



# Cows and Climate

# Impact of Factory Farms on Climate (by the numbers)

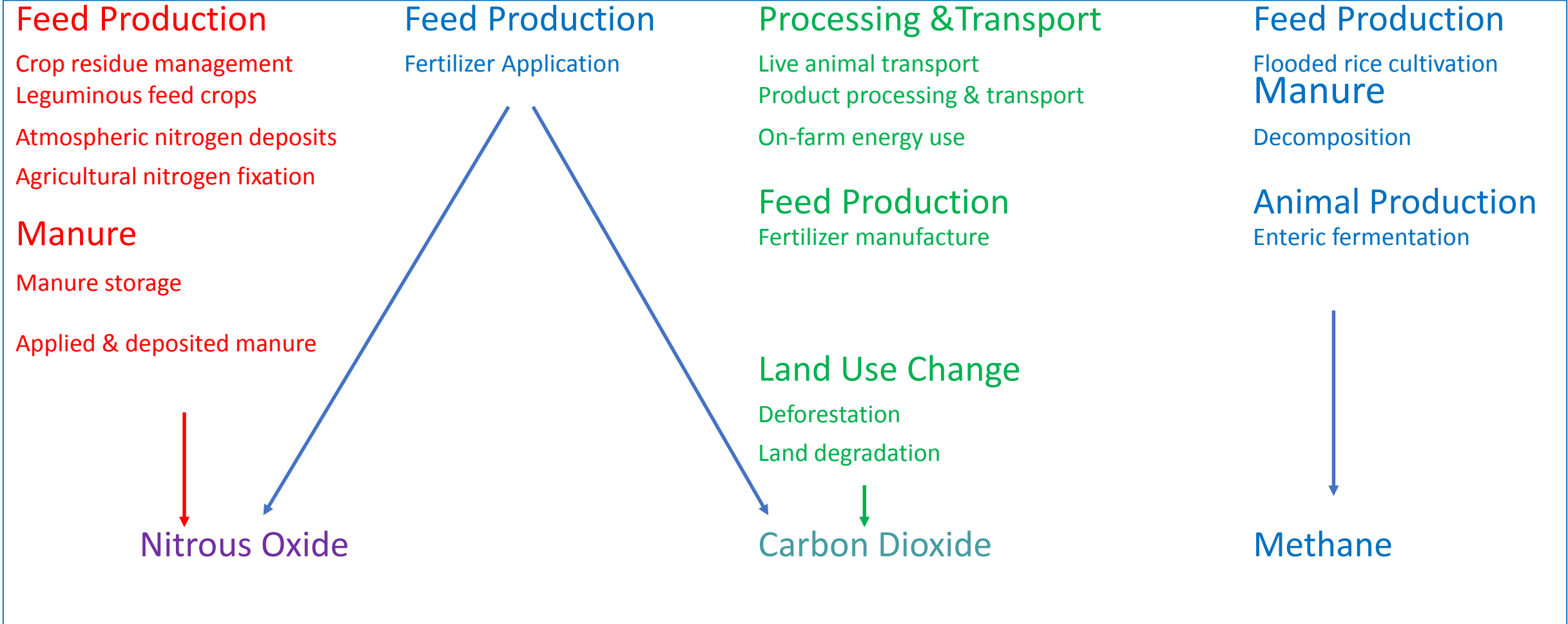
## US Alone

- 10,000,000,000 land animals
- 99% of food animals produced in CAFOs
- 19,500 CAFOs

## Globally

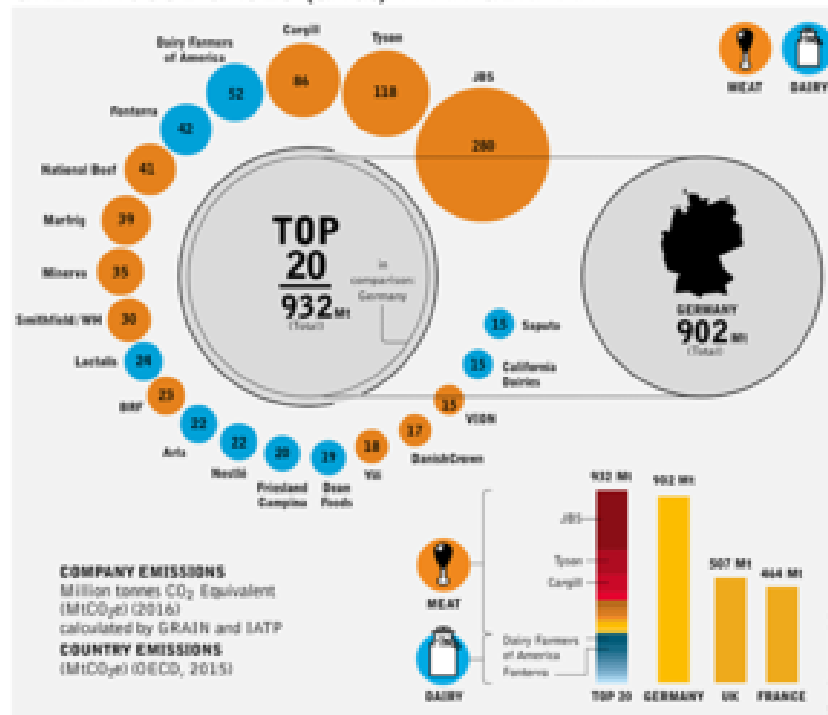
- 14.5-18% of anthropogenic GHG emissions caused by animal ag
- 2x - Demand for meat will double by 2050 without intervention

