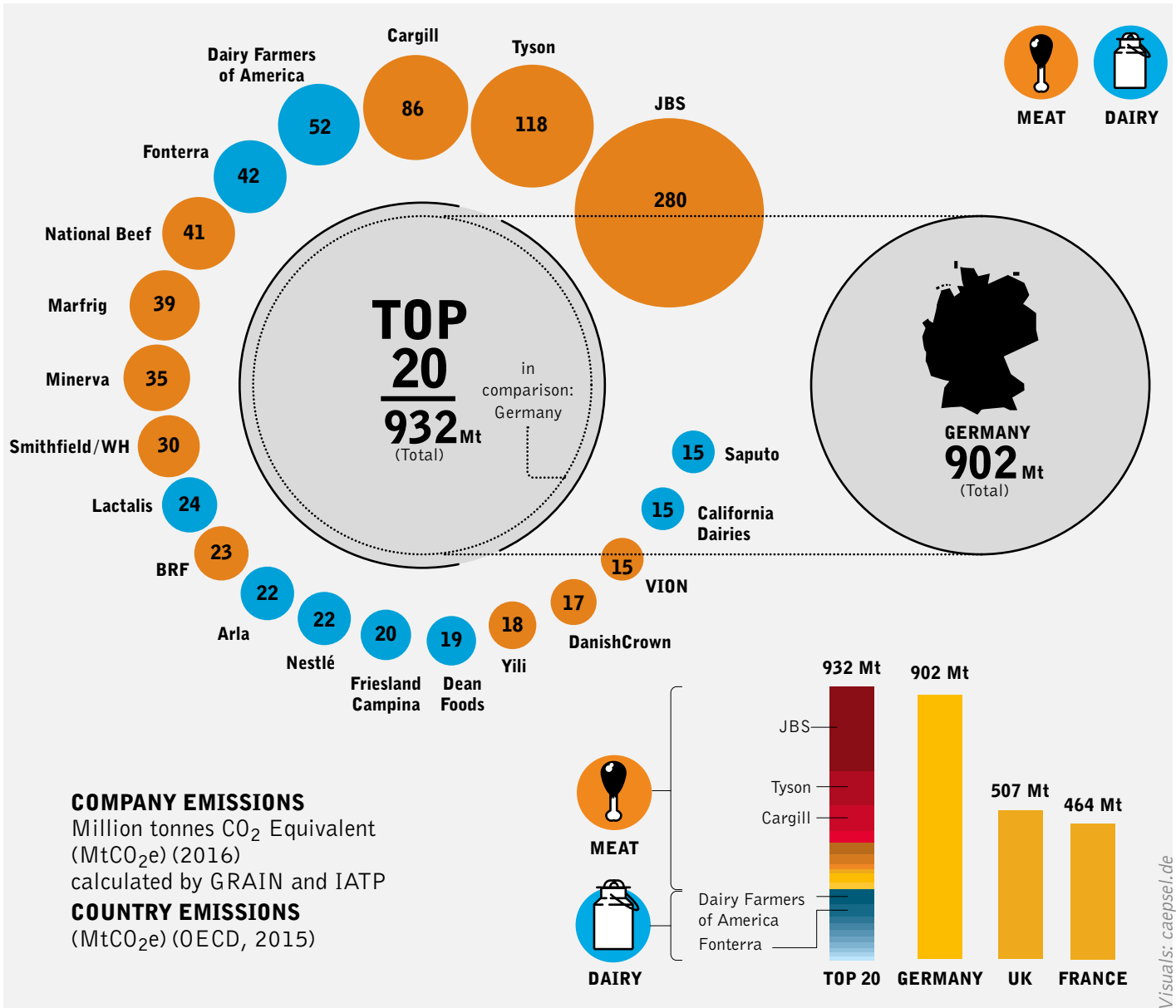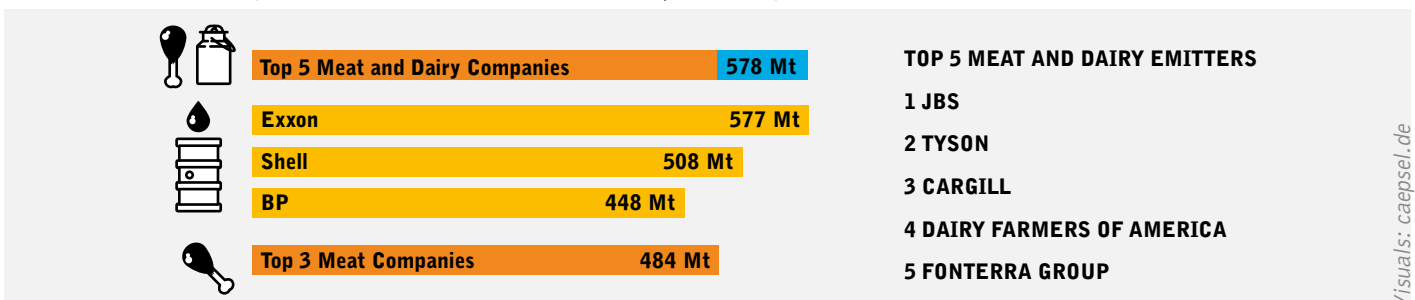# BIG MEAT AND DAIRY'S SUPERSIZED CLIMATE FOOTPRINT

