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Linervent AB: Sealed ducts, **lower energy and approved OVK**

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01 Sealed ducts raise the energy class and lower operating costs

Three projects, three results: up to 60 % lower energy use and a better indoor climate.

Linervent AB shows how energy efficiency can be achieved without demolition, noise or large investments. By sealing existing ventilation ducts, both energy consumption and operating costs fall by up to 50-60 %, while the property passes OVK and reaches a higher energy class.



50–60 %

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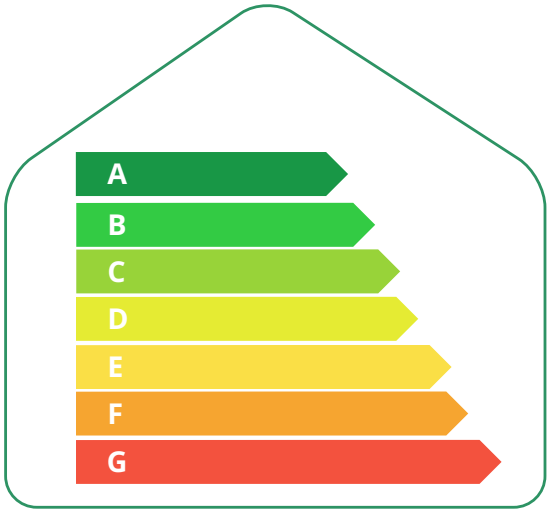

Results in three typical buildings:

Project	Before (kWh/m²)	After (kWh/m²)	Reduction	Energy class	Payback
Järfälla	138	57	–59 %	E →C	7 yrs
Enköping	160	71	–56 %	E/F → C	5 yrs
Mölndal	220	120	–45 %	E/F → C	3 yrs

Chapter

Chapter 02

Case: Järfälla, the energy class **rose two steps and comfort improved at once**

> *The ventilation had not worked for years, now everything is in balance*

When the ventilation system in a seven-storey building in Järfälla began making noise and causing draughts, measurements showed that the ducts leaked more than half of the design air flow. After Linervent's sealing work, both energy performance and indoor climate improved.

Background

The building, built in the 1960s, still had its original asbestos cement ducts. The fans had to run at maximum without reaching the right flows, which led to imbalance between apartments and higher heating costs. Tenants complained about poor air and cold indoor temperatures in winter.

The work

All ducts were sealed with the Linervent method in two working days per apartment, without demolition. The flexible liner adapted to the geometry of the duct and also sealed joints and bends. The work was documented with leakage measurements before and after.



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Case: Järfälla, the energy class **rose two steps and comfort improved at once**

Result

After the work, the fans could be reduced to 40 % power. OVK was approved at once and the heating cost fell from SEK 135,000 to SEK 56,000 per year. Energy use fell from 138 to 57 kWh/m², corresponding to an improvement from **energy class E to C.**

> ***We first thought the fans were the problem, but it was the leakage. The sealing had more effect than a new ventilation system,***
>
> says the project manager.

Lessons learned

A tight duct system pays back faster than installing new fans. The project shows how small interventions can give large savings.

Facts: Järfälla

- 14 apartments, 7 storeys + basement
- Asbestos cement ducts sealed with Linervent
- Energy use: 138 → 57 kWh/m² (-59 %)
- Energy class: E → C
- Heating cost: SEK 135,000 → 56,000 per year
- OVK: Failed → Approved
- Payback time: 7 years
- Lifetime saving: SEK 2.0 million

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Chapter 03

Financing & value: how the energy class affects your rate

Lowering energy use does not only affect the environment. It can also improve the property's finances and reduce the cost of borrowing.

More and more banks offer green loans with lower interest to buildings that have a better energy class or can show a documented improvement.

> ***When operating costs go down and the building becomes more energy efficient, the risk for the bank also falls, and that shows in the loan terms***
>
> says **Johan Persson**, CEO of Linervent AB

What do the key terms mean?

Energy class: The building's rating from A to G based on energy use per square metre. Class C corresponds to today's building regulations, while E-G are older and inefficient buildings.

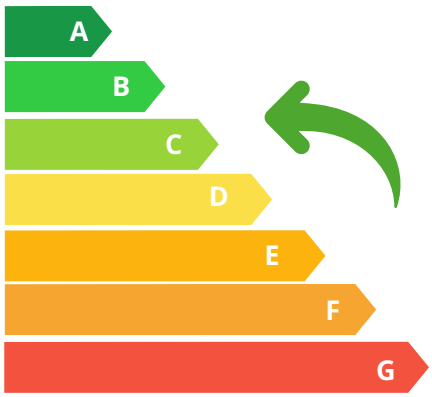
Primary energy number (EP): A measure of how much energy is used in total for heating, hot water and electricity. The lower the number, the better.

Green loan: A loan with an interest discount (usually 0.05-0.30 percentage points) for buildings that are energy efficient or are undergoing energy efficiency improvements.

Life cycle cost (LCC): The total cost over time, including operation, maintenance and energy. A tight building has a lower LCC because both heating and electricity use fall.

03

Financing & value:
how the energy class affects your rate



How much can the rate be affected?

Each bank sets its own terms, but an improvement from energy class E/F to C can often qualify the property for green loans.

Even small differences in interest make a big difference over time.