# Livestock Impacts



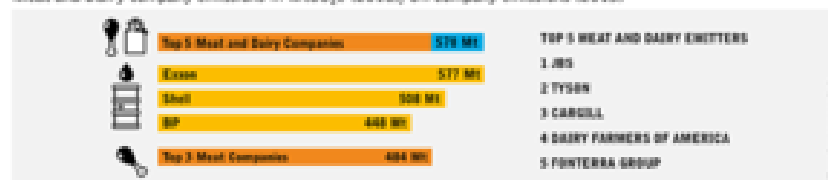
## BIG MEAT AND DAIRY'S SUPERSIZED CLIMATE FOOTPRINT

THE TOP 20 MEAT AND DAIRY CORPORATIONS EMIT MORE GREENHOUSE GASES (GHGs) THAN GERMANY



## THE TOP MEAT AND DAIRY CORPORATIONS EMIT MORE GHGs THAN EXXON, SHELL OR BP

Meat and Dairy company emissions in MtCO<sub>2</sub>e (2016); Oil company emissions (2015)

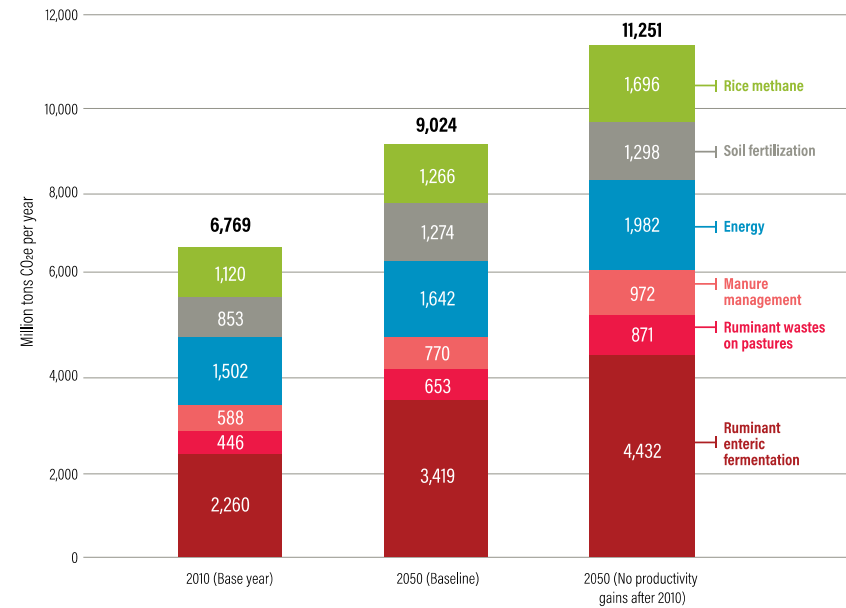


### Even with Large Productivity Gains, We Project Production Emissions to Rise

Annual emissions from agricultural production processes (i.e., excluding emissions from land-use change) reach 9 Gt in our 2050 baseline (Figure 17), leaving a 5 Gt GHG mitigation gap relative to our

target emissions level of 4 Gt. The baseline already incorporates large productivity gains, without which the gap would rise to 7 Gt. Most production emissions take the form of two trace gases with powerful warming effects, nitrous oxide and methane.