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

MEAT   **DAIRY**

Cargill **86**
Tyson **118**
Dairy Farmers of America **52**
Fonterra **42**
National Beef **41**
Marfrig **39**
Minerva **35**
Smithfield/WH **30**
Lactalis **24**
BRF **23**
Arla **22**
Nestlé **22**
Friesland Campina **20**
Dean Foods **19**
Yili **18**
DanishCrown **17**
VION **15**
California Dairies **15**
Saputo **15**
JBS **280**

TOP 20 / 932 Mt (Total)

in comparison: Germany

GERMANY 902 Mt (Total)

COMPANY EMISSIONS
Million tonnes CO$_2$ Equivalent
(MtCO$_2$e) (2016)
calculated by GRAIN and IATP
COUNTRY EMISSIONS
(MtCO$_2$e) (OECD, 2015)

MEAT

DAIRY

932 Mt
JBS
Tyson
Cargill
Dairy Farmers of America
Fonterra

TOP 20   902 Mt **GERMANY**   507 Mt **UK**   464 Mt **FRANCE**
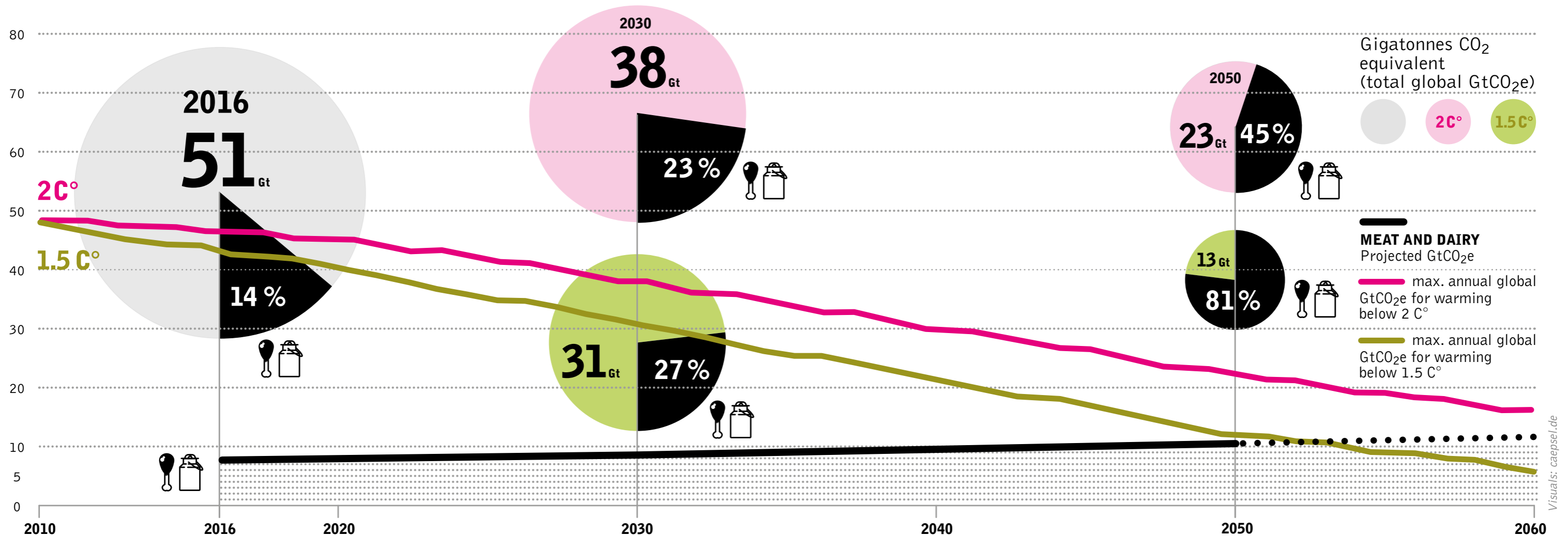
Visuals: caepsel.de

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

Meat and Dairy company emissions in MtCO$_2$e (2016); Oil company emissions (2015)

Top 5 Meat and Dairy Companies **578 Mt**
Exxon **577 Mt**
Shell **508 Mt**
BP **448 Mt**
Top 3 Meat Companies **484 Mt**

TOP 5 MEAT AND DAIRY EMITTERS
1 JBS
2 TYSON
3 CARGILL
4 DAIRY FARMERS OF AMERICA
5 FONTERRA GROUP

Visuals: caepsel.de

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

2C°

1.5 C°

2016
51 Gt
14 %

2030
38 Gt
23 %

31 Gt
27 %

2050
23 Gt
45 %

13 Gt
81%

Gigatonnes CO_2 equivalent (total global $GtCO_2e$)

2C° 1.5C°

MEAT AND DAIRY
Projected $GtCO_2e$

— max. annual global $GtCO_2e$ for warming below 2 C°

— max. annual global $GtCO_2e$ for warming below 1.5 C°

Visuals: caepsel.de

2010   2016   2020   2030   2040   2050   2060

Source: climateactiontracker.org; FAO; GRAIN and IATP

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), *IFCN* (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 (11.45 $GtCO_2e$) 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.

