Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
Baltic Slurry Acidification

RESULTS FOR ENVIRONMENTAL PERFORMANCE

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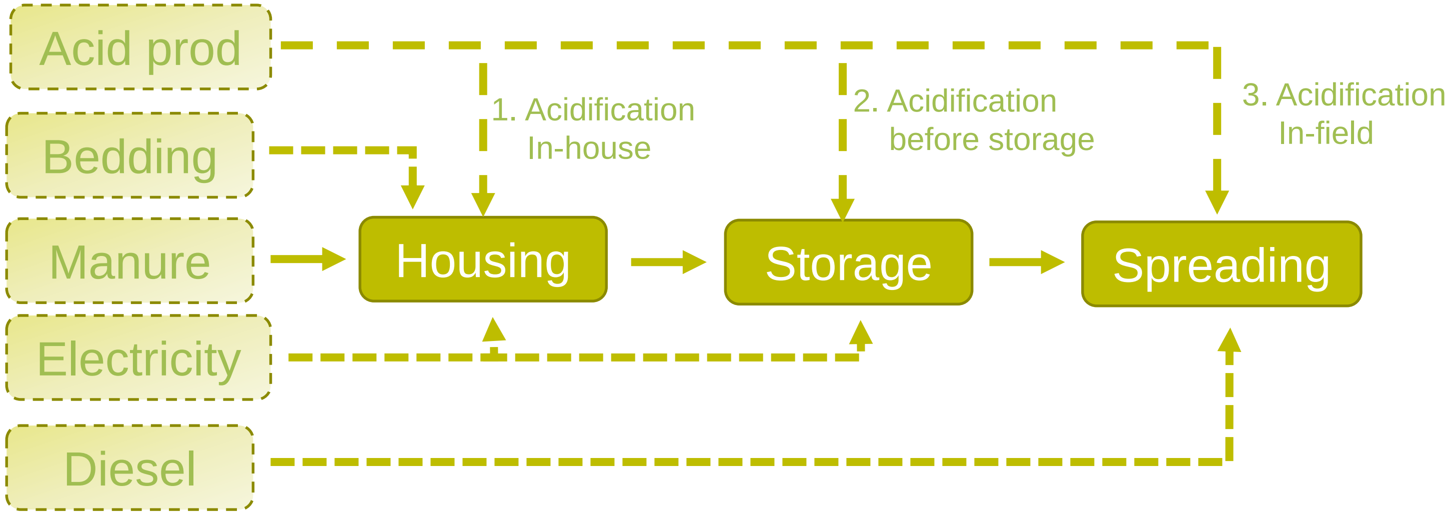
Studied scenarios

STUDIED SCENARIOS

- No acidification (Reference)
- Acidification In-house
- Acidification before storage
- Acidification In-field

COUNTRIES STUDIED

- Denmark
- Estonia
- Finland
- Sweden



Tonnes of pig and cattle slurry spread annually

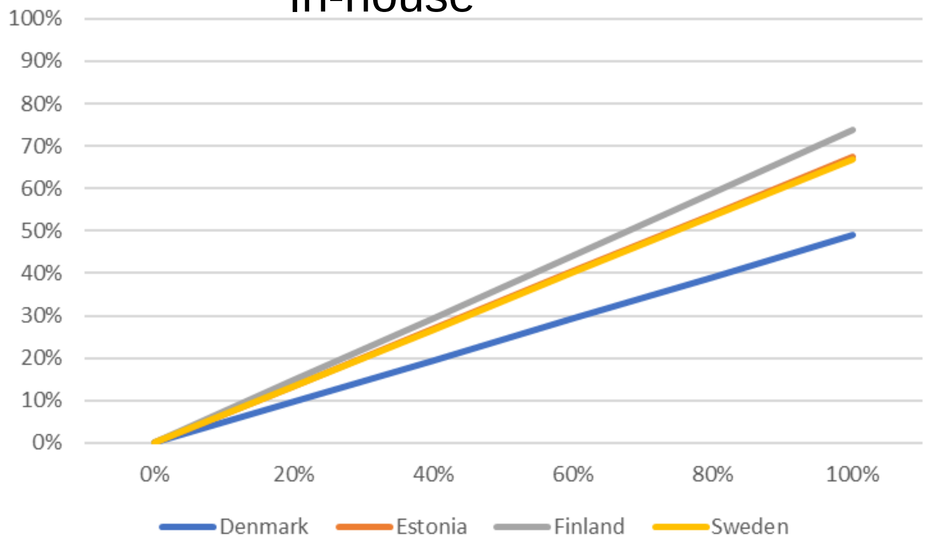
Country	Pig slurry	Cattle slurry	Pig & cattle slurry
Denmark	13 100 000	13 900 000	27 000 000
Estonia	464 000	1 036 000	1 500 000
Finland	2 400 000	3 760 000	6 160 000
Sweden	2 110 000	15 720 000	17 830 000

