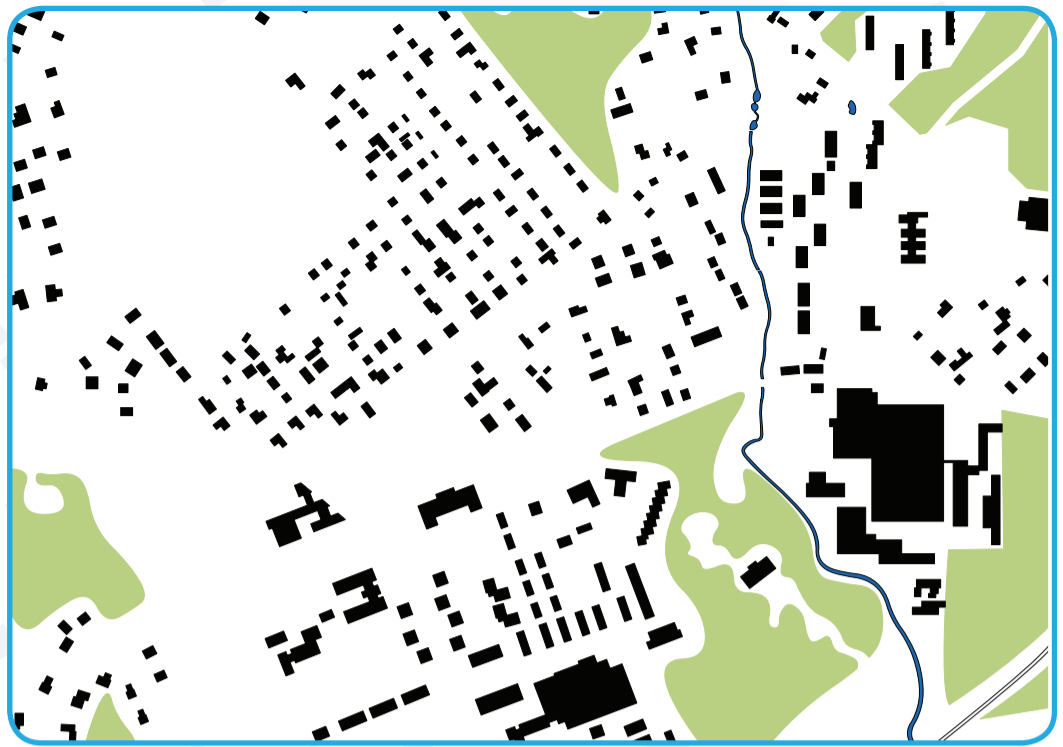


Information about the municipality

Location: 16 km south of Tallinn
Altitude: 50 m
Inhabitants: 9,000
Expected development of the municipality:
 Refurbishment of old multi-storey apartment houses and reconstructing of summer cottages into detached houses



Miniproject title

DEVELOPING ENERGY-EFFICIENCY STRATEGY FOR MULTI-STOREY HOUSES AND DISTRICT HEATING SYSTEM

SHORT DESCRIPTION

1. Project background & goal

Multi-storey apartment houses are built mainly in 1960-90 and need refurbishing due to high energy consumption. Some houses are already partially refurbished (incl. insulation of roof and walls, new windows, but no ventilation with heat recovery), including municipality-owned houses. Summer cottages, reconstructed into detached houses, are generally more or less energy-effective (sufficient insulation, two-layer windows etc). Multi-storey houses are mostly heated by district heating system, but there are big losses through underground tubes due to poor insulation. District heating boiler-houses are using fossil fuels (gas or oil) and they have low efficiency (no electricity co-production).

The Goal of the mini-project is to elaborate the strategy to increase energy efficiency of the multi-storey houses and district heating system, and prove that it's possible to heat multi-storey houses totally CO₂-free.

