

# A huge solar power plant to the mine tailing ponds – on green electricity operating concentrator plant is the first of its kind in Finland and in the world

A large 100 MWp solar power plant and an industrial-scale Callio Solar Park solar power plant are planned in Northern Ostrobothnia, Finland. The solar power plant will be built on the tailing ponds areas of the Hitura and Pyhäsalmi mines to produce e.g., the electrical energy needed by Pyhäsalmi Mine Oy's concentrator plant.

It is the world's first operational concentrator plant running on fully renewable green electricity. When implemented, Callio Solar Park will also offer competitive and decentralized renewable energy and solar electricity produced in the region to consumers throughout Finland. The services of solar power plants during production are provided by the domestic energy company Lumme Energia Oy, which also supplies solar electricity to companies and consumers using electricity in Finland.

## Vacant mining infrastructure and renewable energy projects in the region enable the creation of new energy solutions

Pyhäjärvi is home of the deepest base metal mine in Europe, the Pyhäsalmi mine, which extends to almost 1,450 meters. At the end of the underground mining, the vacant infrastructure in the area can create the conditions for new post-mining business and develop various renewable energy production solutions that support them, such as energy storage facilities and communities.

"Our industrial park can provide an excellent framework for electricity-intensive operators in the future, who can utilize the infrastructure, logistics and raw materials coming vacant from mining operations," says Sakari Nokela, Chief Development Officer at Callio Pyhäjärvi.

## On green electricity operating concentrator plant is the first of its kind in Finland and in the world

In recent years, sustainability and environmental awareness have become more and more on the agenda of companies and mining companies. Customers and stakeholders in the mining industry are also interested in the environmental impact of the sector, as in Pyhäjärvi.

"Green electricity is computationally zero-emission and is not known to have been implemented on this scale anywhere else in concentrator operations. When our mining company switches to using solar energy in its operations, our greenhouse gas emissions will decrease significantly. We want to be at the forefront of the industry here as well, and at the same time we will further increase our environmental responsibility," says Aki Tuikka, General Manager of Pyhäsalmi Mine Oy.

## The strongest domestic players in solar energy into cooperation

The joint project between towns of Nivala and Pyhäjärvi brings together the professionals of Solarigo Oy and Skarta Group Oyj, as well as solar power parks and special construction, and builds a strong network with the goal of implementing several tens and hundreds of megawatt solar power projects in Finland, Sweden, and Norway.

"Construction of industrial-scale solar energy has already begun in Finland, and with technological development and rising electricity prices, the projects are financially viable. The transformation of the energy market will increase investments, not only to meet climate goals, but also to domestic renewable energy production to improve energy self-sufficiency," comments Kari Tuominen, CEO of Skarta Energy Oy.



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## Up to a whopping 161,300 solar panels for the Northern Ostrobothnia solar power plant

Solar energy production varies depending on the season and weather conditions. Last year was quite favorable in terms of weather and conditions: in recent years, solar energy in Finland has been able to be produced earlier than usual, even since February. The planned solar park is one of the largest solar parks in the Nordic countries on a total area of about 135 hectares.

*“We have found an environmentally friendly solution by locating the solar park on land from waste materials tailing ponds that is being vacant from the mines. The latest solar technology will continue to enable the recovery of minerals from tailing ponds, their cleaning, landscaping and, at the same time, the use of surface areas for the solar park,”* says Antti Koskelainen, CEO of Solarigo Systems Oy.

### The planned solar park will generate new industrial activity in Pyhäjärvi

The concentrator plant in the Pyhäsalmi Mine Oy industrial area and the Callio Pyhäjärvi business park will receive much of the electricity they need from a large solar park to be built in phases. It produces about 90 GWh of clean renewable electricity annually. In addition to the Callio Solar Park, it is possible to take advantage of the wind power available in the surrounding region. With Callio Pyhäjärvi, the solar power plant can also be connected to local consumption sites through PPA agreements.

*“We can take advantage of the best of the region’s electricity grid and external renewable energy market. It is also attractive to take advantage of the opportunities for energy-intensive industry to be located here utilizing the good logistical location of Pyhäjärvi,”* says Henrik Kiviniemi, Town manager of Pyhäjärvi.

The project has applied for support from the Ministry of Economic Affairs and Employment of Finland to promote the green transition of the energy system and industry, with a total project budget of approximately € 60 million.



**Further information**

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