Climate leap – How investors are reaching major emissions cuts in existing property portfolios

Sarianna Sipola, Portfolio Manager, Varma, Finland
Jonni Ahonen, VP, Sales and Accounts, LeaseGreen, Finland

Many investors have made carbon neutrality the holy grail of their brand goals. Some are still figuring out how to reach that goal, with the actual plan still on the drawing board. There are many questions, and the challenge is considerable. If you have 500 properties in your portfolio, where do you begin the work towards making them energy efficient? What if you have 30 properties? How do you make sure that the work is financially worthwhile?

In buildings, the energy consumption arising from electricity and heating is the main source of carbon dioxide emissions. Improving the energy efficiency of buildings is one of the most viable paths to decreasing this consumption and the associated carbon emissions. Carbon dioxide emissions are easily reduced by using renewable energy, either by producing one's own energy or buying green energy.

It sounds simple, but where do you begin the work towards making buildings energy efficient, if you have 500 properties in your portfolio? What if you have 30 properties? How do you make sure that the work is financially worthwhile?

Varma, a Finnish pension insurance company, and LeaseGreen, Finland's leading cleantech service company, are working together to reduce the emissions from Varma's properties.

Varma is one of Finland's largest real estate investors. It owns over 60 residential buildings, including approximately over 4,000 flats. Varma has ambitious climate goals. The main goal is to reduce the carbon dioxide emissions of its direct real estate investments by switching to fossil-free heating and electricity by 2030 and 2025, respectively. Varma will replace the heating system in 36 apartment buildings in its housing stock from 2020–2022. The decision is expected to lead to an estimated 48% reduction in CO2 emissions from Varma's properties by 2023.

In this project, the KPIs include economic variables, carbon emission reduction and energy consumption reduction targets. From 2020 to 2035, Varma will develop its portfolio towards carbon neutrality, and no stone will be left unturned.

A comprehensive analysis of a wide range of properties

A full-scope examination of a large section of Varma's properties (nearly 60 residential buildings, in this case) offered a quicker and more efficient path to reducing emissions than the modernization of individual buildings. It was this work that Varma began in collaboration with LeaseGreen.

LeaseGreen is a cleantech service company specializing in energy efficiency and innovative solutions for large properties. It implements optimal energy overhauls on customers' properties in terms of life-cycle costs, market value, and carbon footprint.

LeaseGreen helps investors to put together a profitable strategy that includes a solid road-map towards carbon neutrality. This was also carried out with Varma. LeaseGreen's portfolio analysis (Figure 1) is based on the initial data from the customer's property portfolio, such as data on energy use and location. Property investors usually have this data on hand, but it is still not being taken advantage of fully. The data is enriched by LeaseGreen's experts with tens of different data points, such as energy market price development and comprehensive market prices for energy overhauls. They then add to the analysis their own experience from hundreds of energy projects.

LeaseGreen uses this analysis to look for property-specific opportunities to use geothermal energy and solar energy, as well as other opportunities to improve energy efficiency. With energy investments, the focus is usually on the difference between technical solutions. It is equally important to identify issues related to energy markets and the location of the properties. Houses, offices, and logistics centres benefit from different types of solu-

tions. It is also a completely different thing to produce geothermal energy in Espoo in Southern Finland than, for example, 600 km further north in Oulu. The results of the portfolio analysis are ready in a few weeks. Local emission coefficients, technical feasibility, as well as the property investor's strategy all affect the outcome of the analysis.

The concrete goal of the analysis is to divide the properties into meaningful investment baskets according to the size and content of the investment portfolio. The baskets show on which properties it is worth carrying out energy efficiency and production improvements, what improvements are sensible and when they should be done. At the same time, the baskets show how much needs to be invested in the properties and what kind of benefits can be expected. It is recommended to start with the most effective and profitable projects and proceed systematically one basket at a time.