2. Main project aspect/topic

- > Lowering energy use of the multi-storey buildings
- > Lowering heat losses from district heating tubes
- > Replacing fossil fuels with renewables & enabling heat and electricity co-generation in district boiler-houses

3. Main Energy Efficiency aspects

Rising energy efficiency of the multi-storey houses and district heating system is the biggest potential and easiest way of reducing CO₂ emission in Saku municipality during next decade. It is quite realistic to heat multi-storey houses totally CO₂-free.

4. Miniproject activities

- > Establishing official Mini-project team by Municipality Government Degree
- > Discussing and developing project idea with INTENSE Country Coordinator and German experts
- > Collecting data, compiling overview of the situation
- > Preparing first draft of the strategy
- > Public consultations on the draft and promotional activities
- > Finalising the document

5. Main challenges

No serious challenges or obstacles were encountered. The political leaders of municipality are very interested in this topic and strongly supported all initiatives.

6. Key actors and their role

- > Municipality Government – project leader
- > Saku Maja Ltd (municipality-owned enterprise) - owner of district boiler-houses and tubes, technical competence
- > Multi-storey apartment houses owners unions – organizers of refurbishment
- > Local newspaper – spreading information, support for good public opinion

Responsibility for implementation: Municipality Government

7. Main steering instrument(s) used by municipality

- > Sharing experience and multiplication of previous successful multi-storey houses refurbishment projects (at local level, also help from governmental bodies - Energy Agency, Environment Investment Centre)
- > Technical plans for replacing heating system tubes and reconstructing boiler-houses, cost-effective analyses, financial plans (to use support from structural funds).

8. Concrete miniproject results

Amending municipality's general development strategy and general land-use plan with energy efficiency targets/activities from Energy efficiency strategy - this gives a strong basis for energy efficient development in whole municipality.

9. Added values/lessons for transfer and dissemination:

Demonstration object - first near-zero energy kindergarten in Estonia, shows practical implementation of the strategy.

AFTER INTENSE

10. Financing plan

- > Estonian Environment Investment Centre
- > Governmental Fund "Kredex"
- > Saku Municipality
- > Saku Maja Ltd
- > Multi-storey apartment houses owners unions

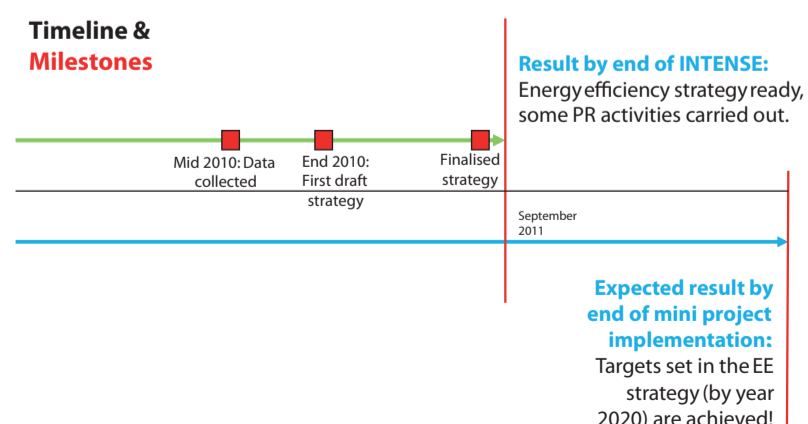
11. Expected result by end of the total project

- > Heat losses from district heating tubes are less than 7% by year 2015
- > 90% of multi-storey houses are heated totally CO₂-free by year 2020
- > Energy-production efficiency in big district boiler-houses is 85% or more by year 2020
- > 90% of multi-storey apartment houses are using energy less than 150 kWh/sqm by the year 2020

12. CO₂ reduction potential of the project:

Approximately 40% of municipality's inhabitants live in multi-storey apartment houses. Public services are also offered in multi-storey houses. Refurbishment of these houses (better insulation etc) will reduce their energy use up to 40%. Also change of fuel from fossils into renewables in district boiler-houses, plus co-generation of heat and electricity, will have a great effect on reduction of the CO₂ emissions.

Timeline & Milestones



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