

# Technologies

FOR SUSTAINABLE FOOD PRODUCTION IN THE BALTIC SEA REGION



**Compact**

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## Knowledge sharing

### Baltic Compact – New Project to Support Increased Use of Innovative Agro-Environmental Technologies

*By Kaj Granholm, Swedish University of Agricultural Sciences (SLU)*

While the strategic Baltic COMPASS project is being closed down, the Baltic Sea Programme has approved co-funding for its extension, called Baltic Compact, an acronym for “Collaborative management planning and action for agriculture and environment in the Baltic Sea Region”.

Baltic Compact builds on the priority themes and stakeholder experiences from the Baltic COMPASS project and continues transnational dialogue on innovative agri-environment governance. The project uses a combination of practical evidence from agri-environmental technologies and systematic stakeholder organization to demonstrate opportunities to improve responses to agri-environment challenges to bring benefits across the environmental, agricultural and rural sectors.

Baltic Compact will further demonstrate two of the technologies that were prioritized in Baltic COMPASS, namely;

- **Biogas production of livestock manure, and**
- **SCIEN drainage technologies**

Project activities include investments, field demonstrations, training and international policy seminars. The lessons will be consolidated in reports and policy briefs defining conditions for sustainable implementation of the technologies and promoting adaptations in agri-environment governance frameworks to support local level and collective design of agri-environment measures. Strengthening the utilization of the existing stakeholder networks and platforms across the Baltic Sea Region is central to the success of the project.

The Agro-Technology Newsletter will serve the function as one of the main communication platforms for the project. Information about the project will be published on the Baltic COMPASS website ([www.balticcompass.org](http://www.balticcompass.org)) and at the Agro Technology ATLAS website ([www.agro-technology-atlas.eu](http://www.agro-technology-atlas.eu)).

Basic information about the project is provided on the Programme website [here](#)

## Swedish Certification Rules for Digestate

*By Ola Palm, chairman for the steering committee, SPCR 120.*

Since year 1999 Sweden has a voluntary certification system for digestate (SPCR 120) from biogas plants. The system is owned and so far financed by the association Swedish Waste Management. In February 2013 there are in total 14 biogas plants and 3 compost plants with certificates.

The background to the system was to build market confidence for high quality products with the origin in source separated organic waste. It was also important that the market actors regarded digested as different products compared with sewage sludge. During the 90's it was common that digestate and sewage sludge was regarded as the same product. Thus, the certification system for digestate does not accept any products from the sewage sector as substrate, i.e. sewage- or septic sludges.

The system has a positive list for which types of substrates that are accepted. The substrates have to be clean and source separated organic wastes (e.g. organic household waste, organic waste from restaurants), manure and agricultural crops like silage. Organic waste with animal origin has of course to follow the EU animal byproduct directive (e.g. manure, slaughterhouse waste, meat from retail shops). In principle only substrates with food or feed origin are accepted.

A one-year qualification time is observed before a plant will get a certificate. During this qualification year all analysis has to meet the requirements in the system like maximum heavy metal content (Cd, Cr, Cu, Hg, Ni, Pb and Zn), disease control and visible impurities.

A plant with a certificate needs to have a documented and structured working procedure. Supervisory inspection is carried out by the certifying body through producer visits and inspection of the producer's self-monitoring system.

Certified digestate is widely accepted as fertilizer among farmers, food industry and authorities. Today all Swedish food industries or associations accept certified digestate as a fertilizer. Even the Swedish organic food certification system KRAV accepts certified digestate to be used as fertilizer, as long as the substrates follow what is accepted according to the EU directive for ecological production (i.e. slaughter house waste is not accepted but source separated organic household waste is accepted by KRAV).

More than 600,000 m<sup>3</sup> of digestate is produced and about 400 ton of phosphorus, 2,000 ton of plant available nitrogen is recirculated back to about 20,000 ha agricultural land every year in Sweden. About 650 GWh biogas is also produced.



An English version of the certification rules can be downloaded [here](#)

The valid version in Swedish can be downloaded [here](#)





## Slurry acidification and protease - updates on the AgroTechnologyATLAS

By Henning Lyngsø Foged, Project Manager, Agro Business Park

Agro-environmental technologies and the way they are used, documented and applied are in constant development. The AgroTechnologyATLAS has been updated with the following:

- **'Use of protease in broiler diets'**. The protease is already used in 10-15% of all feed given to broilers in Europe. The effect of the protease is a higher protein digestibility, which means that broilers can be fed with rations that have lower protein levels. A consequence of this is savings on feed costs in the production, but also that less nitrogen is cycled in the production, leading to less ammonia evaporation and less risk of N leaching from the manure when used as fertilizer.
- **'Acidification of slurry in storage tanks'** and **'Slurry acidification during field spreading'** were already described in the ATLAS, and the descriptions have now been extended and verified. Acidification of slurry is well known, but the commercial use of the technology has really taken off in Denmark in the last 2-3 years, where around 15% of all slurries are acidified, and now the technologies are spreading to other countries, such as Sweden and Germany.