Analyses

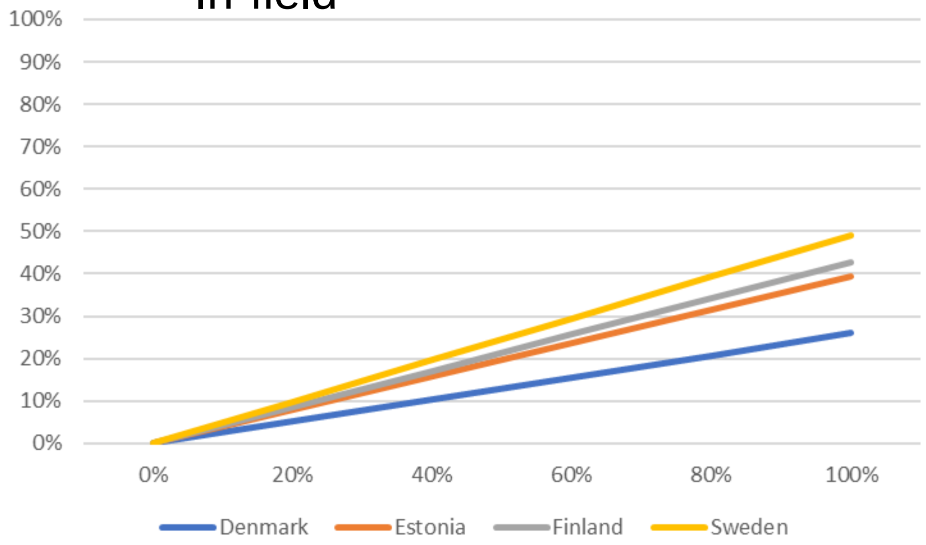
- Emissions of ammonia (NH_3)
- Saved nitrogen as ammonium nitrogen (NH_4-N)
- Environmental impact of acidification compared to no acidification
  - Climate change (GWP100)
  - Potential eutrophication
  - Potential acidification

