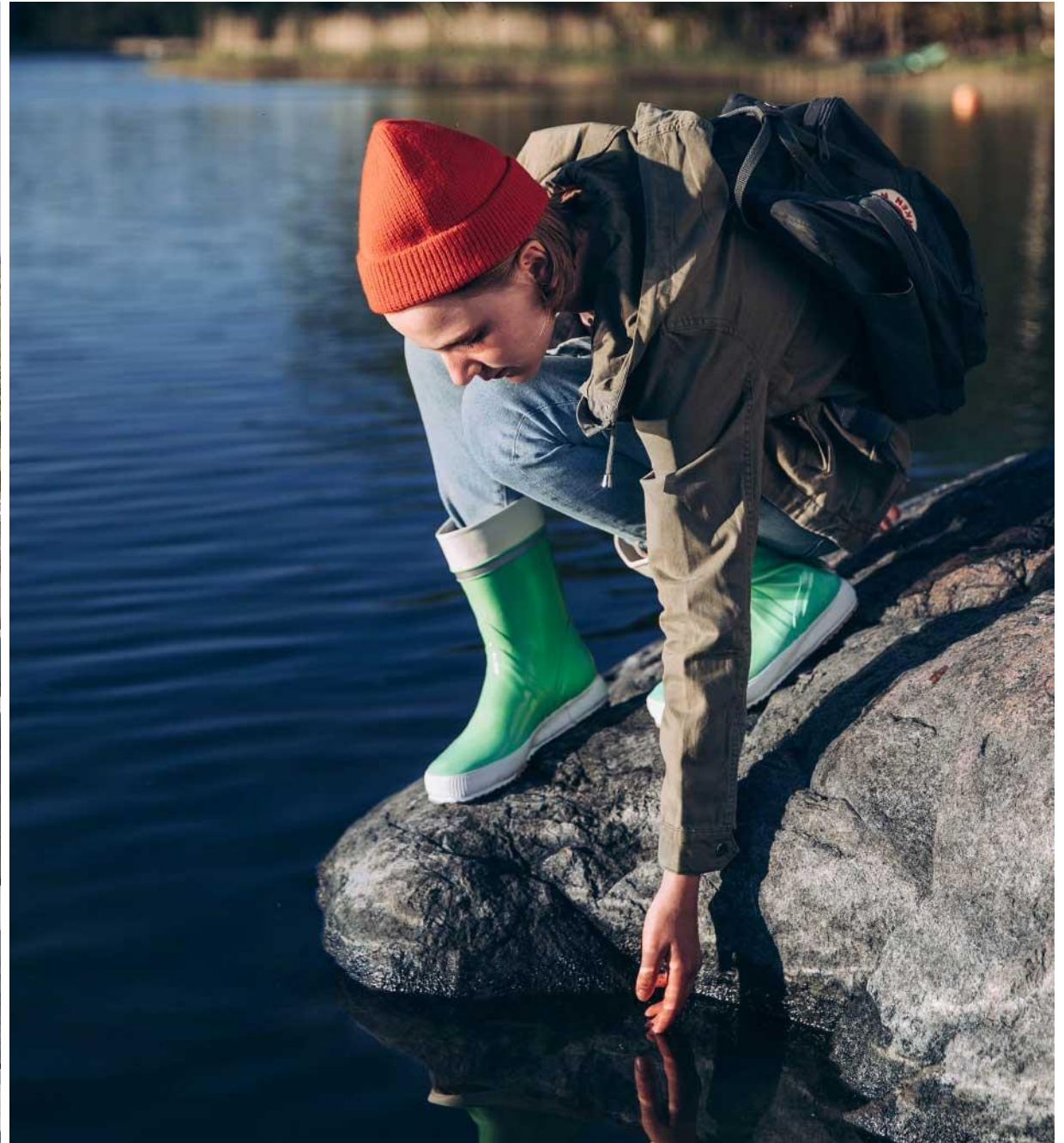


A photograph of a modern water treatment facility with several large, rectangular concrete basins filled with water. The facility is surrounded by lush green trees and a clear blue sky. The text "Examples of our green finance projects around Finland" is overlaid in white, bold, sans-serif font.

