

Net zero project: Sweden's first residential microgrid in older buildings



PROJECT:
Safiren 2



COMPANY:
SBF Fonder



LOCATION
Kalmar, Sweden

Challenge

The real estate sector faces a dual challenge: significantly reducing energy consumption and climate impact while adapting older residential buildings to the energy systems of the future. Many existing properties still rely on centralised energy solutions, limiting the potential to use locally produced renewable energy and manage rising energy costs.

At the same time, electrification is increasing demand for energy resilience and supply security. Enabling the green transition therefore requires innovative solutions that can be integrated into existing buildings, improving energy efficiency, reducing dependence on external energy sources and creating more robust residential environments.

Barriers to sustainable transformation:

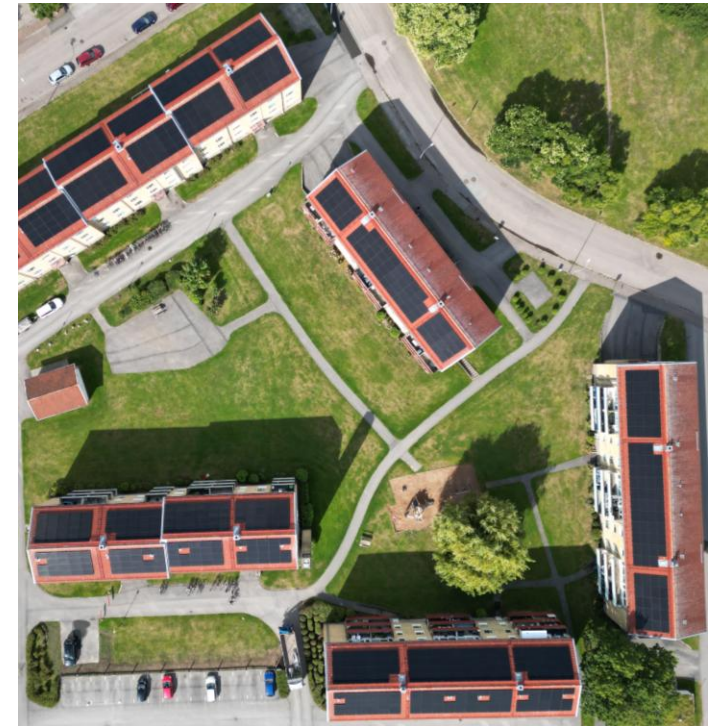
- > Swedish legislation that restricts new energy solutions
- > Strong dependence on external energy supply
- > Limited ability to store energy and maximise the use of locally produced solar power

Solution / Approach

The project in Kalmar demonstrates how existing residential buildings can become frontrunners in the energy transition. For SBF, this is not the destination – it is the foundation for what comes next, reflecting an ambition to go beyond today's requirements and actively contribute to a more sustainable housing sector.

By upgrading the five-building apartment complex with a local microgrid, 727 rooftop solar panels, heat pumps, improved insulation, energy-efficient windows, smart control systems and thermal energy storage, Safiren shows how older housing stock can become more energy-efficient, resilient and climate-smart. Locally produced solar power can be shared across the property and used where demand is highest, reducing dependence on external energy and lowering heating demand.

The property's existing heat pump system and accumulator tanks can be used to store surplus electricity as heat. By adding electric heating elements and smart controls that detect periods of overproduction, excess electricity can be used to raise the temperature in the tanks.



The stored heat can then support the property's hot water production, with the final temperature regulated through mixing with cold water. This allows more locally produced electricity to be used within the property, rather than being fed back into the grid.

Results

The project comprises five buildings with a total of 97 apartments and three protective shelters. The upgrade delivered the following results:

- > 100% green energy supply
- > 20-25% reduction in annual energy costs for tenants
- > 21% reduction in annual energy use
- > EUR 25,000 reduction in annual maintenance costs
- > EUR 86,000 annual return

Outcome

- > **Increased permitted capacity:** Recent regulatory changes have raised the permitted installed capacity from 255 kW to 500 kW of installed peak capacity.
- > **New microgrid opportunities:** New legislation now allows microgrids to be established between older existing buildings, enabling property owners to improve energy efficiency, resilience, and local energy sharing.



