

Ministry of Agriculture
Republic of Latvia

Ammonia emission reduction in Latvia. Policy framework.

Jyväskylä, 13/02/2019

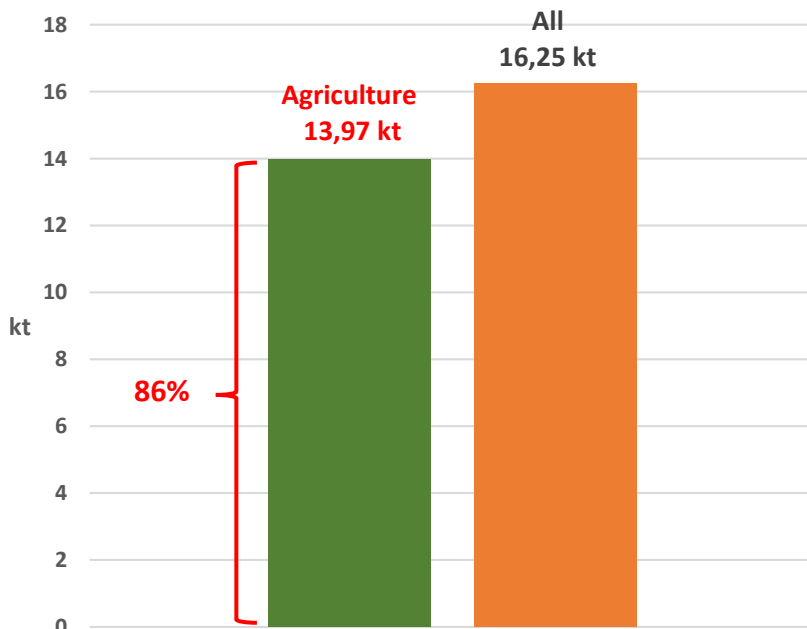
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Ammonia emissions in Latvia (2016)



- **EU National Emissions Ceilings Directive** (adopted in 14.12.2016.): sets emission ceilings for several air pollutants including ammonia.
- Latvia has a commitment from NEC Directive to reduce ammonia emissions in 2020 and 2030 **by 1%** below the emission level in 2005.
- **86%** of ammonia emissions are emitted from agricultural sector in Latvia. It means that politics to reduce ammonia emissions has to be targeted to agricultural sector.

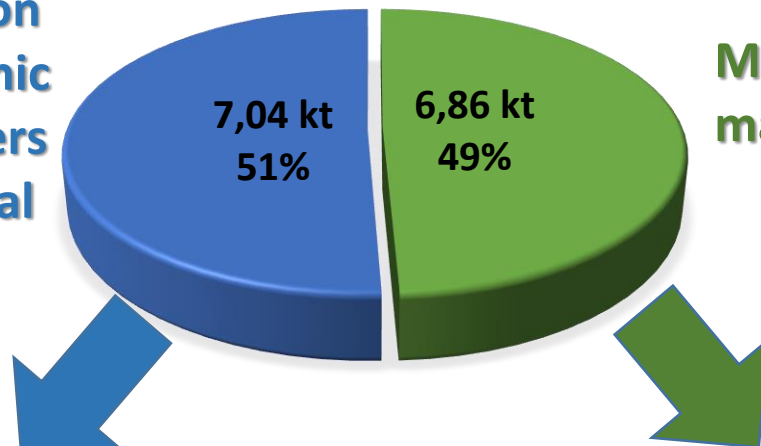
AMMONIA EMISSIONS FROM AGRICULTURE IN LATVIA (2016)



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**Application
of inorganic
N-fertilizers
and animal
manure**

