

# CASE STUDY

IMPLEMENTATION OF LARGE-SCALE SOLAR  
PANEL PARK FOR DIVERSIFYING CENTRAL  
DISTRICT HEATING IN SALASPILS, LATVIA

*Ltd. Salaspils Siltums*



**Salaspils  
Siltums**

# SALASPILS COUNTRY MUNICIPALITY

- **The first solar panel park in Baltic states for central district heating**
- **90% of the heat energy in Salaspils town is renewable**
- **Salaspils as a front-runner inspires other municipalities to act**

## PITCH-TALK SUMMARY

Salaspils town was the first ever in Baltic states where solar panels are used for central district heating. Ltd. “Salaspils Siltums” as Salaspils county municipality owned enterprise executed the first large-scale solar panel park in 2018-2019. “Salaspils Siltums” as the first one in Latvia which started using solar panels in central district heating is certainly a front-runner in energy efficiency for other municipalities in Latvia. Currently 90% of amount of central district heating energy in Salaspils is produced by renewable energy resources, including 20% by solar panels. We can learn many lessons from Salaspils how to set and achieve the goals in energy efficiency by having the same means as other municipalities but higher ambitions which makes Salaspils as a success story in Latvia.

# CASE CONTENT AND ISSUE

Heating is Latvia's highest energy-consuming sector. According to the Ministry of Economics, 70% of the country's heat is generated in centralized systems, which suffer from aging infrastructure, insufficient or inefficient use of renewables and non-existent local or centralized cooling systems. There is a growing demand for innovative and emission-free heating solutions.

Salaspils town is located just 20 km from Riga city centre and is part of the Riga Metropolis inner circle which means at least half of town's inhabitants commute to Riga on a daily basis to work, study or use services. Amount of population in Salaspils is stable, in the beginning of 2021 there lived 17 951 people. That all makes higher demand for municipal services, also central district heating. Salaspils Siltums has always been looking into new ways how to make their services more efficient and independent. Salaspils Siltums already used renewable energy resources in central district heating such as wood chips.

Inspired by the vast deployment of solar collectors in Denmark, Salaspils' system was built in less than six months by Latvian and Danish companies working in

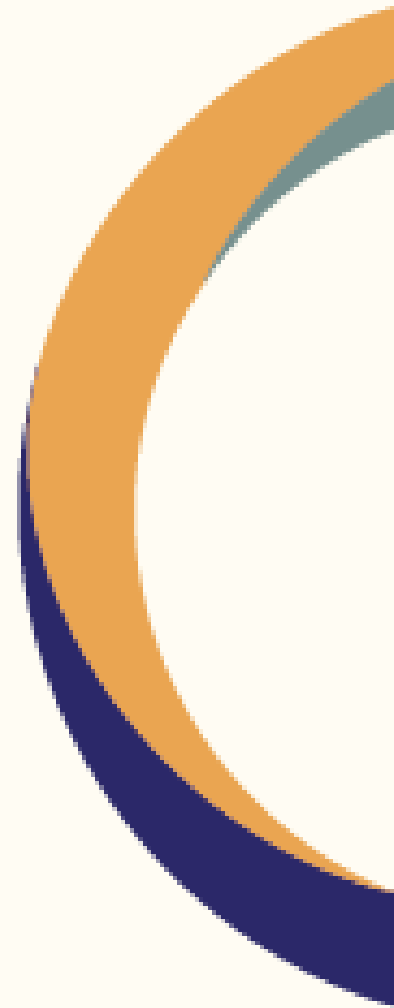
close cooperation. Total project costs were EUR 7,08 million, to which EU Cohesion Fund co-financing contributed EUR 2,73 million. In addition to the EU funds, the SEB bank provided a EUR 2,8 million loan. The system includes 1720 solar panels, 8000 m<sup>3</sup> accumulation tank and 3MW wood chip boiler house.

Altogether Salaspils has implemented great project but during the last few years there has not been any other large-scale development projects in Latvia similar to this. Knowing energy efficiency goals, current energy crisis, unstable geopolitical situation, there should be implemented way more similar projects.

# SOLUTIONS APPLIED

Salaspils county council approved Salaspils town's Sustainable Energy and Climate Action Plan (SECAP) in 2013. SECAP provided comprehensive analysis and set the following action points and goals in energy efficiency until 2030. Salaspils Siltums also created mid-term strategy for the development of company, set rather high goals and were looking for opportunities to achieve them.

In 2017, Salaspils Siltums implemented its first solar panel project. In order to produce green electricity, 86 solar panels with a total capacity of 25 kW were installed on the roof of the company's building. In 2019, the company continued the green course and implemented a large-scale project, installing a solar field with 1720 solar collectors, an accumulation tank and a 3MW wood chip boiler house. After the implementation of the project, 90% of the produced heat energy is produced from renewable energy sources, including 20% - from solar energy.



# RESULTS

Over the last 10 years Salaspils Siltums has implemented 7 projects and made a transition to renewable energy resources and energy efficiency. Relative heat loss on transporting networks in 2011 was 22% but in 2019 only 10%. In 2021 more than 90% of heat sources are renewables. By the end of 2021 Salaspils Siltums has installed altogether 2076 solar panels with the capacity of >100 kW. Amount of electricity produced over 10 years: 900 000 kWh. Annual CO2 saving: >440 tonnes.

# LESSONS LEARNED

This case study is more related to the connections of clear goals, plans and the implementation of them, than the energy savings which is the end result. Such process of implementing and financing large-scale project should be elaborated for other municipalities to take over the best practices and follow Salaspils' example. Mostly municipalities use grants as the first hand for projects that are easier to plan and implement. Altogether Salaspils took the courage and were the first ones applying with such project idea not only to EU funds, but also private banks for acquiring loan. Dedication and clear strategic goals of Salaspils Siltums in this case was the complete success story. Other municipalities in Latvia should follow which is very important in the current energy crisis and unstable geopolitical situation. Attracting Salaspils and other best-practice example municipalities to the following RoundBaltic events would possibly help in finding new ways to finance energy efficiency, also find out the key factors that helped making positive decisions for energy

efficiency. Regarding Salaspils Siltums, one of the successes is strongly connected to the leadership, strategic planning, political support and will. Therefore, it is not enough with energy efficiency goals on national level, but it is very important to align them with local level goals, compile the overall possibilities for achieving them and ensure that politicians follow the goals on local level.



## NEXT STEPS

As the next steps following are to continue develop central district heating network in Salaspils and increase the number of clients.

# CONTACT

Renate Brazinska

renate@salaspilssiltums.lv

+371 67944930

Project manager

Miera street 31a, Salaspils, LV-2169

[www.salaspilssiltums.lv](http://www.salaspilssiltums.lv)

**[www.roundbaltic.eu](http://www.roundbaltic.eu)**

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This Case Study was elaborated as part of the RoundBaltic project bringing together representatives of the financial and energy efficiency sectors at regional and national roundtables to discuss and find solutions to the challenge of energy efficiency finance in the three target countries Poland, Latvia and Denmark.

Key focus areas have been to ensure an investment friendly framework along designing of financing instruments in accordance with the EU financial pillars more effective use of public funds, aggregation and project development assistance and de-risking.



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