



Roadmap to Sustainable Spatial Development

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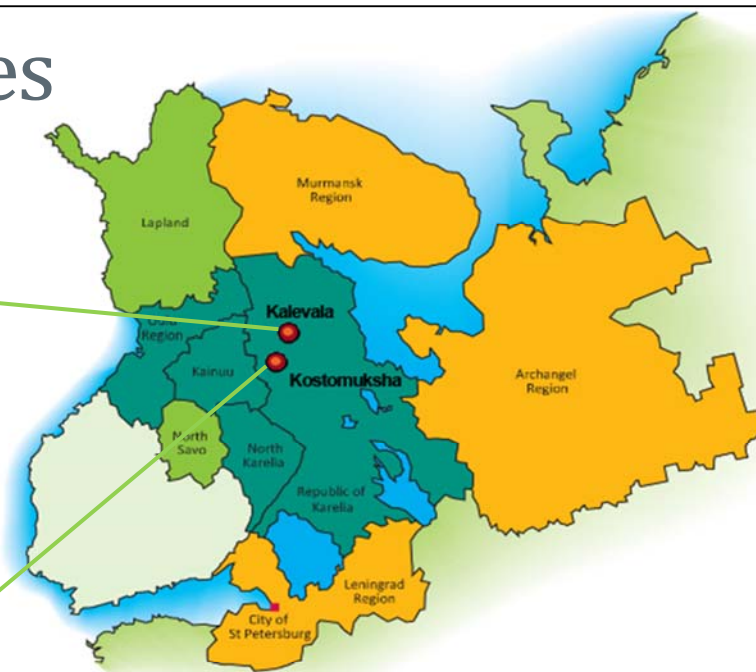
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Pilot territories

Kalevala village



Kostomuksha city



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Priorities

Kalevala village



Kostomuksha city



The primary targets:

- People
- Well-being
- Living conditions
- Public infrastructure
- Attractiveness
- Stability and self-sufficiency

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Areas for improvement

Kalevala village



Kostomuksha city



- Land use
- Infrastructure
- Waste and resource management
- Energy
- Individual and community well-being

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Kostomuksha city in brief

- 30 years old monocity
- High socio-economic development
- Young population, stable demographics
- Iron ore extraction and processing enterprise “Karelsky okatysh”
- Industry is the main employer and major provider of public services
- 30-35 years forecast of iron ore resource deposit
- Other industries: woodworking, electronics assembly, food, trout



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Kalevala village in brief

- 460 years old village
- Historical places
- Old-village-style housing sector
- Cultural heritage with traditions and lifestyle are present
- Industry:
 - Wood harvesting and wood working



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Roadmap towards where ?

