The agricultural sector faces a significant challenge in a world with an expected 30% increase in population by 2050, and with a changing climate.
1. Bioeconomy and land use: *Challenges towards low-carbon pathway*

- **From 2001-2010 Agriculture contributed 25% of global anthropogenic GHG emissions (EU 9.2%).**
- **Large sector emissions due to conversion of land (40%).**
- **Forests and other bioeconomy activities captured (or offset) 4% (10-12% for EU).**
- **62% of direct emissions from Agriculture was due to animal rearing, 13% fertilizers and 10% Rice.**

*Fig: Decadal GHG emission averages (1990-2010)*

(Source: FAO 2014)
1. Bioeconomy and land use: Challenges towards low-carbon pathway

Sustainable foods: Production process and transport has huge influence on GHG footprint

Fig. GHG footprint of different agricultural produce (kg CO2eq./100 gr). The height of the curves represent the amounts of productions globally with a specific footprint.

1. Bioeconomy and land use: *Challenges towards low-carbon pathway*

Food diet effect combined with food waste reduction

![Graph showing change in GHG emissions (in Mt CO2eq) from 2020 to 2050 for different diets.](image)

*Diet 1, Diet 2, Diet 3, Diet 4, Diet 5*

*Source: GLOBIOM and GAINS.*
1. Bioeconomy and land use: Challenges towards low-carbon pathway

**Food waste:** Every year 33% of food produced is wasted from farm to fork (20% in EU)

- Ca. 8% of global anthropogenic GHG emission are due to food waste (~4.4 Gt CO$_2$ eq p.a.)
- Annual GHG Footprint per capita by country group:
  - US: 840 kg CO2 eq.
  - EU: 680 kg CO2 eq.
  - Africa: 210 kg CO2 eq

2. Contribution of the EIB Group

Thanks to its current eligibility framework EIB is already significantly contributing to Climate objectives

- Agri-Bio economy lending (2017-2019)
- (%) share of the EIB direct bioeconomy lending volume to Climate Finance
- Climate Finance in EIB direct bioeconomy lending:
  - 43% in 2017, 46% in 2018 and 50% in 2019
3. Reactions from R1

**Support to nature-based solutions in the bioeconomy and LULUCF sectors**
- Biodiversity protection

**Sustainable forestry and land management / Reforestation**
- Regenerative agriculture
- No burning biomass for energy

**Food Security**
- Local regional food
- Small farm support

**No increase industrial agriculture**
- No industrial animal rearing
- Plant-based diets

**Support to innovation and substitution research**
- Smart-

**Bioeconomy alternatives, e.g. carbon-free ammonia production, biofuels, green hydrogen as feedstock**
4. Possible future focus of the EIB Group

1. SUPPORT TO CLIMATE ACTION AND BIODIVERSITY

- Carbon sequestration through Forest and Agri
- Bioenergy and biomaterials

2. AGRICULTURAL VALUE CHAIN

- Produce healthier food more efficiently
- Less food wastage
- Lower GHG emissions

3. MEAT AND DAIRY

- Sustainable production systems improving GHG efficiency

4. VULNERABLE FOOD SUPPLY SYSTEMS

- Local best practice in food insecure countries

? FOOD INDUSTRIES RELYING ON PRODUCTS FROM UNSUSTAINABLE AGRICULTURE

? LONG DISTANCE AIR FOOD TRANSPORT
5. Questions for the session

Bioeconomy and land use

- **Question 4G:**
  Taking into account the range of intensive/extensive animal production systems across the world, how can the EIB best support the meat and dairy industry to be consistent with a low-carbon pathway? Would the conditions proposed suffice? If not, what additional/alternative criteria should be considered?

- **Question 4H:**
  How can EIB support for LULUCF be increased? Can agriculture—besides forestry—make a significant contribution to LULUCF through differentiated cropland management options? What role should removals for constriction and biobased materials for industry play?