Appendix: Project descriptions of energy investment aid decisions

A total of EUR 453.2 million has been reserved for energy investment aid under Finland's Recovery and Resilience Plan. Funding by project type:

1. Investments in energy infrastructure (P1C1I1): EUR 154.35 million
2. Investments in new energy technology (P1C1I2): EUR 124.35 million
3. Low-carbon hydrogen and carbon capture and utilisation (P1C2I1): EUR 127 million
4. Direct electrification and decarbonisation of industrial processes (P1C2I2): EUR 47.5 million

The Ministry of Economic Affairs and Employment granted a total of EUR 99.8 million to six projects on 4 October 2022. More decisions will be made by the end of 2022.

1. Investments in energy infrastructure (P1C1I1):

In this category aid can be granted

- to the owner of distribution network and main grid for projects related to electrical networks and transmission capacity
- for the transfer of low-carbon gases
- for district heating projects: heat recovery to the district heating system, storage or transfer of district heat.

Aid decisions for this category will be made later.

2. Investments in new energy technology (P1C1I2):

In this category aid can be granted to

- projects that promote the production of renewable energy with the help of new energy technology
- projects that invest in offshore wind power, renewable transport fuels, biogas, non-combustion-based heat production, large-scale solar energy production and energy storage, in particular.

A total of EUR 28.46 million was granted to two projects using new energy technology. Aid was granted to Ilmatar Energy Oy and Exilion Tuulivoima Ky.

Ilmatar Energy Oy's solar power plant in Alajärvi and Kyyjärvi

Ilmatar Energy Oy was granted EUR 19,550,000 for investments in solar power in the municipalities of Alajärvi and Kyyjärvi. Once completed, the solar power plant would be one of the largest in the Nordic countries.

The power plant would have a peak power output (panels) of 150 megawatts and produce approximately 145 gigawatt-hours of electricity per year. The solar power will be integrated with the existing Alajärvi wind farm. This way, the intraday fluctuations in wind power and solar power production or variations due to the seasons or weather can be balanced. The solar panels would be double-sided, and at least a fifth of the panels would be mounted on structures tracking the sun.

In addition, the company will invest in an industrial-scale electricity storage (25 megawatts/50 megawatt hours). The electricity storage which is integrated with the production system will balance and regulate the supply of electricity to the grid.

According to the company, the investment will reduce carbon dioxide emissions by about 12,900 tonnes a year, calculated with the average CO_2 emission factor for electricity production in Finland. The need for labour during the construction in Finland would be about 21 man-years, and three new jobs would be created, according to the applicant.

The European Commission must approve the decision before the aid can be allocated.

Inquiries:
Katja Koponen, Business Development Manager, Ilmatar Energy Oy, tel. +358 40 525 0722
Kati Veijonen, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 295 047 170

Exilion Tuulivoima Ky's solar power plant in Simo

Exilion Tuulivoima Ky was granted EUR 8,909,973 for investments in a solar power plant in Simo.

The power plant would have a peak power output (panels) of 70 megawatts and produce approximately 70 gigawatt-hours of electricity per year. The ground-mounted panels will be connected to a hybrid system that links the control of the solar power with the existing control system of the electricity storage and wind power production. This hybrid system enables the provision of high-output adjustable reserves to balance the main grid. All solar panels will be double-sided.

According to the company, the investment will reduce carbon dioxide emissions by about 6,200 tonnes a year, calculated with the average CO_2 emission factor for electricity production in Finland. The need for labour during the construction in Finland would be about 20 man-years, and one new job would be created, according to the applicant.

The European Commission must approve the decision before the aid can be allocated.

Inquiries:
Tommi Riski, Investment manager, Exilion Tuulihankkeet Ky, tel. +358 50 527 0869
Kati Veijonen, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 295 047 170

3. Low-carbon hydrogen and carbon capture and utilisation (P1C2I1)

In this category aid can be granted to

- projects that replace the use of fossil fuels in industry or transport through the production of low-carbon hydrogen
- projects that involve carbon capture, utilisation and storage.

Two projects related to electrofuels were granted a total of EUR 65.62 million. Aid was granted to Vantaan Energia Oy and St1 Oy.

Vantaan Energia Oy's renewable methane production in Vantaa

Vantaan Energia Oy was granted EUR 30,222,500 to invest in a production plant for renewable methane in Vantaa.