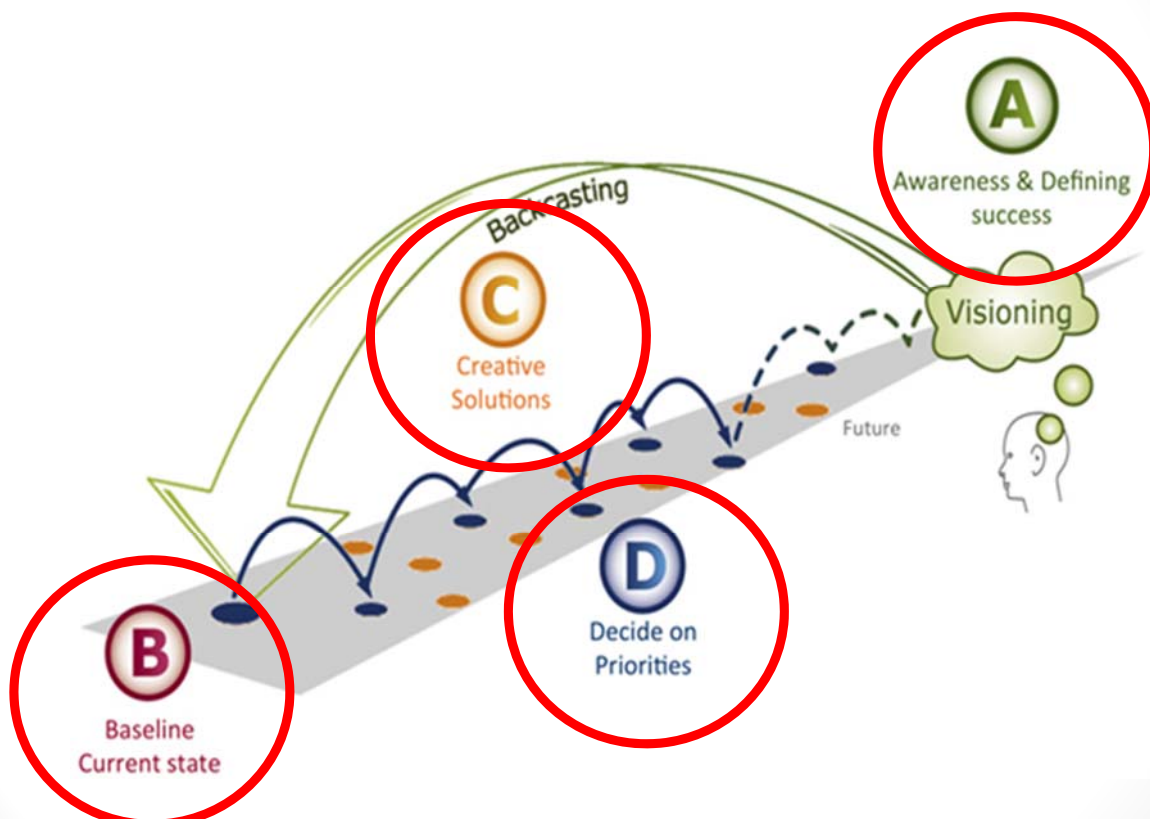
The roadmap **towards Sustainable Development**:

- “development that can meet the needs of the present generation without compromising the ability of future generations to meet their own needs”
- Social development areas:
 - housing, education, jobs, services...
- Economic development potential:
 - efficient use of resources and spatial potential...
- Environmental improvement needs:
 - Pollution prevention, preservation of local ecosystems...



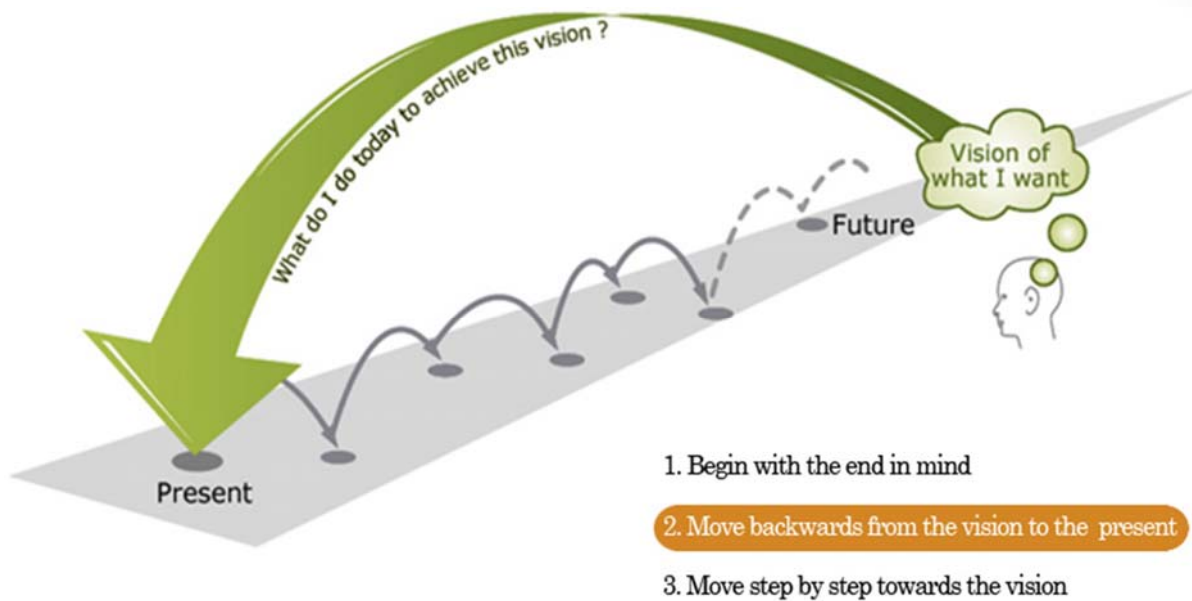
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Backcasting. The ABCD method