# Examples of our green finance projects around Finland

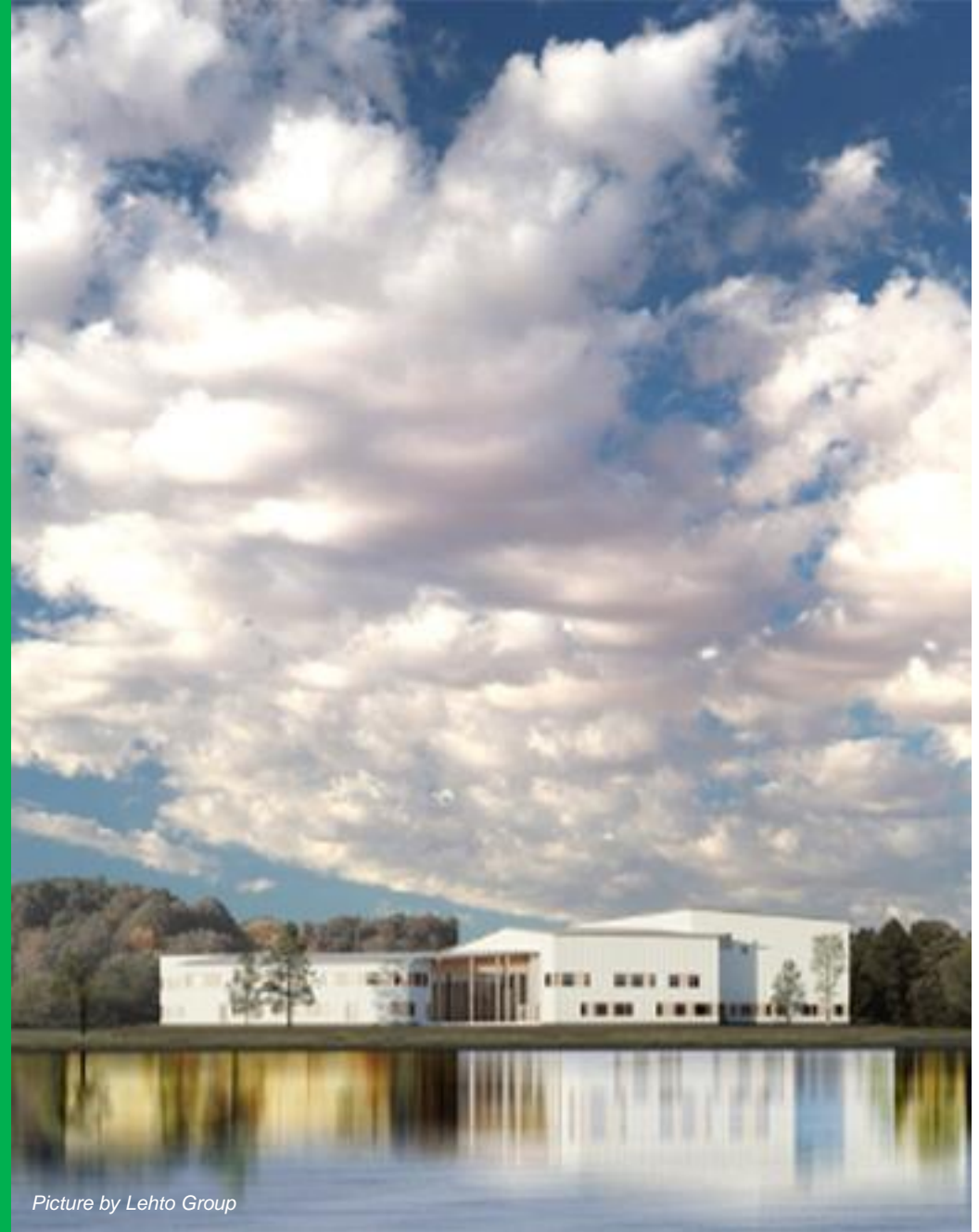
December 2021

MuniFin





# Ivalo's education center



Picture by Lehto Group

# Sustainable buildings: education center, Ivalo



In August 2022, a new education centre will open in Ivalo, the largest population centre in Inari, where the modern school complex is being built amid the rugged northern landscape along the Ivalo River. The building will cover about 9,000 square metres and provide premises for a total of 500 pupils all the way from pre-schoolers to upper secondary school students.

Consolidating operations in the modern premises will achieve clear cost benefits, while also guaranteeing children and young people first-class teaching facilities that are safe and, above all, healthy. The centre will also have a top-of-the-range auditorium, a central kitchen and a full-size sports hall that will serve the entire community. The centre's design is inspired by Lapland's stunning nature and the location's riverside views.

The education centre is the largest public investment in the municipality's history.



## Green evaluation team

Thanks to its energy efficiency (A-class, E-value 76 kWh/m<sup>2</sup>/a. For comparison, in order to gain a building permit, the maximum E-value allowed is 100 kWh/m<sup>2</sup>/a) and sustainable building materials and methods the building was approved for MuniFin's green finance, and it is currently MuniFin's northernmost green finance project.



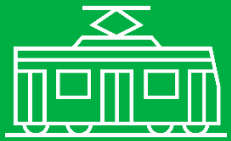
**Finance:** EUR 27,000,000 €

# Tampere Tramway





# Sustainable public transportation: Tampere tramway



Tampere Tramway started scheduled service in August 2021. The tramway is designed to make everyday life easier and enable the city to grow and develop, serving the most crowded public transport routes and growing districts.

