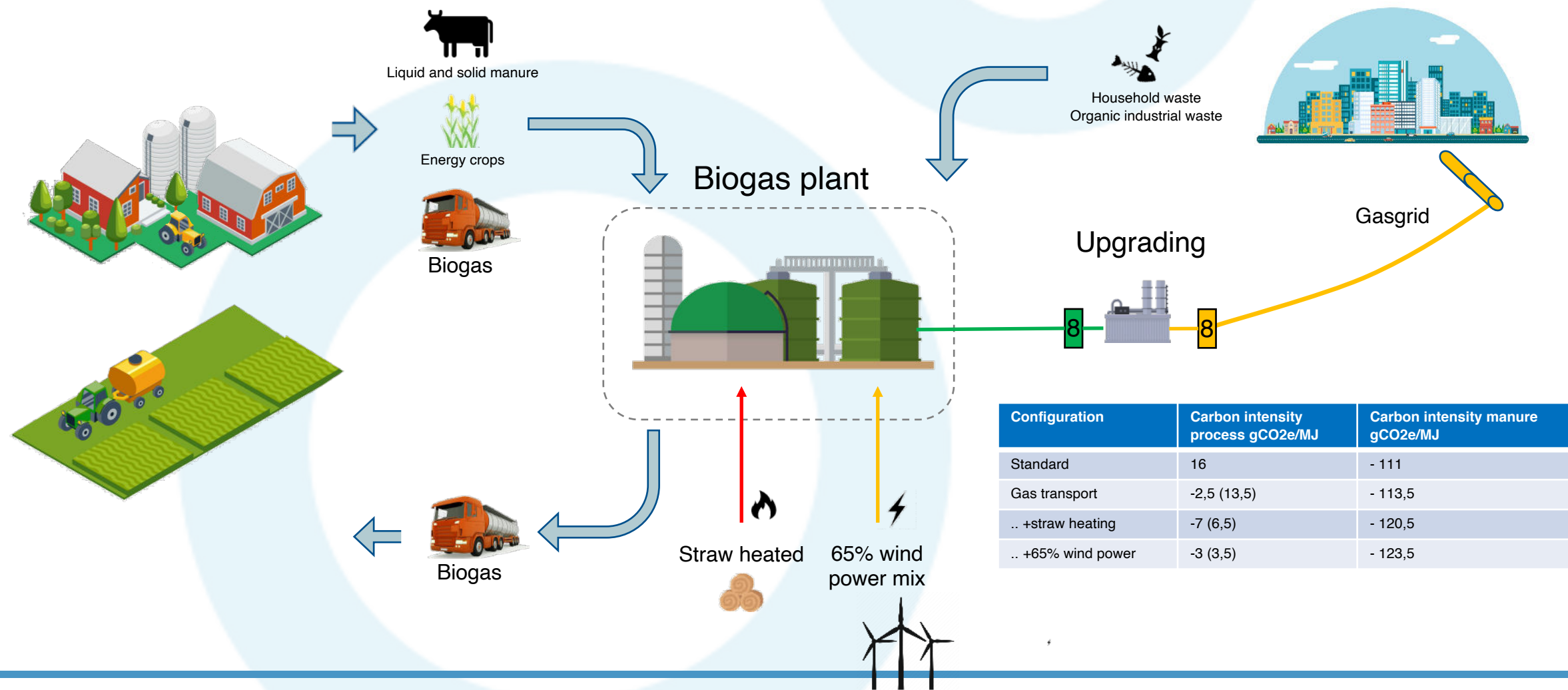
REPAYING THE CARBON DEBT



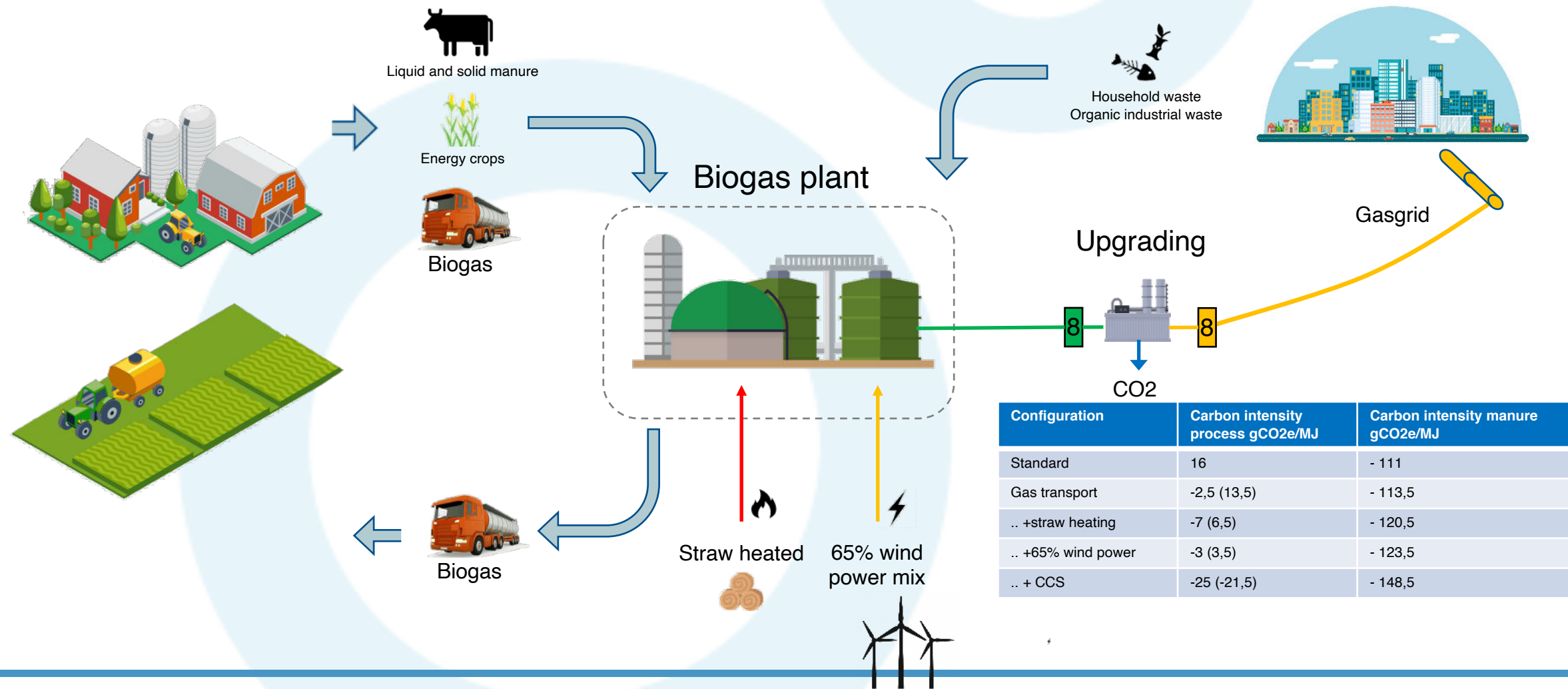
REPAYING THE CARBON DEBT



