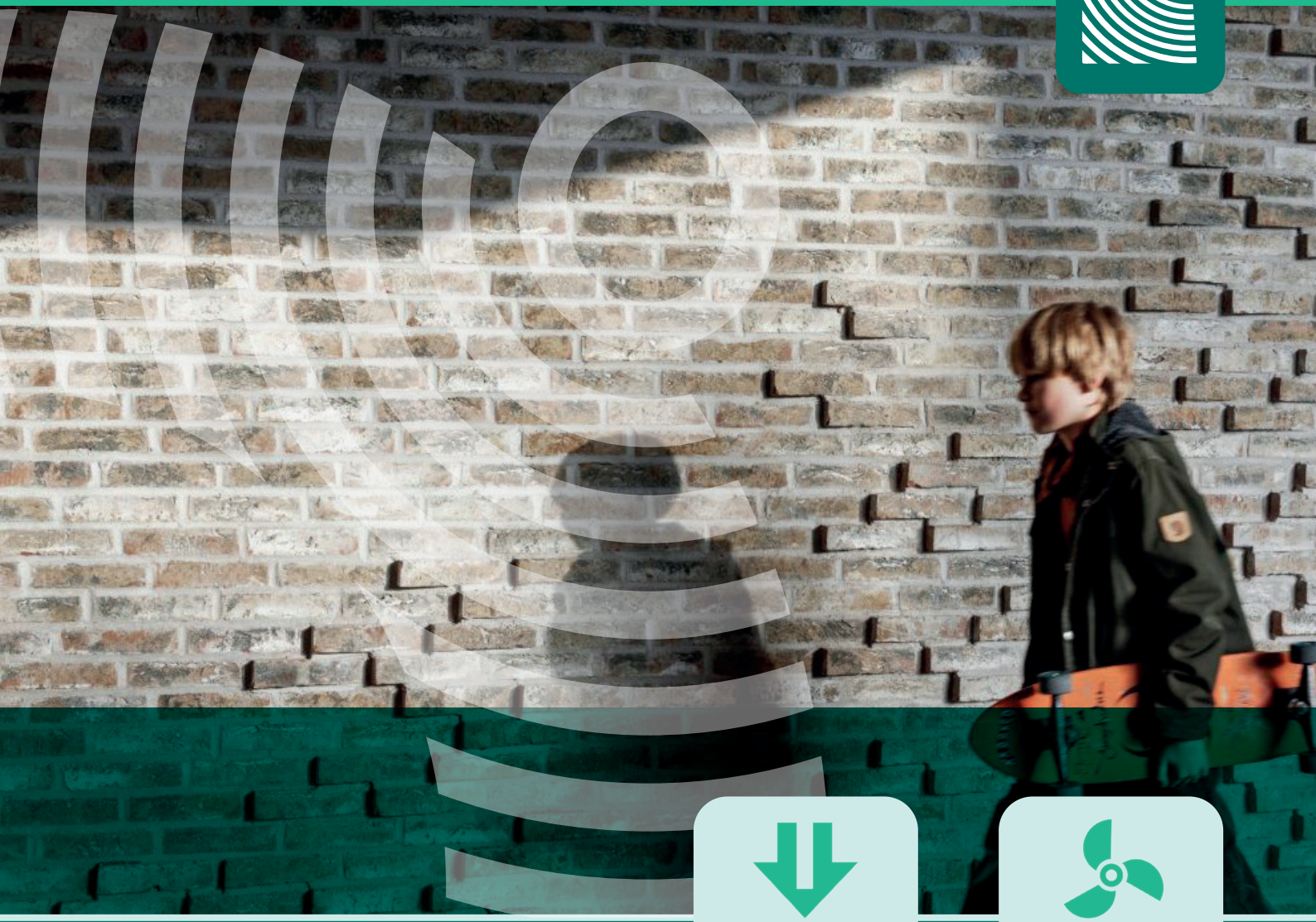


15%
Reduced energy

100%
Renewable energy

Vesterled Brickworks

One of Denmark's most energy-efficient brick plants

PROJECT ZERO
SONDERBORG

Vesterled Brickworks leading the way in energy efficiency

The building industry is a major contributor to global CO_2 emissions. At Vesterled Brickworks, continuous production optimization has led to a 15% reduction in energy consumption per ton of bricks between 2005 and 2023.

In 2020, efficiency was further improved when the brickworks transitioned to producing the lighter LESS brick. With LESS, the plant can now produce up to 76 more bricks from each ton of clay.

As a result, the same number of bricks can now be manufactured using considerably less energy – and thus with lower CO_2 emissions – compared to the production of solid bricks in 2005.

This achievement is the result of several forward-thinking initiatives, including the use of perforated bricks, a switch to biogas-powered production, and utilization of excess heat, which represent a significant shift from traditional production methods.

About Vesterled Brickworks

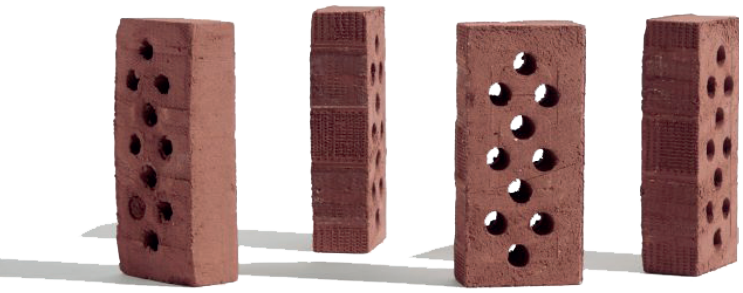
Vesterled Brickworks was established in 1843 and has been family-owned for six generations. The factory is located in Sønderborg in southern Denmark.