The plant would have an output of 10 megawatts and it would produce approximately 80 gigawatt-hours of renewable methane each year. As raw material for methane, the facility would use renewable hydrogen produced in the plant as well as carbon dioxide separated from the combustion gases in the treatment plant for hazardous waste. Most of the produced methane would be used as a renewable transport fuel and some would be used in heat production to replace natural gas during peak heating periods. The waste heat generated in the process would produce about 88 gigawatt-hours of district heat annually.

According to the company, the investment will reduce carbon dioxide emissions by about 46,300 tonnes a year. In addition, the need for labour during the construction in Finland would be about 200 man-years, and five new jobs would be created.

The European Commission must approve the decision before the aid can be allocated.

Inquiries:
Jukka Toivonen, CEO, Vantaan Energia Oy, tel. +358 50 453 6729
Tuula Savola, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 29 504 7133

St1 Oy's renewable methanol production in Lappeenranta

St1 Oy was granted EUR 35,405,900 to invest in a production plant for renewable methanol in Lappeenranta.

The plant would have an output of approximately 17 megawatts and produce about 138 gigawatt-hours of renewable methanol per year. Renewable hydrogen produced in the plant as well as carbon dioxide separated from the combustion gases of a cement factory would be used as raw material for the methanol. The methanol produced would

be used as a renewable fuel in maritime or road transport or in chemical industry to replace fossil raw materials. The waste heat generated during the process would be used as district heat.

According to the company, the investment will reduce carbon dioxide emissions by about 58,000 tonnes a year. In addition, the need for labour during the construction in Finland would be about 250 man-years, and 22 new jobs would be created.

The European Commission must approve the decision before the aid can be allocated.

Inquiries:
Riitta Silvennoinen, Head of Energy Transition Business, St1 Oy, tel. +358 50 589 3036
Tuula Savola, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 29 504 7133

4. Direct electrification and decarbonisation of industrial processes (P1C2I2)

In this category aid can be granted to

- projects that promote electrification and decarbonisation of industry through heat pump technology, electrification of steam production and surplus heat from industry
- projects that improve energy efficiency: e.g., surplus heat from manufacturing industry can be utilised in production processes or as district heat.

Two projects that advance direct electrification and decarbonisation of industry were granted a total of EUR 5.72 million. Aid was granted to Mäkelä Alu Oy and Fiskars Group.

Electrification of Mäkelä Alu Oy's production in Alajärvi and Kouvola

Mäkelä Alu Oy was granted EUR 2,858,490 to electrify its production in Alajärvi and Kouvola. The production of aluminium profiles, which currently uses liquefied petroleum gas, will be electrified.

The project will also increase own electricity production and capture of waste heat, which together will have a significant impact of carbon dioxide emissions and improve energy efficiency of production.

The heating of blanks, which currently uses liquefied petroleum gas, will be replaced with power-operated induction technology and heat treatment furnaces will be replaced with electric furnaces. In addition, a solar power system with peak power output of 950 kilowatts and an energy storage with capacity of 1 megawatt-hour will be constructed. Around 2,300 megawatt-hours of waste heat will be captured with the help of heat pumps and heat exchangers. In total, the project will replace annual energy consumption of 12,021 megawatt-hours based on liquefied petroleum gas with electricity.

According to the company, the investment will reduce carbon dioxide emissions by about 2,800 tonnes a year and decrease nitrogen oxide emissions significantly. The company estimates that the need for labour during the construction in Finland is about 15 man-years.

Inquiries:
Tomi Pilbacka, Development Director, Mäkelä Alu Oy, tel. +358 50 309 5230
Petri Mäkelä, CEO, Mäkelä Alu Oy, tel. +358 50 631 79
Pekka Kärpänen, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 29 504 7882

Fiskars Finland Oy AB's investment in Iittala glass factory's melting furnace in Hämeenlinna

Fiskars Finland Oy AB was awarded EUR 2,871,000 to replace the furnaces, which currently use natural gas with electric furnaces, at its Iittala glass factory.

Fiskars Group plans to replace 51 900 megawatt-hours of energy consumption based on natural gas with renewable electricity, which will reduce consumption by 67 per cent.

According to the company, the investment will reduce carbon dioxide emissions by about 10,000 tonnes a year and decrease nitrogen oxide and fine particle emissions significantly. The company estimates that the need for labour during the construction in Finland is several man-years.

Inquiries:
Fiskars Group communications, press@fiskars.com, tel. +358 40 553 3151
Pekka Kärpänen, Senior Specialist, Ministry of Economic Affairs and Employment, tel. +358 29 504 7882