

The entire country's local communities will flourish, and self-sufficiency will increase with the use of locally produced **biofertilizer** that gradually phases out soil-destroying imported agrochemicals produced by energy-intensive methods and **biogas** that will phase out fossil energy sources.

We are looking for partners for an innovation project. At a farmer, it should be built a "local, high-tech and smart biogas plant" as a demonstration plant. It will be part of an SBRS concept suitable for microgrids in city districts, villages, on agricultural holdings, etc. to promote rural development and minimize costly emissions in cities.

The SBRS concept stands for "Sustainable Biological Recycling System" which positively affects most of the sustainability objectives of Agenda 2030.

The purpose is to take care of Renewable Organic Material (FOM) in the waste already at the source until the use of two valuable products - biogas and biofertilizer. The innovation project will illustrate the great opportunities that local systems bring for both urban and rural development. Many will get jobs in local sanitation facilities in cities and in the countryside. Most emissions that pollute air and water in current central systems will be prevented.

Biofertilizers increase biodiversity, carbon storage and recycling all for photosynthesis necessary chemical elements. Improved soil health and increased soil fertility ensures the production of healthy foods for a long time to come with reduced use of agrochemicals. Biofertilizer contributes to sustainable cultivation in healthy soils.

Biogas replaces a large part of fossil energy sources when it is transformed locally with trigeneration.

Motivation

During photosynthesis, the following chemical elements must be present: C, O, H, N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu, Cl, B and Mo bound in plants with bioenergy, converted from the sun's radiant energy. Vital elements are then left in both residual products and waste which comes from plants, animals and microorganisms and is called Renewable Organic Material.

Of the 16 chemically vital elements, 13 go under the name plant nutrients and are found in everything that is grown and delivered to cities. All over the world it is estimated that less than 2% of plant nutrients are sent back from cities to cultivation systems. This means that 98% are emissions that pollute the environment and at the same time cause costly losses.

Growers have to use imported mineral fertilizers, unfortunately with few plant nutrients. Soil deterioration continues. There is data that about 2% of all energy in the world spends on producing mineral fertilizers. Fossil energy can be phased out when plant nutrients are recycled and when the energy in the biogas is converted locally to electricity and heating / cooling.

Farmers AB have to apply for support to form an innovation group to which an application is made partners in the following areas with an emphasis on sustainability.

Technology: innovations within the entire chain, ie. - from the emergence of FOM in residual products / waste for the use of two valuable products biogas and biofertilizer using mechanization, automation, digitization, and logistics for short transports.

Ecology / cultivation: execution and evaluation of cultivation tests with biofertilizer.

Energy: the use of the bioenergy of biogas and its role in cultivation and in society in general.

Economy: compare costs as well as materials and energy flows for central and local systems.

Social science: acceptance of new system.

Representatives from municipalities because municipalities are prospective users of SBRS to be able to offer its residents hygienic, cost-effective and easy-to-use systems for management of FOM in waste and local jobs in microgrids and in cultivation systems.