The tramway will also play a key role in the City of Tampere's goal to become carbon neutral by 2030. Road traffic currently generates roughly one third of the total emissions in the city. To achieve carbon neutrality, the road traffic emissions must be at least halved by 2030 – and the tramway is vital in succeeding in this.

The tramway will also reduce emissions indirectly by allowing a denser city structure, improving public transport services and making them available to more people. In 2025, the tramway is estimated to carry 65,000 passengers a day, making up for 40% of all public transport in Tampere. In 2040, the figures are expected to reach 145,000 and 65% respectively.



## Green Evaluation Team

The project was approved for MuniFin's green finance thanks to the tramways's great direct and indirect positive environmental impacts. The tram enables fossil free transport for the city residents and helps to dense the city structure.



**Finance:** EUR 155,000,000

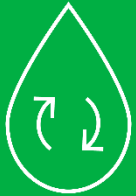
The Tampere Tramway project is partly funded by MuniFin's green finance.

# Blominmäki wastewater treatment plant, Espoo



Photo: HSY

# Water and wastewater management: Blominmäki plant



To be completed in 2022, the wastewater treatment plant being built in Blominmäki, Espoo, will replace the current Suomenoja treatment plant from 1963, whose capacity is no longer sufficient to meet future needs.

The treatment goals set for the Blominmäki plant will be stricter than the EU requirements and the Helsinki Commission recommendations. The goal is to remove more than 98% of the phosphorus and more than 90% of the nitrogen from the wastewater.

Environmental considerations have been acknowledged at all stages of the planning process. The Blominmäki plant will be mainly built deep inside bedrock, leaving the land area on top of the caves mostly unchanged and allowing its continued use as a recreational area. The treatment plant will also achieve almost full energy independence: it will generate more than half of its electricity needs and exceed its heating energy needs.

The Blominmäki wastewater treatment plant is the largest ever investment of the Helsinki Region Environmental Services Authority HSY.



## Green Evaluation Team

The wastewater treatment plant is an ambitious and modern plant, which will have almost full energy independence: it will generate more than half of its electricity needs and exceed its heating energy needs. The plant also has a high capacity, which makes a great environmental impact. The plant will be able to process the wastewater of more than half a million people.



**Finance:** 75,000,000 EUR

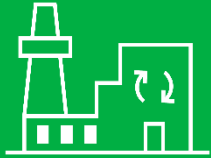


# Kemi's bioenergy plant





# Renewable energy: Bioenergy plant, Kemi Energy and Water Ltd



Kemi Energy and Water Ltd is building a new bioenergy plant to provide heating for over 20,000 people's homes, local business and public spaces. The plant started to operate in spring 2021.

The old peat fueled plant didn't have sufficient capacity and had to use additional oil to match the heating needs in the area. The use of peat isn't only expensive due to EU's emission trade objective but also unsustainable because of high carbon emissions.

By building the new bioenergy plant the carbon emissions can be cut down significantly and raising the price of heating can be avoided.

The city has granted the company the green act of the year certificate.



## Green evaluation team

The new bioenergy plant brings clear and measurable pro-environmental effects and was approved for green finance by MuniFin. The plant is exclusively fueled by wood waste and replaces all bought energy and 60% of the old plant's production, making a total of 83% of all energy production wood fueled. The total carbon emissions are cut significantly, to one-third.



**Finance:** EUR 9,000,000 €

# Suolahti hockey arena, Äänekoski



Photo: Jiri Halttunen / JYP



# Energy efficiency: Suolahti hockey arena, Äänekoski



The Suolahti Arena, completed in Äänekoski in summer 2020, is probably the most energy-efficient ice hockey arena in the world. It even generates enough excess energy to heat the nearby school and swimming hall. The arena replaced a decades-old tarpaulin hall and brought high-quality sports facilities within everyone's reach.

Not only does the zero-energy arena store and make use of the condensing heat it produces, but it also requires less than half the energy that similar halls do. Attention has been given to details as well: the ice resurfacers are electricity-powered, electricity is only bought from renewable sources, and the refrigerant used is carbon dioxide, which is more environmentally friendly than other options. The next goal is to increase the arena's degree of self-sufficiency by installing solar panels on its roof.

The initial investment was larger compared to a 'regular' hall, but only by a relatively small amount. The aim is to run the venue with minimal operational economy and eventually turn a profit by selling energy.



## Green evaluation team

The project was approved for MuniFin's green finance thanks to its many pioneering and energy-efficient solutions.



**Finance:** EUR 4,500,000



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