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THE UNECE PROJECT ON THE DEVELOPMENT OF SUSTAINABLE BIOMASS TRADE AND EXPORT OPPORTUNITIES IN THE RUSSIAN FEDERATION TO EXPAND TO ALGAE BIOMASS

The UNECE project on the "development of sustainable biomass trade and export opportunities for selected regions of the Russian Federation" is entering a new phase with the introduction of algae biomass production.

The project, which was launched in September 2008 by the Government of the Russian Federation with the support of UNECE, aims at the development of Regional Biomass Action Plans (RBAPs) in participating regions. The objective of these plans is to help the private sector and regional governments develop a coordinated approach to foster the integration of the regional biomass sector with the forestry, woodworking and agricultural sectors, as well as with the electricity and municipal heating sector, the waste and recycling sector.

The project builds up on the results of a project initiated in 1998 to foster the production of biomass and improve the related trade logistics in Northwestern Russia. The project is open to all regions of the Russian Federation. Participating regions include Krasnodar krai, the Republic of Tatarstan, and Leningrad oblast.

Within the project, the Krasnodar region is developing an innovative approach in the use of windbreaks as a source of biomass. Windbreaks are rows of trees that protect agricultural fields from the wind and protect soil from erosion. The Republic of Tatarstan has a particular interest in developing technology for the conversion of municipal waste to biomass, and its Regional Biomass Action Plan is being developed accordingly.

The project promotes a variety of initiatives in the use of biomass, including:

- the conversion of boiler houses for municipal district heating to the use of biomass. Most Russian district heating utilities were built between the 1960s and the 1980s and have not been modernized since. These utilities are inefficient and represent 25% of Russia's total energy consumption. About half of the Russian population lives in areas that are not connected to gas or oil transmission pipelines. Meanwhile these regions have great wood resources. The use of wood waste for district heating therefore offers an alternative which is both environmentally (since it reduces Green House Gas emissions and is renewable) and economically sound (since it does not require building up new costly infrastructure).

- the introduction of cofiring of biomass in coal fired power plants. This technology burns biomass along with coal. Because burning biomass is carbon neutral, cofiring reduces the amount of Green House Gases that are released and this has a direct impact on the levels of GHG emissions. Given that coal fired power plants produce some 29% of Russia's electricity, this could provide a very significant contribution to meeting the federal government's targets for the use of renewable energy sources.

- the introduction of algae biomass production. Algae are one of the richest nutrient natural resources. They can be used to produce electricity, heat or biofuels such as biodiesel, biobutanol and biogasoline. In addition, algae have the capacity to absorb CO_2 and to purify water (algae can be used as bioremediation of waste water and sewage). Finally, algae are widely used in the pharmaceutical industry, for instance as a nutritional supplement. Due to this variety of uses across various economic sectors, algae biomass is considered as a cost-efficient renewable energy sources. Algae can be produced almost anywhere, provided there is abundant water, light, carbon dioxide and minerals, such as phosphate. Algae, which are not yet produced in the Russian Federation, could thus offer a particularly attractive source of sustainable and renewable biomass as well as an important contribution to solving urgent environmental problems.

The UNECE project will help to identify the best opportunities for algae biomass production as part of its work to introduce RBAPs. This latest development within the project will most likely increase the number of regions that can be involved and give a new impetus for regional governments to work on capacity building, cooperate with the private sector and make further investments in the development of the biomass sector.