Furthermore, the ATLAS has been updated in other ways. A few updates were made to make it in line with the Technology List of Danish Environmental Protection Agency, and a few new technologies were inserted with a preliminary description.

You find the ATLASs at: <http://agro-technology-atlas.eu/>.



Acidification in the slurry storage is done in connection with agitating just before field application. Photo provided by HARSØ.

## Pamphlet: Livestock Manure to Energy: Status, Technologies and Innovation in Denmark

The Danish situation with a livestock density among the highest in the world, combined with being surrounded by vulnerable nature such as the Baltic Sea, has promoted a situation with considerable competence when it comes to innovative technologies for handling of livestock manure in an environmentally safe way.

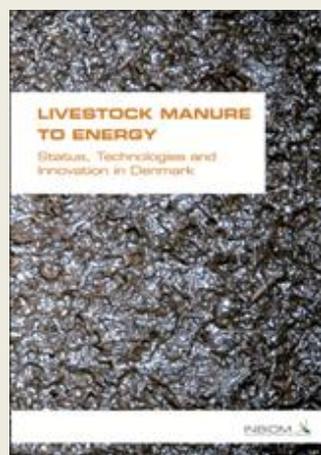
The growing awareness of resource depletion and climate challenges has furthermore clarified the huge potentials for reducing greenhouse gas emissions from the livestock manure via exploiting its energy content. Already today, around one fifth of all Danish pig and dairy farmers are involved in livestock manure based biogas production, most of them via farmer cooperative owned industrial size biogas plants.

Agro Business Park, Denmark has published a pamphlet, which aims to provide a general overview of Danish state-of-the-art technologies and competences in the supply chain from livestock manure to energy, and explain some major contextual policies, legislation and framework conditions.

It also holds a quick reference guide to the related technology suppliers and other companies and institutions with competences in the supply chain. The pamphlet is intended for anybody with interest in innovative ways to handle current challenges to reduce the environmental and climatic impacts of livestock farming, while in the same time increase the renewable energy production and the demand for animal products from a growing population.

The pamphlet is available in English so far, but it is currently being translated into Russian. The Russian version will be available for download via the link below from March 14, 2013.

[Click here to read the pamphlet in English](#)

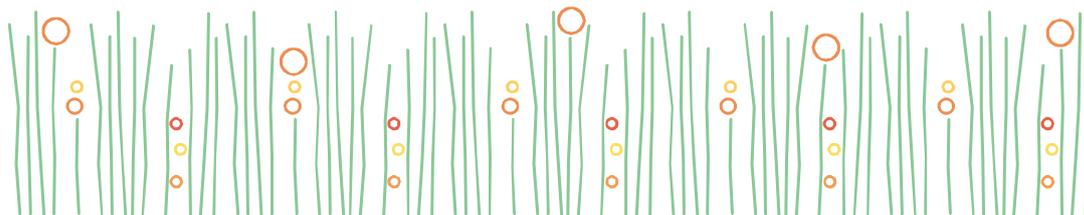


## Past Events

### Nitrate Conference, Copenhagen, May 2012

In May 2012 representatives from different countries met in Copenhagen to discuss best practice for control on the implementation of the Nitrates Directive. Before the conference questions were sent to each country as preparation and afterwards a collection has been made on responses and contributions.

You can find this collection [here](#)





*Business Support on Your Doorstep*

Enterprise Europe Network provides internationalisation and innovation services to small and medium sized companies. The network is a project

co-financed by the European

Commission and is being implemented as part of the

Commission's Competitiveness and Innovation Framework Programme.

The European-wide network consists of 3,500 experts in more than 50 countries and reaches almost 23 million SMEs.

Click on the links if you are interested in one of the shown partner searches, or visit

<http://portal.enterprise-europe-network.ec.europa.eu/>

## Examples of current Enterprise Europe Network partner searches:

### **A new biological method for soil remediation (Ref.13 NL 60FI 3RTZ)**

A Dutch company has developed a new method for biological soil disinfection. The company wants to modify the method for soil remediation. With this method ideal anaerobic conditions can be created for the soil remediation bacteria. The company is looking for environmental engineering companies, contractors, owners of urban and industrial polluted sites and research institutes to co-develop the soil remediation method.

#### **Detailed information:**

[http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS\\_ID=176039&COMPANY=732180](http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS_ID=176039&COMPANY=732180)

### **System of rapid Biomethanisation with an anaerobic filter for treatment of agricultural and industrial effluents (Ref.: 12 BE 0324 3Q5E)**

A Belgian Research Centre offers a system of biomethanisation with an anaerobic filter that hosts a bacterial synthetic support for treatment of agricultural and industrial effluents. This system allows a drastic reduction of treatment time. The research team is looking for industrials for collaborative research projects, licencing.

#### **Detailed information:**

[http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS\\_ID=173858&COMPANY=732180](http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS_ID=173858&COMPANY=732180)

### **Phosphorous Removal and Recovery from Wastewater (Ref.: 12 IE 51S6 3RHN)**

An Irish company with a background in the area of water treatment has developed a novel competitive technology for the removal of phosphorous from wastewater streams. The system uses a specifically tailored synthetic filter media to achieve the desired result and a full scale prototype of the technology has been successfully trialled at a local authority wastewater treatment facility.