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Backcasting



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Development areas - Kostomuksha

➤ Land use

- Low level of spatial potential utilization

➤ Infrastructure

- Quality of roads out of the city needs to be improved

➤ Waste and Resource Management

- Centralized **mixed** waste management. No separation. Landfilling
- Almost no recycling due to absence of recipient facilities
- Potential: 15 000 t of sawdust are stored
- Unique radon hydropathic establishment



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Development areas - Kostomuksha

➤ Energy

- District heating fossil-based – provided by the enterprise's oil-based boiler
- Energy self-sufficiency
- Improve energy efficiency



➤ Individual and community well-being

- Monostructured economy
- More specialists for the city development are required
- Need for more recreational alternatives and cultural events

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Development areas - Kalevala

➤ Land use

- Better utilization of spatial potential
- Recreation potential of nearby villages
 - culture, history, ethnography



➤ Infrastructure

- Heavy load trucks (timber carrying) bring damages road network
- Automobile roads out of the village needs improvement

➤ Waste and Resource Management

- Centralized **mixed** waste management. No separation. Landfilling
- Energy potential: huge deposits of peat

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Development areas - Kalevala

➤ Energy

- Partial central heating coverage.
- Heating based mostly on firewood
- The village relies on external electricity supply (hydropower)



➤ Individual and community well-being

- Socio-economic situation needs to be developed better
- Housing and public utilities network need to be modernized
- More recreational opportunities for inhabitants are required

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Future vision for 2050

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Kostomuksha 2050: A high-tech eco-city

➤ Land use

- Land market is developed.
- Recreational potential is utilized
- Recreational resources are open for tourists – e.g. health tourism

➤ Infrastructure

- Reconstruction supported by industry
- New motor roads are built
- Railway road Finland-Russia is constructed → Economic development

➤ Waste and Resource Management

- Waste management has improved - utilized Finnish experience
- Highly developed waste management company is present in the city
- Citizens are environmentally aware
- Local resources are more in use: e.g. forest waste.

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Kostomuksha 2050: A high-tech eco-city

➤ Energy

- Energy efficient technologies are applied
- Biofuel-based combined heat and power factory (50-70 MW) is in operation
- The city has become energy independent on the ore processing enterprise

➤ Individual and community well-being

- Training of needed specialists is carried out
- Active collaboration with Russian and Finnish universities
- Youth-friendly center is available
- New educational institutions, hobby and leisure centers are present

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Kalevala 2050: A cultural heritage village

➤ Land use

- Land market is developed.
- Recreational potential is utilized

➤ Infrastructure

- The roads are built in the district.
- Road infrastructure is maintained well
- More development projects appeared

➤ Waste and Resource Management

- Organic farming is practiced
- Waste management system is organized
- The recreational potential of the territory is fully realized
- Wild and clean environment, as touristic product, are put on bigger scale and popular among Russian tourists from big cities and European tourists

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Kalevala 2050: A cultural heritage village

➤ Energy

- Community energy self-sufficiency is developed
- Private households use local resources (e.g. locally available biofuels)

➤ Individual and community well-being

- New hobby clubs are created
- New kindergartens, schools are built
- Community people have access to basic education of high level.
Distance learning, international experience exchange is organized

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Summary

- There is potential to develop the pilot territories and make them as economically prosperous regions
- To achieve these → spatial potential should be utilized along with the local resources available:

Kostomuksha vision (2050):

- Energy efficient technologies and local energy potential use
- Transport and public infrastructure development

Kalevala vision (2050):

- Pristine and clean natural environment as a tourist attraction
- Cultural heritage utilization with all the present traditions and lifestyle

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Thank you all !



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