Reducing nitrogen loss from livestock production by promoting the use of slurry acidification techniques in the Baltic Sea Region

**Background**
Livestock manure is the main source of ammonia-nitrogen emissions in the Baltic Sea Region, which through atmospheric deposition results in a significant amount of nitrogen entering the Baltic Sea. Ammonia emissions threaten also human health through the formation of particulate matter, which as a pollutant is estimated to have a high negative impact on human health.

Slurry acidification techniques (SATs) can be used to reduce the ammonia losses from livestock manure in livestock housing, manure storages and from the fields during the application of manure. These techniques have been widely tested and implemented in Denmark. The three main types of SATs are:

- In-house acidification of livestock slurry
- In-storage acidification of stored livestock slurry
- In-field acidification of livestock slurry during field spreading.

The use of SATs benefits farmers by increasing the nitrogen use efficiency of their manure fertilizers and thereby decreasing their dependency on mineral nitrogen.

**Objectives**
The main objective of Baltic Slurry Acidification is to promote the implementation of slurry acidification techniques throughout the Baltic Sea Region to reduce airborne eutrophication and create a more competitive and sustainable farming sector.

Core activities focus on establishing pilot SAT installations and field trials in countries around the Baltic Sea that will be used to disseminate knowledge to target groups via field walks and demonstrations to provide local experiences to help build end user confidence in these technologies. The project will further clarify technological aspects and potential risks of acidification, analyze the environmental and economic implications, conduct market analysis and suggest policy recommendations that could help dissemination of SAT technology in the Baltic Sea region.

**Priority area**
Natural resources

**Specific objective**
Clear waters

**Lead Partner**
JTI - Swedish Institute of Agricultural and Environmental Engineering

**Project budget**
Total EUR 5,271,115
Work packages

WP1  Project management and communication
Leader:  PP1 JTI - Swedish Institute of Agricultural and Environmental Engineering
Communications:  PP4 BSAG

WP2  Technical feasibility studies
Leader:  PP7 Institute of Technology and Life Sciences + PP1 JTI
Partners:  PP 1, PP3, PP5, PP6, PP7, PP8, PP9

WP3  Pilot installations research and demonstration
Leader:  PP5 Ltd Latvian Rural Advisory and Training Centre + PP20 enAgro Plc
Partners:  All partners

WP4  Field trials and demonstrations
Leader:  PP6 Lithuanian Agricultural Advisory Centre + PP1 JTI
Partners:  PP1, PP3, PP4, PP5, PP6, PP7, PP8, PP9, PP10, PP12, PP14, PP16, PP17, PP18, PP19

WP5  Environmental and economic implications
Leader:  PP3 Estonian Crop Research Institute + PP1 JTI
Partners:  PP1, PP3, PP4, PP5, PP6, PP7, PP8, PP9, PP10

WP6  Policy recommendations and analyses of markets and legislation
Leader:  PP20 enAgro Plc + PP11 Union “Farmers’ Parliament”
Partners:  PP1, PP3, PP4, PP6, PP7, PP8, PP9, PP11, PP12, PP16, PP20

The responsibility of project communication and dissemination of information is shared between the work packages and coordinated by Baltic Sea Action Group as a part of WP1.

Partners
PP1:  Lead Partner:  JTI – Swedish Institute of Agricultural and Environmental Engineering, SE
PP3:  Estonian Crop Research Institute, EE
PP4:  The Foundation for a Living Baltic Sea (Baltic Sea Action Group - BSAG), FI
PP5:  Ltd Latvian Rural Advisory and Training Centre SIA, LV
PP6:  Lithuanian Agricultural Advisory Service, LT
PP7:  Institute of Technology and Life Sciences (ITP), PL
PP8:  Agricultural Advisory Centre in Brwinow Branch Office in Radom, PL
PP9:  State Agency for Agriculture, Environment and Rural Areas of the German Federal State Schleswig-Holstein (LLUR), DE
PP10:  Blunk GmbH, DE
PP11:  Union "Farmers Parliament" (ZSA), LV
PP12:  Association of ProAgria Centres, FI
PP14:  Dotnuvas Experimental Farm, LT
PP16:  The Rural Economy and Agricultural Society, SE
PP17:  Br Goransson Ab, SE
PP18:  Animal Science Institute, Lithuanian University of Health Sciences, LT
PP19:  Vecsiljani ZS, LV
PP20:  enAgro Plc, DK

Project timeline
The project is three years long; starts March 1, 2016 and ends February 28, 2019.