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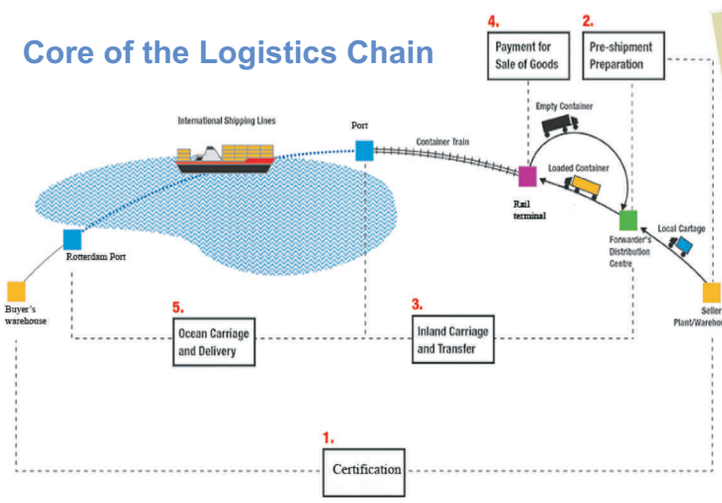
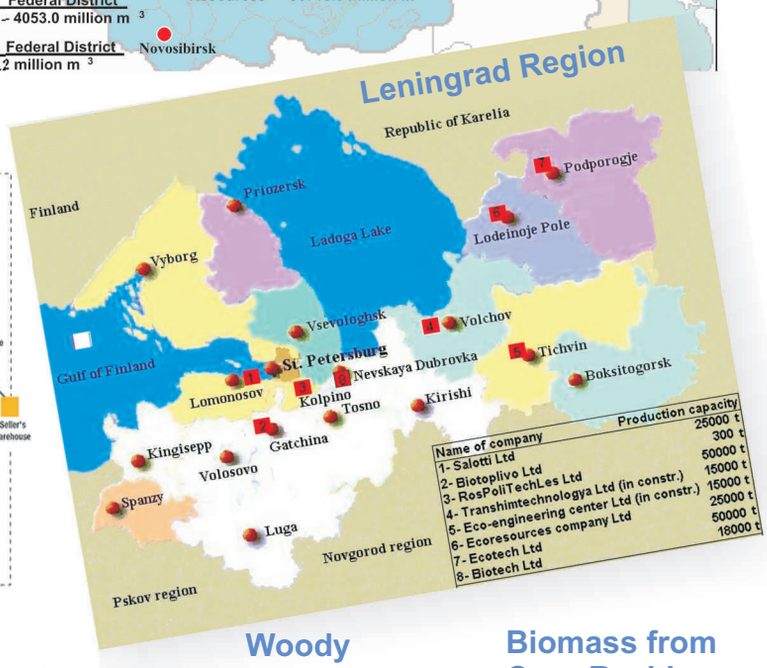
The UNECE project 'Improved Trade Logistics for the sustainable Use of Biomass in Northwest Russia" was initiated in 1998. The project aimed at strengthening the sustainable biomass supply from Russia to energy producers in the EU, with a focus on agro- and wood residues, which constitute an important alternative to the use of (food) crops for fuel. The project also sought to improve the logistics chain of biomass trade from producers to end-users through improved inland transportation, port and trade logistics, and customs cooperation with respect to imports and exports of biomass. Two further aims of the project were facilitating the exchange of good practice with the private sector and exploring cross-sectoral approaches that take into account environment, energy, trade and transport issues.

Since 1998, an extensive network of private and public partners has been established through the project.

Timber Resources of Russia

Core of the Logistics Chain

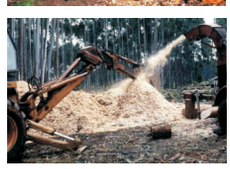




Some of the main achievements include:

- The introduction of biomass trade in the Northwest Federal Region. In 2001 the first wood pellet plant became operational near St. Petersburg and meanwhile an estimated 100 pellet factories are operational in the Russian Federation. Thus an entire new industry was established;
- The establishment of the 'Confederation of Associations, Enterprises and Organisations' of the Forestry Complex of the Northwest', which was an important step in the coordinated development of the forest sector as a whole;
- Awareness building and regular exchange of information on best practice for the development of the sustainable use of biomass. This includes the establishing of a regular conference and workshop schedule on biomass in St. Petersburg, and other parts of the Russian Federation, and the development of scientific publications by Russian academic institutions;
- The upgrading by Port of Rotterdam of St. Petersburg's River Port from a bulk terminal to a container terminal. As a result container handling went up significantly;
- Increased cooperation between the Baltic customs in the Russian Federation and Dutch customs, resulting in a number of simplified custom procedures on both sides, including advanced risk analysis procedures. □

Woody Biomass

Biomass from Crop Residues

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