The company seeks licensing opportunities with companies in the water treatment sector.

#### **Detailed information:**

<http://dnx.eenmachine.com/dnx/services/pdfprofile.asp?id=12%20IE%2051S6%203RHN&EnquiryType=BBS>

### **BioGaps: Web-Based Monitoring and Supervising software for biogas capture networks (Ref.: 13 ES 24D4 3RSQ)**

A Spanish company has developed a software application designed to supervise and monitor a biogas capture network. This software has, among other innovative features, a modern web-based interface, multiuser system with concurrent working possibilities and an interactive map with additional options. The application is now running in the organisation in charge of solid waste management in the region of Asturias. Industrial partners are sought for commercial agreements with technical assistance.

#### **Detailed information:**

[http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS\\_ID=175994&COMPANY=732180](http://www.enterprise-europe-network.ec.europa.eu/matching/completerec.cfm?BBS_ID=175994&COMPANY=732180)

## Colophon

This electronic newsletter is sent out quarterly from <http://agro-technology-atlas.eu> with the purpose to support innovation and investments within agro-environmental technology in the Baltic Sea Region by publishing relevant knowledge about the issue.

We encourage everyone to contribute with content to this newsletter by contacting the editors.

For subscription or un-subscription, please register at the web-page <http://agro-technology-atlas.eu> or notify one of the editors via e-mail.

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## Upcoming events

### European Sustainable Phosphorus Conference 2013

Venue: Square Brussels, Belgium

Date: 6-7 March 2013

The event: The aim of the conference in short is to raise awareness about the necessity for more sustainable phosphorus management on a European level, to facilitate the transition towards an enabling European environment in which less phosphorus is used and a sustainable market for recycled phosphorus can be created, and to further develop the phosphorus value chain throughout Europe.

More info: <http://www.phosphorusplatform.eu/espc2013.html>

### Information meeting about trade and market opportunities in Russia, Ukraine and Belarus

Venue: Foulum, Denmark

Date: 14 March 2013

The event: The export of environmental technologies and other agricultural machineries, food and related products from the Danish agricultural sector shows impressive growth rates despite the financial crisis and shortage of money. This is due to the fact that Denmark offers high quality products, which is a result of a visionary innovation policy, restrictive legislation and strict requirements to environment, food quality and animal welfare.

The purpose of the meeting is business networking and focus on trade and market opportunities in Russia, Belarus and Ukraine and getting better acquainted with the schemes provided by Nordic Project Fund (Nopef), Nordic Environment Finance Corporation (NEFCO) and the Danish Export Credit Agency (EKF).

More info: The meeting will be held in English language. The program can be found [here](#)

### EU BC&E 2013 - 21st European Biomass Conference and Exhibition

Venue: Bella Conference Centre, Copenhagen, Denmark

Date: 3-7 June 2013 - Exhibition: 03-06 June 2013

The event: For 30 years the European Biomass Conference and Exhibition has been the place to address and discuss the fundamental challenges of the bioenergy industry and to illustrate the best innovative technological solutions available to overcome them.

The Conference will discuss major issues for the biomass markets, in technical and business areas, from resource assessment to market and policy developments, drawing on leading experiences from all over Europe and worldwide.

More info: <http://www.conference-biomass.com/Home.404.0.html>

### Conference Announcement 2013

Venue: Helsinki

Date: 27-28 August 2013

The event: Since the conference A Greener Agriculture for a Bluer Baltic Sea in Copenhagen in October 2012, a working group has been preparing for a new conference in 2013.

The conference will be organized by a group of Baltic Sea Region projects (Baltic Compact, Baltic Manure, Baltic Deal, BERAS implementation), and organizations (Helcom, CIEC - the International Scientific Centre of Fertilizers, NJF - the Association of Nordic Agricultural Scientists and WWF) to ensure maximum cooperation and synergies.

**Please reserve the dates and more information will follow!**

### Bioenergy 2013, Exhibition and Conference

Venue: Jyväskylä Congress and Fair Centre Paviljonki, Finland

Date: 4-6 September 2013

The event: The Conference will focus on the factors affecting the future of the bioenergy and biobased modern technologies and business solutions. This will include logistic systems, management, total procurement chains, the effects of the energy markets, the influence of green marketing, international trade and other trends affecting forestry, agriculture, industry and climate.

More info: <http://www.bioenergyevents.fi/>

**ManuREsource: International conference on manure management and valorization**

Venue: Provincial Court in Bruges, Belgium

Date: 5-6 December 2013

The event: The conference will stimulate the exchange of experiences between regions on the policy measures taken for coping with manure surpluses, both in terms of manure management in a broad sense, and more specifically in terms of manure treatment.

Moreover, the conference aims to give an overview of the current developments and innovations in manure treatment technologies and to explore various valorisation strategies for manure, like energy production and nutrient recovery.

More info: <http://www.manuresource2013.org/>