SOLUTIONS EXIST: REDIRECT, REINVEST, REGULATE, REDUCE, REGENERATE
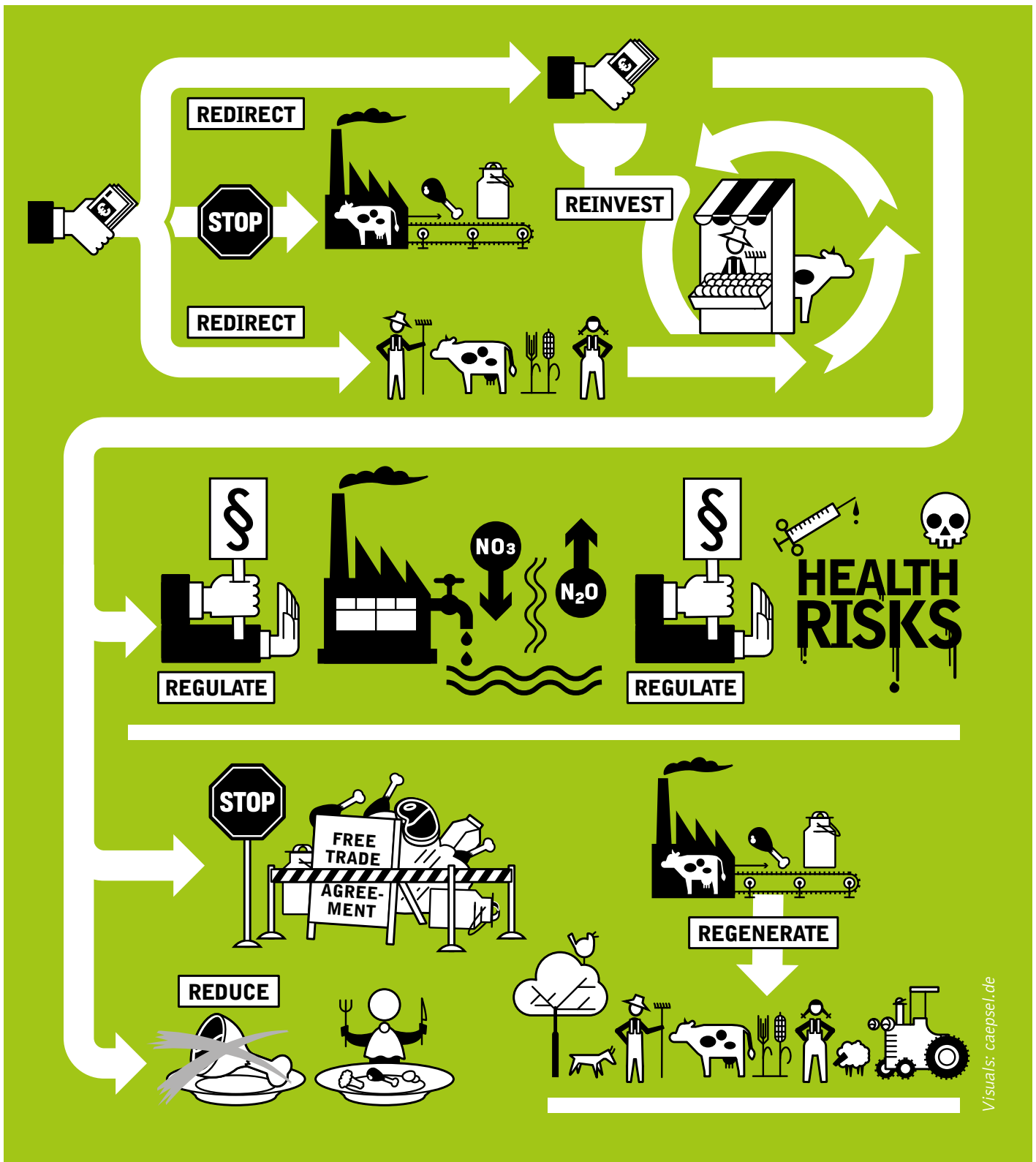
For more analysis of the problem and solutions, please see «Two ways to tackle livestock's contribution to climate change» (GRAIN and IATP); «Grabbing the bull by the horns: it's time to cut industrial meat and dairy to save the climate» (GRAIN) and the «The Meat Atlas» (Heinrich Böll Foundation, www.boell.de).

FOR MORE INFORMATION SEE *grain.org and iatp.org*

FACTSHEET **BIG MEAT AND DAIRY'S SUPERSIZED CLIMATE FOOTPRINT**