It is part of Egernsund Wienerberger, Denmark's largest brick manufacturer.

Watch the case video

LESS, the innovative brick

The LESS brick is a refined example of a more sustainable construction design. Its hollowed-out structure uses 15 % less raw material compared to traditional solid bricks. With LESS, the plant can now produce up to 76 more bricks from each ton of clay, increasing resource efficiency and reducing waste.



In 2025, Vesterled began exclusively producing LESS bricks – except special products – as part of its commitment to climate neutrality.

The company also completed its shift to 100% biogas for firing, further reducing the environmental impact of its production.

The LESS brick maintains the same dimensions, quality, and appearance as traditional bricks, ensuring that the aesthetic integrity of buildings remains intact, as the hollow design is effectively concealed in the completed structure. Wienerberger continuously strives to innovate and enhance the development of tomorrow's bricks, ensuring they meet both environmental and architectural demands.

15% reduced energy

Reduction in energy consumption per ton of bricks

- Utilization of excess heat
- Use of perforated bricks
- Recycling of clay
- Lighter bricks

100% renewable energy

Vesterled uses biogas for firing and sources all electricity from renewable energy

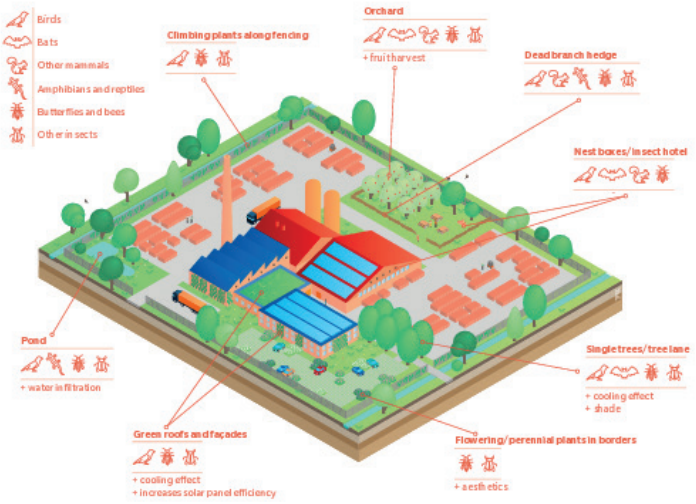
- Biogas for firing
- Renewable electricity

Commitment to preserve nature

As part of Wienerberger, Vesterled aligns with Wienerberger's commitment to preserving and enhancing biodiversity in the areas they impact. Their strategy includes a Biodiversity Action Plan that guides the development of native flora at their brickworks, along with monitoring species populations through scheduled counts three times per year.

At Vesterled, all available grass areas have already been converted into wildflower meadows, with insect hotels installed and fruit trees planted.

By 2026, Wienerberger aims to achieve a 10% increase in fauna around its facilities, reflecting its commitment to supporting local ecosystems. Additionally, starting in 2024, the company will plant one tree per employee, amounting to a minimum of 100,000 new trees.



How Vesterled is future-proofing brick production

In Denmark, regulations on maximum CO_2 emissions from buildings are becoming increasingly stringent, pushing the construction industry toward more sustainable practices. Vesterled is rising to this challenge, taking proactive steps to reduce its environmental footprint and remain at the forefront of the industry.

From 2025, single-family homes in Denmark must limit emissions to 6.7 kg CO_2/m^2/year – a threshold that will tighten further to 5.4 kg by 2029.
By aligning with these ambitious targets today, Vesterled demonstrates industry leadership and remains committed to staying one step ahead of tightening regulations.

For example, the company is already investing in future solutions such as electric kilns and carbon capture technologies. Vesterled is also exploring ways to reuse excess heat from the firing process, with plans to supply it to the local district heating network – creating mutual value for both the company and the surrounding community. These initiatives underscore a broader commitment to innovation and climate responsibility.

About ProjectZero

ProjectZero is a public-private partnership between Sønderborg Municipality and the Bitten & Mads Clausen's Foundation dedicated to making Sønderborg's energy system carbon-neutral by 2029. We also aim to inspire other cities to take on their green transition for a stronger positive impact on our climate.

In Sønderborg, citizens, organizations, businesses, utility companies and the municipality work strategically together in a public-private partnership to find local solutions to the global climate challenge.

Since 2007, energy-related carbon emissions have been reduced by 79% and the municipality is on track to deliver on their 2029 target of a carbon neutral energy system.

ProjectZero is anchored in the ProjectZero office, where a small team of employees coordinates and monitors the journey towards zero and brings together the right people, ideas and projects.

Our recipe for a green transition not only has the potential to solve the climate challenge in Sønderborg. It can be used all over the world. We want to show other cities the way and inspire them to create their own transformation. Every year, we welcome decision makers and journalists from all over the world, who want to know more about our road to carbon neutrality.

Do you want to know more or plan for a visit?
Visit our website or contact us at
visit@projectzero.dk.

PROJECT ZERO
SONDERBORG

Nørre Havnegade 43
DK-6400 Sønderborg
Phone: +45 31 68 30 90
Email: info@projectzero.dk