SBF Fonder: Value for generations

SBF Fonder manages and develops private rental housing to create prosperous neighbourhoods. With over 20 years of experience, SBF stands out with real estate expertise and deep competence across the entire value chain, from capital and investments to management. Since its inception in 2003, SBF has managed 15 residential funds with a total value exceeding SEK 10 billion and offers unique investment options for individuals, companies, and institutional investors.



Frontrunner in Sweden

The story begins in 2020, as Sweden faced rising energy prices and growing pressure to accelerate the green transition. As significant contributors to Sweden's energy supply, SBF identified both the responsibility and the opportunity to act.

Where many property owners saw outdated assets and complex challenges, SBF saw an opportunity to make a real difference — in Sweden's Million Programme housing stock, where impact matters most.

Older buildings can become smarter, more self-sufficient and more affordable, while creating lasting value for generations. Changing legislation in Sweden has not been easy, but it has been an important part of making this progress possible. My greatest hope is that our work will inspire others to invest in older buildings and see their potential - not only as assets, but as part of the solution to creating a more sustainable environment and society for future generations.

Bo Wernersson, Head of Property Management, SBF Fonder

This project demonstrates how innovation can create value beyond a single property. By pioneering one of Sweden's first residential microgrid solutions, SBF has established a scalable model for improving the energy performance and resilience of older residential buildings.

Bo Wernersson, SBF's Head of Property Management, has played a leading role in advancing the initiative, engaging with municipalities, regulators and national decision-makers to help remove barriers to local energy systems. His work has contributed to creating new opportunities for property owners across Sweden to implement microgrids and accelerate the transition towards more energy-resilient residential buildings.

The project has also delivered tangible social benefits. Throughout the implementation, SBF worked closely with tenants to enable a new electricity supply model, allowing tenants to purchase household electricity directly from SBF. This required regulatory approval as well as the consent of all tenants, making resident engagement a key success factor.

The response has been highly positive. The project received the Kalmar Municipality Climate Award 2025, attracted national media attention and has been well received by residents, who value both lower electricity costs and the opportunity to contribute to a more sustainable energy system.



This project marks only the beginning of a longer journey. SBF is currently exploring the potential to install microgrid systems in two additional properties within its portfolio, with the ambition of further scaling the impact of the initiative.

The microgrid project at Safiren represented a significant upfront investment of approximately EUR 0.9 million. While this is a substantial capital commitment for an existing residential property, the project is expected to generate annual net benefits of approximately EUR 86,000 through lower operating costs and additional revenue streams. Based on these cash flow improvements, the investment is estimated to increase the property's value by approximately EUR 0.82 million, while also enhancing its long-term sustainability and operational resilience. Both our investors and our tenants are winners, while we are also reducing the pressure on the electricity grid and the climate. A win-win-win-win if you will.

Terje Björnell, CEO of SBF Fonder

SBF's approach to energy efficiency

SBF manages and develops properties to meet future needs, establishing thriving neighbourhoods that stand the test of time. Over the years, SBF has been developing a systematic process for working with its buildings to reduce their negative impact on the environment and society.

SBF acquires residential properties with untapped environmental potential and creates value through systematic energy-efficiency improvements. By implementing energy- and water-efficiency measures early in the ownership period, SBF strengthens NOI, improves EPC ratings and reduces the portfolio's environmental footprint.

A key element of this strategy is SBF's collaboration with the Swedish proptech company Kiona (formerly eGain), whose AI-based technology optimises heating, ventilation and indoor climate. Combined with targeted investments in building upgrades, this enables continuous improvements in energy performance and portfolio resilience.

Since implementing Kiona, SBF has reduced heating consumption by 36.3 kWh per square metre, demonstrating how systematic energy optimisation can lower both operating costs and carbon emissions while strengthening the long-term value of existing residential assets.