For example, according to the analysis, Varma's residential real estate portfolio consisted of 60 properties, which were divided into five different baskets, as shown in Figure 2. The energy overhauls carried out on the first basket of 13 properties cut the CO_2 emissions of Varma's entire property portfolio by a fifth. The entire project will move Varma towards its ambitious climate goals.

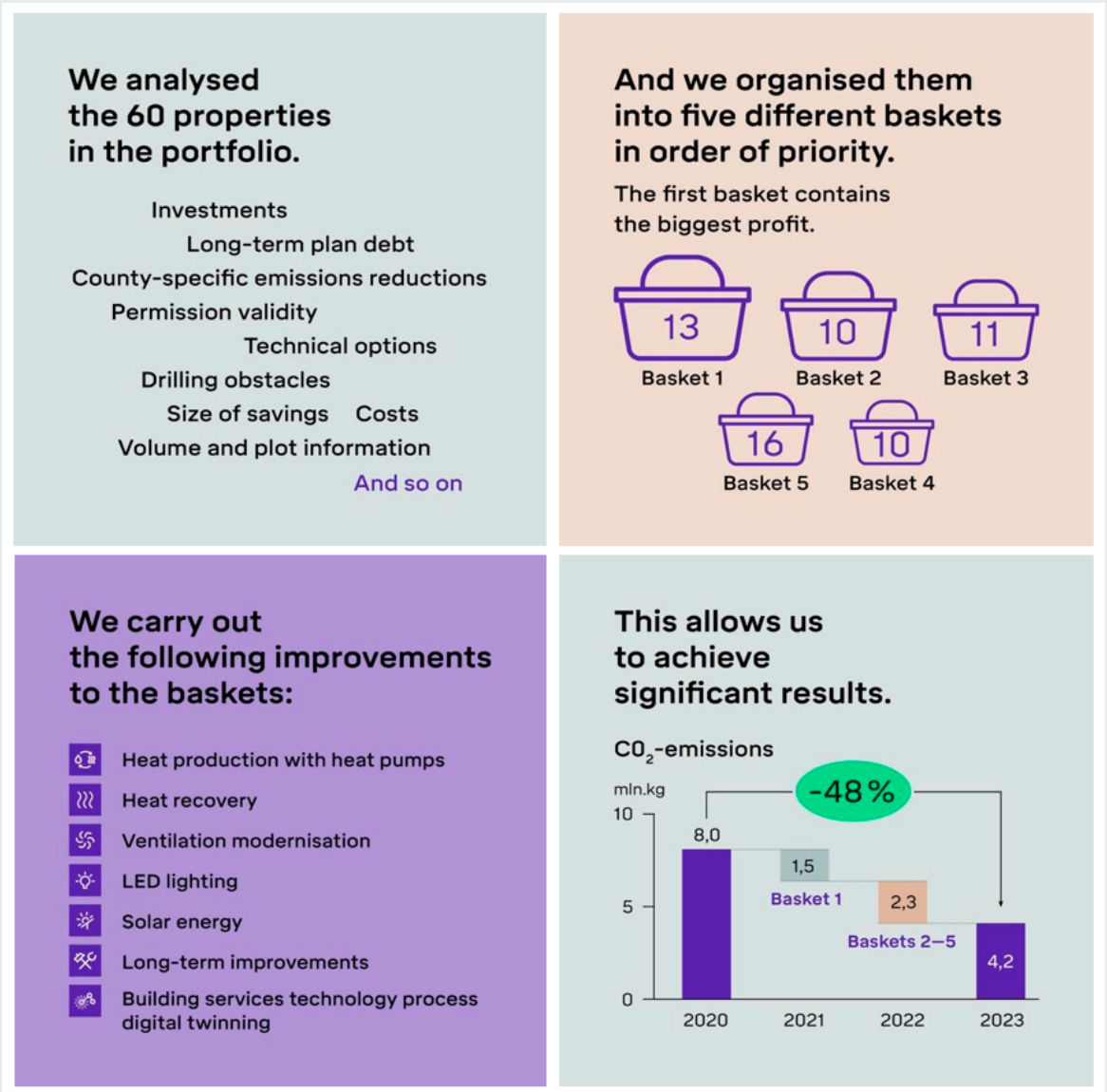

Figure 1-4. The LeaseGreen's way to find the most profitable path to the climate objectives of the property investor. According to the analysis, Varma's residential real estate portfolio consisted of 60 properties, which were analysed and divided into five different baskets. This analysis was made at the end of 2019, and the energy overhaul on Varma's first basket was carried out during 2020-2021. By the end of September 2021, Varma has decided to carry out energy efficiency and production improvements to baskets 1-3.

Figure 3 shows the chosen energy improvements for Varma's property baskets. The investment and savings of each improvement are analyzed in detail to reach a comprehensive understanding of the possibilities. Figure 4 shows the CO_2 reduction potential in certain baskets for 2020–2023.

The goal is to find the most profitable path to the climate objectives of the property investor. There are concrete improvements along that path that are timed for the coming years. All of this is supported by a thorough portfolio analysis and experience from hundreds of energy overhauls. The customer ends up with an energy-efficient portfolio that includes everything needed for increasing its value. The reduction in carbon emissions ensures that the portfolio attracts capital also in the future.

Sustainability does not conflict with return expectations

LeaseGreen was tasked with planning and implementing the energy overhaul, which replaced the buildings' district heating with geothermal heat pumps, solar panels and property-specific heat pumps that recover heat from exhaust air. Energy-saving measures in apartment buildings are a natural step towards becoming emission-free. This comprehensive solution includes new automation, solar panels and modern lightning in addition to geothermal heat pumps and heat recovery systems. The energy overhaul on Varma's first basket was carried out during 2020-2021.

District heating currently accounts for a significant proportion of the carbon dioxide emissions from Varma's residential properties. This is because of burning various fossil fuels and biofuels in the district heating power plants. In 8 residential buildings, geothermal heating entirely replaced district heating.