**Manure
management**



**Urine and dung deposited
by grazing animals
5 %**

Laying hens
7 %

Broilers 4
%

Other
animals 4
%

Horses 2 %

Goats 1 %

Swine
14 %

Sheeps
4 %

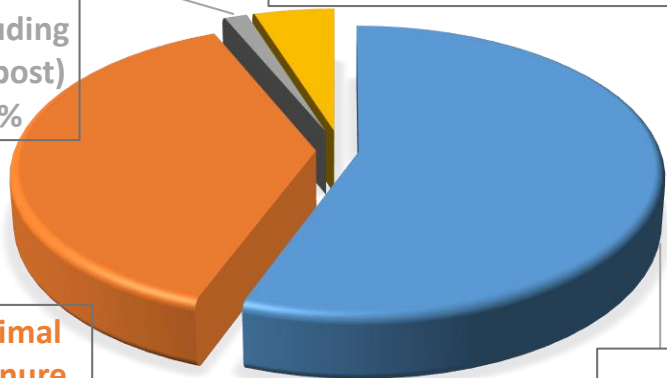
Non-dairy
cattle
10 %

Dairy cattle
54 %

Other
organic
fertilisers
applied to
soils
(including
compost)
1 %

Animal
manure
applied to
soils
38 %

Inorganic N-
fertilizers
56 %



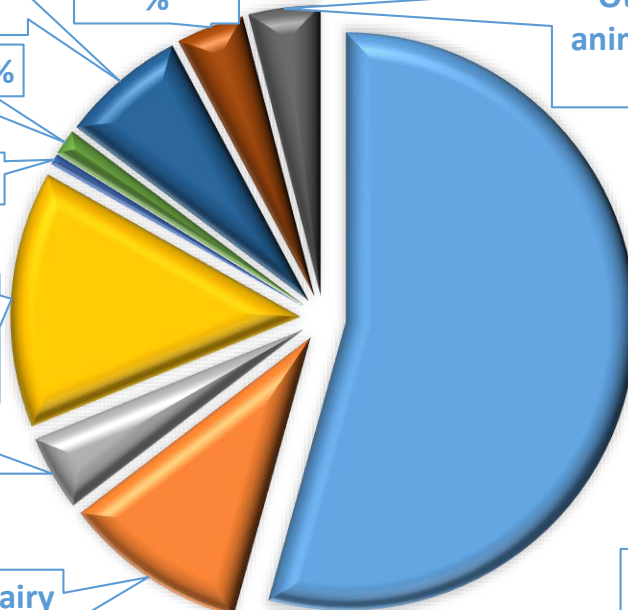
Other animals 4 %

Swine 14 %

Sheeps 4 %

Non-dairy cattle 10 %

Dairy cattle 54 %

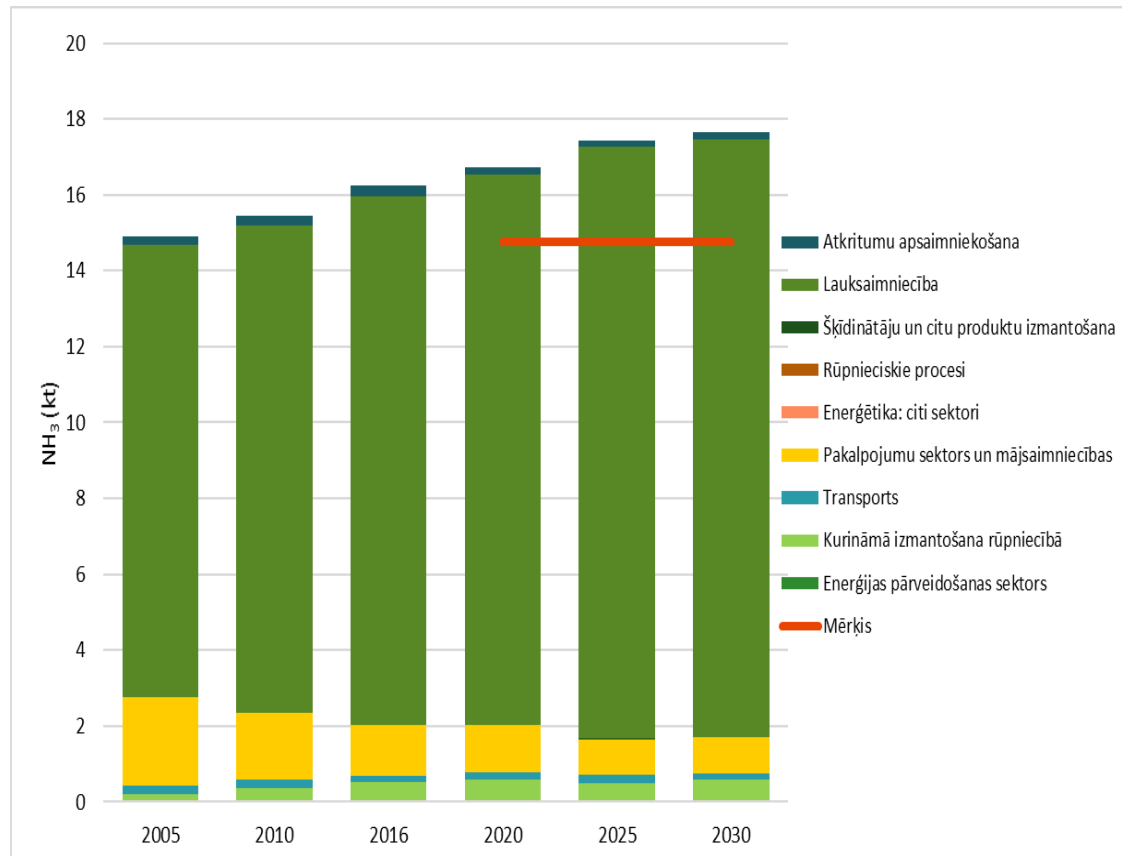




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Ammonia emission projections (without new measures)

- Projected ammonia emissions from agriculture 89% of total emissions in 2030
- In 2030 8,6% higher than emissions in 2016
- Emissions from agriculture in 2030 13,4% higher than emissions in 2016
- Exceeding emission targets for 2020 and 2030:
 - by 12,9% above 2020 target
 - by 19,6% above 2030 target





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- **National Air Pollution Control Programme** under the NEC Directive: main instrument to achieve air pollutant emission reduction commitments in EU memberstates. Now it is elaborated in Latvia under responsibility of Ministry of Environmental protection and Regional Development and will include policy and measures to reduce air pollutant emissions, including ammonia.
- **Measures were selected taking into account following criteria:**
 - ✓ efficiency of measure has been proved and scientifically accepted;
 - ✓ positive effect on both GHG and ammonia emission reduction;
 - ✓ effect of reduction potential of measure can be calculated according to calculation methodology and included in national ammonia emission inventory;
 - ✓ it is possible to identify implementation costs of measure.

Options for Ammonia Mitigation

