DANISH BALTIC COMPACT INVESTMENT

Subject	**Specification of SCIEN drainage investment at Hofmansgave in Denmark**
Background and short description of the planned investment	Agro Business Park has as part of its role in the Baltic Compass project (http://www.balticcompass.org) identified SCIEN drainage technologies as prosperous innovative technologies for the Region, in relation to the needs and wishes for a cleaner nature and environment in the Baltic Sea Region and in the same time an increased food production and a sound economic development towards a resource based economy. In order to explore, demonstrate and promote SCIEN drainage technologies, Agro Business Park invested in controlled drainage at a field at the Hofmansgave Foundation, and contracted Knowledge Centre for Agriculture to organise the investment. Further information about SCIEN drainage and controlled drainage in general, and about the specific investment is found in the brochure "Controlled drainage and other SCIEN drainage technologies" at http://bit.ly/11UaEI6. Knowledge Centre for Agriculture has within the frames of a GUDP-financed project collected data about water flow and its content of nutrients during the winter 2012/13, and the preliminary data indicates, that the loss of nitrogen (N) per ha will be around 30 kg per ha as expected on basis of Swedish research results. It is anticipated that the loss of P with the drain water is in the level of 10% of the N loss. The preliminary results consolidate Agro Business Park's belief to the prosperity of SCIEN drainage technologies in realisation of policy goals for food production. On this basis, Agro Business Park now wishes to expand the exploration, demonstration and promotion of SCIEN drainage technologies by investing in passive water sampling on Hofmansgave. The investment can be made within the frames of the Baltic Compact project (http://goo.gl/1j4lv), 75% co-financed from the Baltic Sea Programme, and will as such via demonstrations, training event and information material serve as best practice for stakeholders in countries in the Baltic Sea region. The general purpose of the tendered investment is to contribute to our knowledge to the applicability, cost-efficiency and effects of SCIEN drainage technologies, and thus to the understanding of the role they could have in future farming, regulated on basis of emissions.
Location of the investment	The Hofmansgave Foundation is situated at the northern part of Funen in Denmark, and the fields below sea level drained into a main channel, pumped to Odense Fjord.

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The Fjord itself should according local water management plans have reduced its content of nutrients, and there is also sensitive nature in the area, both comprising a Natura2000 designated area partly covering the main drainage channel, as well as a plant habitat close to the drainage channel, and a bird habitat on a small island close to the place where drain water is pumped to Odense Fjord.

Contact person for clarification	Project Manager Henning Lyngsø Foged, Agro Business Park, tel. +45 4034 8625, hlf@agropark.dk
How to submit tender	There is no special template to use for drawing up the offer, which must clearly specify • name of the tenderer, including specification of the responsible manager, • offered lot, • technology offered, • price, • price conditions, • time schedule, • foreseen relevant or needed services and their costs, • operational costs, • guarantees, and • references to similar projects. The tender shall be drawn up in English language. All prices are informed without VAT. Deadline for bidding is 15th October 2013 Bids must be valid for at least 2 moths.
Scoring of bids	The bids will be evaluated on basis of the following: • Offered technology meeting the requested • Operational costs • References from similar projects, CV's of involved experts • Price • Ability to assist Agro Business Park with identification of relevant national co-financing for general implementation of Baltic Compact.
Disclaimer	Agro Business Park reserves the rights to refuse all received offers, and it is general a condition for Agro Business Parks ability to accept offers and conclude contracts with selected bidders, that Agro Business Park has identified sufficient national co-financing for general implementation of Baltic Compact, that the investment plans

are approved by the Hofmansgave Foundation, and that authorities have approved the planned investments.

Requested technology

1: Passive water sampling

Purpose

In the Baltic Compact project the SCIEN drainage activities at the Hofmansgave Foundation shall be equipped with technology for robust and passive sampling of drain water, which has the potential to serve as a model for future measurements of emissions from drained farmland.

The requested technology must, in relation to envisaged knowledge about emissions from drained farmland, be able to ensure a cost-efficient method that in a simple manner makes continuous measurements of both the concentration of N and P in drainage water, and simultaneous measures the water flow in the drainage pipes.

Goals

As the experience with use of passive water sampling for drain water is scarce, the offered technology will be compared to conventional ways to sample and measure water flows and its content of N and P nutrients, already established at four drains at Hofmansgave, both with respect to price, convenience and labour requirement, and accuracy.

The goal is to prove that passive water sampling is both more cost-efficient, convenient and sufficiently accurate in relation to conventional ways to determine N and P concentrations, as well as water flow in farmland drains.

Offered services

1. Establishing passive sampling without the use of power, which in a simple and cost effective manner makes it possible for the farmer to monitor water flow as well as N and P concentrations in the drainage water. It is expected 4 measuring points are needed, namely at the already established 4 controlled drains.
2. Continuously reporting of water flow and time-weighted measurements of average concentrations of N and P in drain water from each measuring point, starting as soon as possible, and running until project end September 2014, however in practice until May 2014.

The bid must include

- Clarification of method and technical documentation for montages, sampling methods and analytical methods for the extraction of substances from samplers. However, it is emphasized that the bidder will organise these things, except for the sampling/switching of the samplers, which will be undertaken by Hofmansgave employees according the bidders instructions.
- Description of the suggested technical solution to the assemblies to drain pipes in varying designs and fitting for drainage pits with varying drainage levels. It is emphasized, that the montage must be done in a way that does not disturb, hamper or impede the current conventional water sampling from the controlled drains, and that it cannot freeze in the wintertime.
- Price for continuing the sampling for one more year (in practice max 8

	months). Other Samplers should be analyzed by recognized laboratory and by accredited methods, to be specified in the offer. Prices are to be informed per sampling point, as a total for the four controlled drains, and as a total for the 4 controlled drains. In collaboration with other project participants developed a technology solution that is scheduled to open for testing from autumn 2013. Sampling will now run in a 12-month period during which you expect measuring periods of averagely monthly (one third of the sampling every 2 weeks, on third monthly and one third per two months). The bidder shall be willing to participate in at least one open meeting at Hofmansgave to explain about the installed technology, and to provide text, pictures and other materials for information and training materials.
Required capacity	The offered technology must have a capacity to sample water for N and P as well as determine water flow from • 4 fields with controlled drainage, with sizes between 3.77 and 6.19 ha
Envisaged effect	It is expected the technology can prove to be more cost-efficient, convenient and sufficiently accurate in relation to conventional ways to determine N and P concentrations, as well as water flow in farmland drains
Planned commissioning date	As soon as possible.