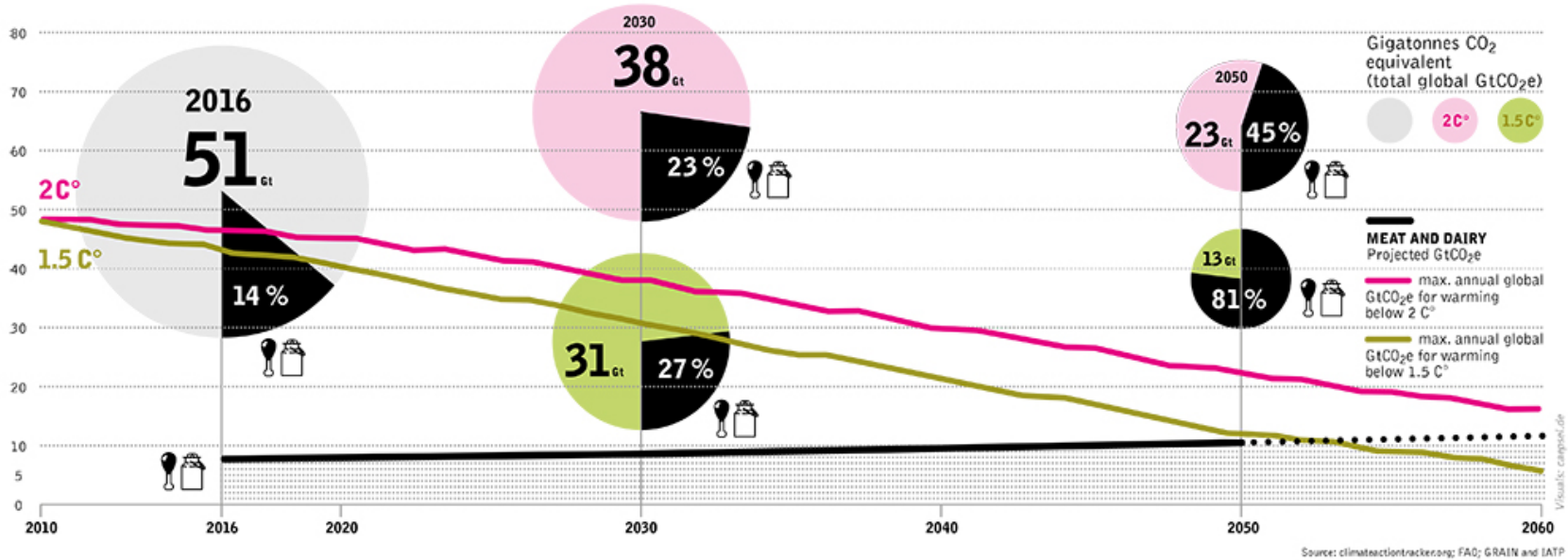
Figure 17 | Annual agricultural production emissions reach 9 gigatons in our 2050 baseline projection



Source: GlobAgri-WRR model.

# BUSINESS AS USUAL (BAU) GROWTH OF MEAT AND DAIRY PRODUCTION MAKES THE PARIS AGREEMENT IMPOSSIBLE AND CLIMATE CATASTROPHE INEVITABLE

ESTIMATED GHG EMISSIONS SCENARIOS FOR 2 C° AND 1.5 C° COMPARED TO THE BAU GROWTH OF MEAT AND DAIRY EMISSIONS



## METHODOLOGY FOR CALCULATING THE EMISSIONS

### THE METHODOLOGY INVOLVED A THREE-STEP PROCESS

**1** Determining the quantity of meat and milk processed in the year 2016 by each company. We utilised public company reports wherever possible, as well as data generated by *WATT* (Pig International, Poultry Trends), *IECN* (formerly, International Farm Comparison Network) and *Sterling Marketing* (personal communication). All numbers are for 2016, except for Marfrig (2015) and Bigard (2014), the latest years for which data is publicly available. For beef and poultry, we also determined the quantity of production per geographic region for each company, based on company reports.

**2** Using the FAO's most recent GLEAM data (updated to 2010) to determine the per kilo GHG emissions for beef, pork, poultry

and milk (emissions factors) for each company. For beef and poultry, these emissions factors included a regional breakdown of production per company, given the available company data on geographic production and the GLEAM model's significant differences in emissions factors between regions. For pork and milk, we used global averages to generate emissions factors for each company, given the lack of available company data on geographic production and the small variations in emissions factors for industrial production provided by the GLEAM model for the relevant regions.

**3** Multiplying the production quantity by the emissions factors to get the totals for each company.

### DATA FOR THE INFOGRAPHICS

- The data on country GHG emissions (excluding LULUCF) are from the [OECD for 2015](#).
- The data on Scope 1 + Scope 3 emissions from fossil fuel companies are from CDP's [2017 Carbon Majors Report](#) at [cdp.net](#).
- The projections for global greenhouse gas emissions under a business as usual scenario and a less than + 2 C° scenario are from [climateactiontracker.org](#).
- The projected emissions from meat and dairy production from 2016 to 2050 are based on the FAO's projections for global meat and milk production per category (beef, poultry, pork, milk, ovine and «other») and the FAO's most recent estimates (2013) for global emissions per category. The relevant FAO documents are hyperlinked in the online version of this factsheet, but they include: [Food Outlook June 2016](#);

[Tackling Climate Change Through Livestock \(2013\)](#); [World Agriculture: Towards 2030/2050, The 2012 Revision](#).

- The figure for 2060 global emissions from meat and dairy production (11.45 GtCO<sub>2</sub>e) assumes growth in meat and dairy production from 2050 – 2060 at the same rate as from 2030 – 2050. We did not include any assumptions for a reduction in emissions per kilo for meat and dairy production from 2016 – 2050 nor did we account for possible shifts in regional shares of global production or in types of production.

These infographics have been developed using data that will form part of a larger report to be released by IATP and GRAIN in 2018. Our objective in pre-releasing this selection of data is to help generate discussion about the issue at the COP 23 in Bonn, and to use the discussions and reactions that it generates to contribute to the 2018 report.