Guidance from the UNECE Task Force on Reactive Nitrogen



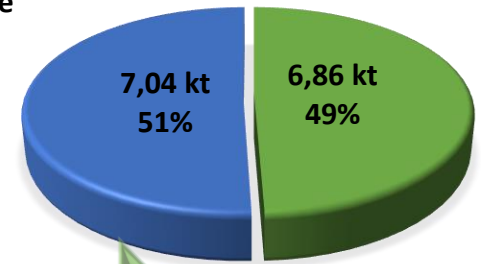


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Perspective ammonia emission mitigation measures

Application of inorganic
N-fertilizers and animal
manure

Manure
management



Low emission manure storage systems

Slurry tanks with solid and floating covers
Replacement of lagoons with covered tanks
Promotion of biogas production

Low emission manure spreading systems

Trailing hoses
Trailing shoe
Shallow injection
Deep injection
Incorporation of slurry and solid manure into the soil within 4 hours after spreading

Limiting NH₃ emissions from mineral fertilizers

Switching from urea to ammonia nitrate
Precision mineral fertiliser application
Fertilisation planning
Nitrogen fixation (legume plants)

Ammonia emission reduction

Measures are focused on:

- intensive mixed specialization farms that keep their livestock indoors (UAA >400 ha; non-dairy cattle >200; dairy cattle >300; pigs >1000)
- intensive cereal farms (UAA >200 ha)
- Medium-large mixed specialization farms that graze their livestock (UAA 10 – 400 ha; non-dairy cattle 5 – 200; dairy cattle 5 – 300; pigs 10 – 1000)

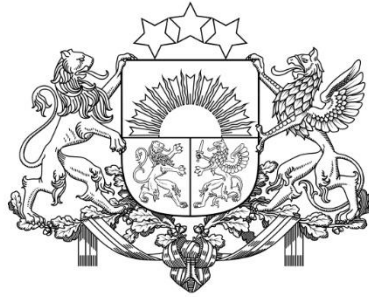


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During this year researchers from Latvia University of Life Sciences and Technologies will:

- evaluate cost-efficiency for selected ammonia emission reduction measures, adapting the conception of marginal abatement cost curves.
- identify now available and necessary data (activity data; parameters; assumptions; emission factors) for evaluation of ammonia emission reduction measures for including effect of measures in national inventories of ammonia emission.



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Thank you for attention!