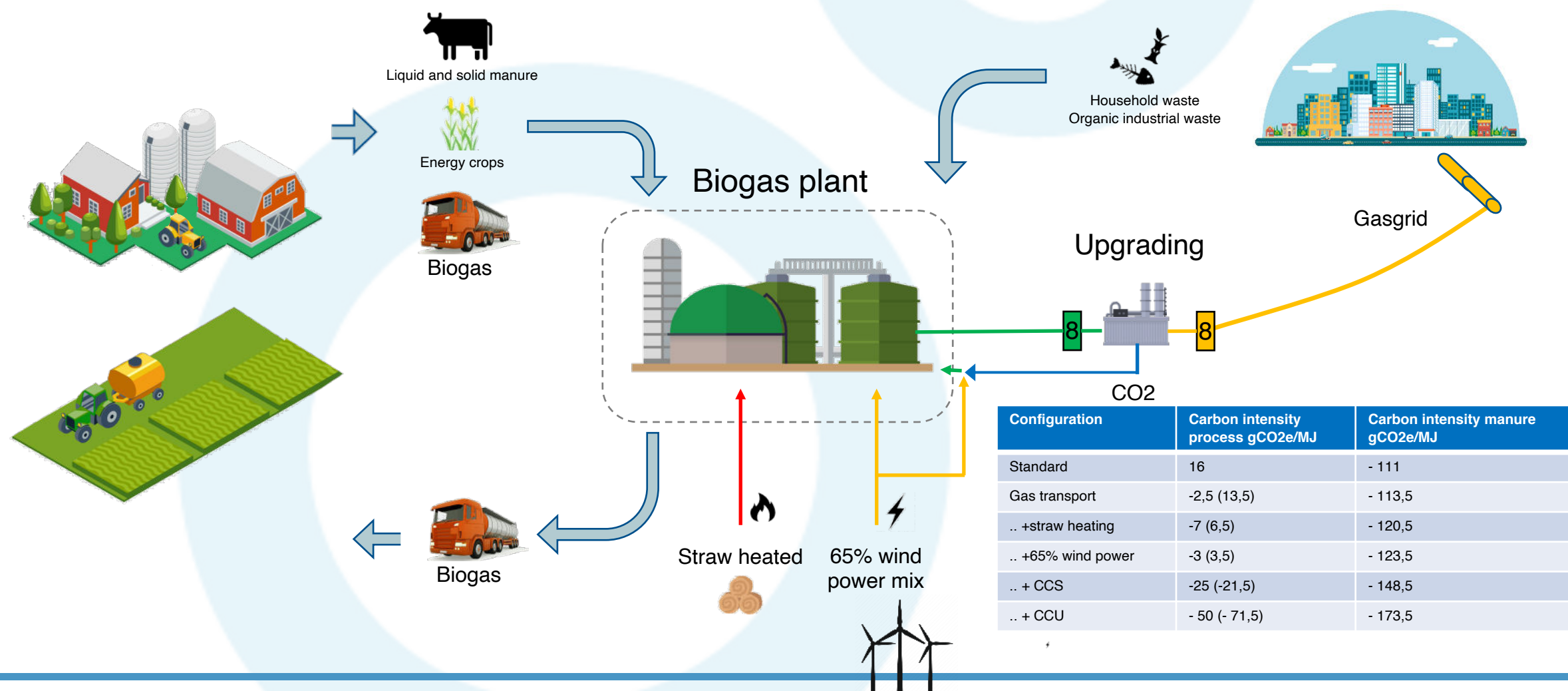
REPAYING THE CARBON DEBT



REPAYING THE CARBON DEBT



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