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Green Cities and Settlements

ECO-EFFICIENT TECHNOLOGY CLUSTER IN KOSTOMUKSHA

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KOSTOMUKSHA

ACTIVITIES:

✓Gathering data on current utilization of the spatial potential

✓Assessment of the efficiency of the resource potential utilization in the municipality

✓Two working meetings with businesses and the city administration

✓On-the-spot trip

SPATIAL DEVELOPMENT AND RESOURCE USE CHALLENGES:

✓Abandoning the single-industry specialization;

✓Developing transit traffic and utilizing the location at the border;

✓Raising the energy-efficiency of housing facilities

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SPECIFIC PROBLEMS

✓Legal constraints on economic activities and tourism in the border area, problems with enforcing the conservation regimen in protected areas (Kostomukshsky reserve and Kalevalsky National Park)

✓"Untransparent" and heavily bureaucratic customs procedures for goods, which prevent using the transit traffic potential to the full

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SPECIFIC PROBLEMS

✓A deficit of land available for spatial development and expansion of the city, for investment projects

✓Given the plans for low-rise housing construction the problem of power and heat supply to off-grid housing facilities has to be addressed, and solutions for water supply and sewerage have to be found

✓It is suggested that the focus is shifted to building boiler houses working on local resources

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ONGOING PROJECTS:

✓Transferring some social facilities (Vlg. Voknavolok) to off-grid energy supply (installation of geothermal heat pumps)

✓Upgrading the water treatment process

✓Scrap metal recycling

✓Mining of the Korpanga ferruginous quartzite deposit (with over 100 mln. tons overburden granite as an additional resource)

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PROPOSALS:

1.Project “Kostomuksha – a sustainable development region” (with focus on systemic governance, comfortable living, socially oriented policy). Establishing the energy-efficient technology cluster.

2.Setting up ethno- and eco-communities in former historical settlements (Ladvozero, Kenos, etc.) with potential application of innovative technologies for off-grid and environment-friendly energy supply, waste management, etc.

3.Utilization of the Kostomukshsky reserve and Kalevalsky NP tourism potential with the possibility of building a ski resort (Vlg. Kenos).

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KALEVALSKY DISTRICT

ACTIVITIES:

✓**Gathering data on current utilization of the spatial potential**

✓**Assessment of the efficiency of the resource potential utilization in the municipality**

✓**On-the-spot trip around the district and to public utilities**

CHALLENGES:

✓**Renovation of the boiler house in Vlg. Borovoy**

✓**Supplying feedstock for boiler houses. Over 16,000 cub. m firewood are needed to operate just two boiler houses (Vlg. Borovoy & Vlg. Novoe Yushkozero) through the cold season**

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PROBLEMS:

✓**Emergency power supply in the Town of Kalevala is missing. It has to be looped together with Pyaozersky. Feasibility study is needed**

✓**Lack of utilities in the Town of Kalevala housing facilities is an acute problem (only 21% of housing have utilities)**

✓**Wastewater treatment facilities are needed in Borovoy, Novoe Yushkozero, Kalevala (renovation)**

✓**Technical solutions must be found for reconstructing the water uptake facility in Kalevala**

✓**Energy supply problem in Voinitsa**

✓**Construction of water uptake facility and water supply system for Borovoy**

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FACTORS HINDERING APPLICATION OF PROJECT RESULTS

- ✓ Low investment appeal of the territories (peripheral location)
- ✓ Low scope of land use and underdeveloped infrastructure
- ✓ Constraints on land use
- ✓ Challenging demographic situation
- ✓ Single-industry specialization of the local economy

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NEW DEVELOPMENTAL OPPORTUNITIES

Kostomuksha	Kalevalsky District
Application of off-grid essential utility technologies in private housing construction	
Enhancement of the energy-efficiency of social facilities	
Development of the private housing sector	Establishment of eco-communities through revival of traditional Karelian villages
Establishment of the energy-efficient technology cluster (piloting in Karelia)	Development of ethno- and eco-tourism
Construction of boiler house working on biofuel	