Relative decrease in ammonia emissions

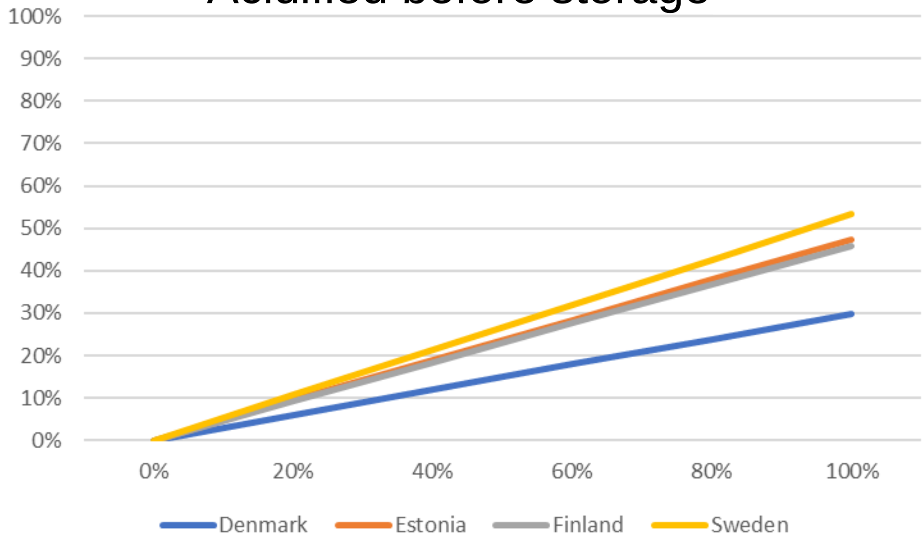
In-house



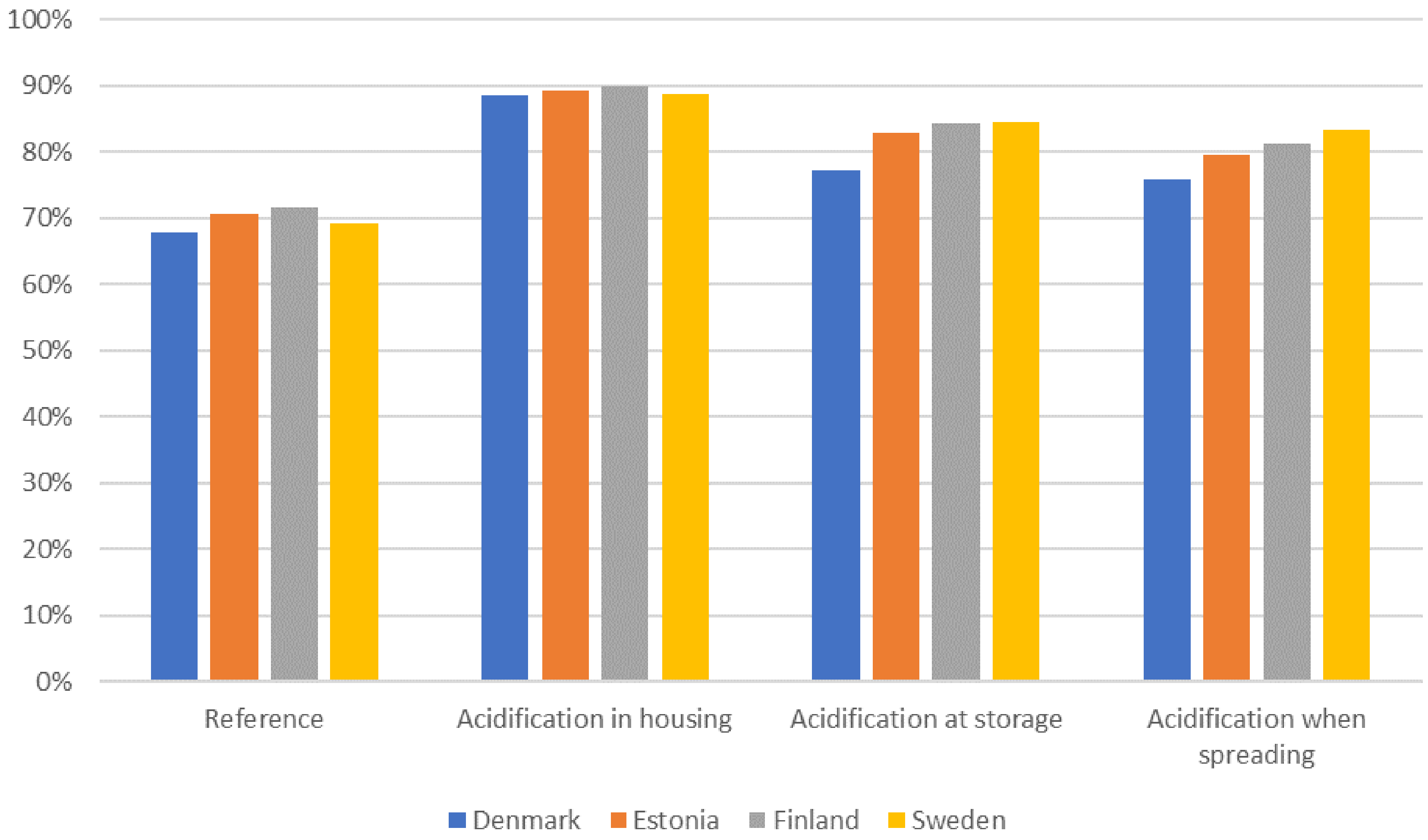
In-field



Acidified before storage



Nitrogen efficiency



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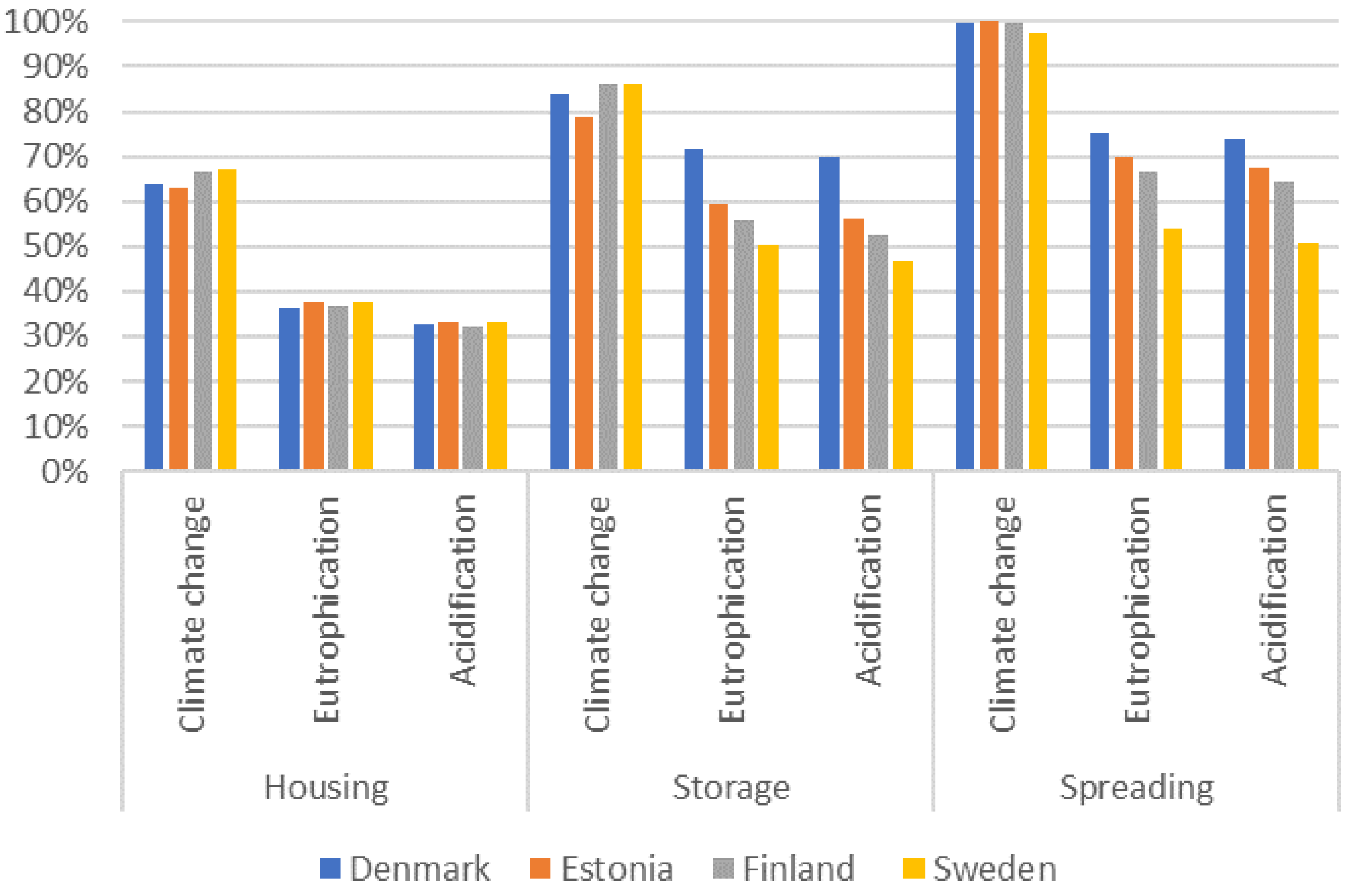
Relative environmental impact from slurry acidification



Conclusions

- Decreased emissions of NH3 from slurry after acidification
- Methane (CH4) emissions decreases when acidification is done before storage
- In-house had largest positive effects on NH3 emissions, increased N utilization and environmental impacts
- Effects on eutrophication and acidification impacts varied greatest between countries for In-field and varied least for In-storage
- Effects depend largely on the assumption that ratios for changed impact is according to results from Danish trials
- Differences between different countries depend on initial emissions as the effect from acidification was assumed to be the same wherever it was performed
- Uncertainty regarding emissions of nitrous oxide (N2O)
  - Uncertain information regarding direct N2O emissions
  - Potential risk for increased indirect emissions
- Need for evaluating acidification compared to other measures to reduce emissions
  - Regarding emissions, environmental impact and costs

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