Varma's previous partnership with LeaseGreen also focused on other energy overhaul projects. Varma and LeaseGreen previously collaborated on the energy refurbishment of the headquarters of Elisa Oyj, a Finnish Telecom company. The headquarters is owned by Varma, and the partnership focused on reducing the building's energy consumption and carbon footprint by around 40%.

The Elisa energy refurbishment, announced in May 2019, targets yearly savings of around 250 tonnes of CO_2, equivalent to the annual output for more than 1,000 solar panels. Savings can also be used to offset the emissions of more than 2,000 return flights between Helsinki and Stockholm.

According to Varma, the waste heat from the data centers is recovered and transferred to the building's heating and air conditioning system. The energy provided will reduce the consumption of district heating and the need for cooling energy. At the same time, costs will be reduced for both the owner and users of the property. It is always a pleasure to carry out investments like this since their returns clearly exceed the typical rate of return in real estate investment. Achieved cost savings have a significant effect on the value of properties.

Responsible companies are promptly carrying out economically viable investments in energy efficiency. In recent years, the profitability of energy refurbishments has improved clearly due to fast technological development. Varma has tightened its own energy efficiency goals because the company achieved them ahead of time. Digital monitoring will be used to optimize the settings for the building services technology according to the weather conditions and assist in monitoring progress and energy efficiency improvements.

Financially, this is also a good investment for Varma. With these kinds of energy solutions, Varma is looking to mitigate climate change as well as achieve good returns. Energy investments are one of the most efficient ways of improving the profitability and value of real estate investments as well as making them more environmentally sustainable. From a real estate investor's perspective, in general, making allowances for sustainability does not conflict with return expectations. For Varma, sustainability is a means of securing long-term returns.

Varma's inspiring example proves that companies can reduce emissions while at the same time increasing financial wellbeing.

SARIANNA SIPOLA
Varma
Finland
sarianna.sipola@email
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