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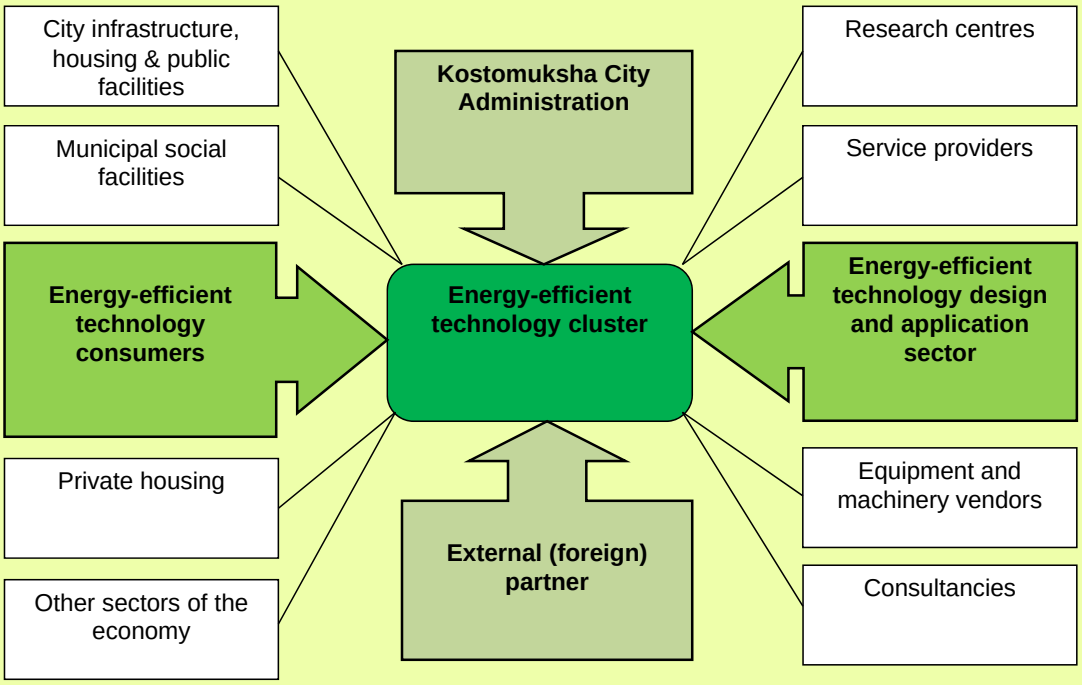
ENERGY-EFFICIENT TECHNOLOGY CLUSTER



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PREMISES FOR ESTABLISHMENT OF THE ENERGY-EFFICIENT TECHNOLOGY CLUSTER

Location at the border and actively developing international cooperation. Location at the border will facilitate further establishment of the cross-border cluster with partners from foreign (primarily Finnish) research centres and providers of advanced technologies.

Business development. The city of Kostomuksha is currently a leader among Karelian municipalities as regards entrepreneurial activity. The development of enterprise and private initiative is a pre-requisite for establishment of the cluster.

Modification of the settlement system. Active development of the private housing sector creates demand for new technologies making the house as independent of centralized utilities as possible. This fact can stimulate the local market of such technologies.

Growing prices of energy resources and public utility services. The growing costs of housing and public utilities is a long-term trend, which motivates people to save energy.

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ENERGY-EFFICIENT TECHNOLOGY CLUSTER

1. Investment policy

- Drawing investments to the development of advanced energy infrastructure;
- Setting up the industrial park to host SMEs that design and implement energy-efficient technologies

2. Urban planning policy

- Promoting private housing construction;
- Zoning of the territory;
- Introduction of smart technologies;
- Establishing demo construction sites for cutting-edge experience in energy-efficiency

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3. Business support

- Including the “Energy-efficiency” nomination in the grant competition for business projects.
- Organizing seminars and workshops on energy-efficiency. Advisory services.

4. Education and training

- Organizing training (incl. distant courses) in the energy industry, energy saving, application of modern energy-saving equipment.

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5. Social policy

- Energy audit of social facilities. Estimation of energy-saving capabilities.
- Enhancing the performance of social facilities through introduction of modern technologies (at least 30% of resources can be saved).

6. International cooperation

- Cross-border networking for partners interested in implementing energy-efficient technologies.
- Participation in international programmes and projects on energy and sustainable development.

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7. Strategic planning

- Updating the Strategic Plan and municipal programmes to incorporate the cluster development considerations.

8. Place marketing

- Positioning Kostomuksha externally as a contemporary energy-efficient community.
- Organizing the international conference & exhibition “Energy-efficient Town”.
- Participation in external events, and disseminating energy-efficiency success stories.

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Thank you!