Pathways towards lower emissions – A global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems

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1. Building science and evidence-based narratives / visions on Sustainable Livestock

2. Promoting the adoption of tailored and context-specific good practices

3. Promoting and implementing policy and responsible investment for impact at scale

4. Facilitating cooperation partnership and innovation to accelerate a sustainable transformation of the livestock sector

5. Taking a holistic approach that considers the multiple sustainability dimensions

“Outcome” = actors along the value chain share and adopt good practices

“Impact” = better production, better nutrition, better environment and a better life
[@Wisser, Dominik (NSAL)] - option 2 with puzzle
Lanzoni, Lydia (NSAL), 2024-07-17T08:19:04.472
Overview

Updated global GHG assessment

Assessment of technical mitigation potential
0  [@Wisser, Dominik (NSAL)] - option 2 with puzzle
Lanzoni, Lydia (NSAL), 2024-07-17T08:19:04.472
IFC Sustainable Protein Network event

Wednesday 27 March 2024  l  Pathways towards lower emissions: Livestock agrifood systems

FAO, 2023 – https://doi.org/10.4060/cc9029en
Livestock contributes about 12% to the total GHG emissions (6.2 Gt CO₂eq)
GHG emissions assessment

- **80 percent** of emissions take place in low- and middle-income countries
- **20 percent** of emissions in high-income countries

FAO, 2023 – https://doi.org/10.4060/cc9029en
Production of terrestrial animal products is expected to increase by 20% by 2050.
By 2050, livestock production will increase by **20 percent**, resulting in > 9 Gt CO$_2$eq with no change in emission intensity.
Demand side mitigation options: 4 – 5 percent

- Dietary Changes
- Reducing food loss and wastes

- Nationally recommended diets consider nutritional, health, cultural, and environmental concerns
- More than 800 M are food insecure and poor
- Decrease GHG emissions in HICs
- Increase GHG emissions in LMICs

FAO, 2023 – https://doi.org/10.4060/cc9029en
Pathways towards lower emissions

On-farm measures: 5 – 20 percent

- Productivity increase of low producing animals
- Genetic improvement and breeding
- Rumen manipulation (feed additives, methanogens vaccine)
- Feed and nutrition improvements (feed formulation)
- Improved animal health, control of infectious diseases through one health

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Other solutions: 1.6 – 6.6 percent

- Carbon sequestration
- Circular bio-economy
- Renewable energy use
- Best Manure management systems

Pathways towards lower emissions

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Pathways towards lower emissions

- Global overview
- Overlapping effects
- Pathways are specific for regions/production systems/species
- Refinements needed with local data!
Towards regional pathways (2025)

GLEAM v3

Mitigation pathways
Livestock agrifood systems contribute 6.2 Gt CO$_2$ eq emissions, representing approximately 12 percent of all anthropogenic GHG emissions in 2015.

About 80 percent of emissions are concentrated in low- and middle-income countries.

The adoption of technical and innovative interventions on both the supply and the demand sides has the potential to reduce GHG emissions in short-term.

There is no one-size-fits-all solution; pathways need to be specific to production systems and local conditions.

Regional data and expertise is needed.

GLEAM and other tools can provide the evidence to support the sustainable livestock transformation initiative.

Key messages
Pathways towards lower emissions
A global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems
Thank you!

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