Possible rate discount	Annual effect (on a SEK 50m loan)
0.05 percentage points	about SEK 25,000/yr
0.10 percentage points	about SEK 50,000/yr
0.20 percentage points	about SEK 100,000/yr

When this is combined with **lower energy costs** after sealing (often SEK 100,000-500,000/yr) the financial effect becomes clear.

How Linervent's documentation is used with the bank

Banks want to see that the improvement is measurable and lasting. That is why Linervent helps to produce:

- Pre-study with energy use before and after sealing
- OVK certificate (that the ventilation works as it should)
- Calculation of cost savings and payback time
- Energy savings in KWh and CO_2

With these documents the property owner can show the bank that the investment both reduces climate impact and increases operational reliability.

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03

Financing & value: how the energy class affects your rate

What it means in practice

A housing cooperative with an ordinary SEK 50 million loan and energy class E can, through sealing and balancing, improve the class to C.
This gives:

Lower heating cost:
about 20-40 %

Possibility of a green rate:
0.05-0.3 percentage points

Stable indoor climate and approved OVK

Total saving:
SEK 1-3 million over 10 years

Checklist: preparing a green loan

01 **Get the latest energy performance certificate**

02 Let Linervent do a **pre-study and energy calculation**

03 **Collect OVK reports and operating data**

04 **Discuss a rate reduction with your** bank based on the documentation

> *When the energy class improves, the value rises, the rate can be lowered and the property becomes both greener and safer to run*

0.05 percentage points	SEK 25,000/yr
0.10 percentage points	SEK 50,000/yr
0.20 percentage points	SEK 100,000/yr
0.30 percentage points	SEK 150,000/yr

The point: even small rate points have a noticeable effect when operating costs fall at the same time (lower heating + lower fan electricity).

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Chapter 03

Financing & value: how the energy class affects your rate

“Green loan”: typical criteria

01
Energy class A/B, or a documented class rise (e.g. E/F →C)

02
EP reduction above a defined threshold (the bank's framework)

03
Certification or declaration (Energy performance certificate, possibly Miljöbyggnad/BREEAM)

How to use our documentation with the bank

- Send the pre-study (EP before/ after + action plan)
- Attach LCC & payback and CO_2 calculation
- Show the OVK plan and how tightness gives stable flows
- Ask for a conditional discount linked to the energy class/EP achieved



04

LCC and savings



Tighter ducts reduce both heat losses and fan energy. At the same time, wear on fans and filters falls. This gives large life cycle savings:

Parameter	Before	After
Heating	100 %	60 %
Fan power	100 %	50 %
Maintenance	100 %	70 %
Total LCC	100 %	65 %

Over ten years this often means SEK 2-5 million in saved operating costs per building.

05 How the Linervent method works

Pre-study & measurement: Leakage and flows are mapped.

Lining: A flexible composite material is fed into the duct.

Inspection & documentation: Tightness and function are verified.



Cleaning: The ducts are cleaned mechanically.

Expansion & curing: The liner is expanded against the walls and fixed.

What the customer notices:

01
Better air/ indoor climate

02
Month 1: Approved OVK and a more even indoor climate

03
Year 1: Lower energy consumption

Things to consider...

- Sealed ducts are a precondition for a good indoor environment.
- With sealed ducts, the ventilation system can deliver the design flows.
- Sealed ducts are usually the most effective way to make an apartment building energy efficient.
- Duct sealing often pays for itself in 5-10 years, but residents notice an immediate improvement with good ventilation.
- Sealed ducts are a must for an approved OVK

Chapter 06

Swedish manufacturing in Ekerö

Linervent AB develops and produces all material in its factory in Ekerö. Quality assurance and continuous testing take place there. Local production reduces transport and climate impact while keeping delivery times short.

> *We want our customers to be able to trust that the material really works in Swedish conditions. That is why we are proud to produce everything ourselves here in Ekerö*

says Johan Persson

Production covers both the ventilation liner and the Linerwaste products for drain relining.



Chapter 07

FAQ and checklist

Common questions:

- How long does sealing take? → 1-2 days/apartment.
- Do residents have to move out? → No, the work is done without demolition.
- How long does the material last? → 30+ years, tested to Swedish standard.
- What happens to the ventilation afterwards? → Lower pressure drop, more even flows, approved OVK.
- Can sealing be combined with heat recovery? → Yes, sealing is often the first step.
- What about the economics? → Payback time 3-7 years, lifetime saving SEK 1-5 million.

Checklist before deciding:

- Latest OVK report
- Fan data (type, operating time, power)
- Heating statistics (3 years)
- Drawings / duct register
- Operating costs (heating + electricity)

Chapter 08

Project process **and timeline**

Week	Activity	Responsible
0-2	Pre-study, measurement, quote	Linervent / contractor
3–4	Planning, information letter to residents	Property owner
5–8	Installation and sealing	Linervent-certified installer
9	Inspection, OVK and documentation	Linervent / consultant

09

Service, training and support

Linervent offers training, technical support and project support for contractors and property owners. Customers get access to: - Installation handbook and measurement report templates

- Technical advice during design
- Self-inspection documents and checklist
- Pre-study programme with energy calculation and OVK support

> ***We want every contractor to feel confident in the method. The quality of the workmanship is as important as the material itself***
>
> says Linervent's technical manager Fredrik Carlsson



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Contact

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How to get started:

Book a pre-study Get an indicative energy class analysis Carry out a trial sealing in one stack

Do you want to know how much your property can save? Contact us for a pre-study with an energy assessment and OVK forecast.