REAL STORIES OF SUSTAINABLE RENOVATION

Interreg
Baltic Sea Region

Co-funded by
the European Union

SUSTAINABLE WATERS
NonHazCity 3

Contents

Introduction 4

From Tiles to VOCs:
How to Give a Bathroom a Much Needed Makeover 5

Top it Off the Right Way:
Long-life Roofs with Low Environmental Impact 6

Transitioning to a Greener Life:
the Tale of a Health-conscious Home Makeover 7

From PVC to Peace of Mind:
A Sustainable Kitchen Makeover 8

From Petrol Blue Walls to Greener Choices:
A Student's Guide 9

A House with History and a Cold Floor 10

Old House, New Ideas: Renovation with a Conscience 11

Ecolabels and BVB system in Sweden –
Lighthouses for Sustainable Choices 12

Insulation, Inspiration and a Touch of Back Pain 13

From VOCs to Victory:
How We Fought for a Healthier Home 14

A Natural Builder and the Chemical Detective 15

REAL STORIES OF SUSTAINABLE RENOVATION

In this collection of renovation stories, we share real-life experiences from individuals who have undertaken home improvement projects while embracing environmentally friendly practices. These stories are inspired by the DIY guide *"Toxfree, Circular, and Climate-Friendly Renovation of My Home"*, and highlight **best practices as well as** challenges faced along the way.

We hope these personal journeys will inspire you to take a step toward healthier, more sustainable renovation choices for your own home.

This material was developed as part of the **NonHazCity3 (NHC3) project** – *"Reducing hazardous substances in construction to safeguard the aquatic environment, protect human health and achieve more sustainable buildings"* with financial support from the INTERREG Baltic Sea Region Programme of the European Union. The content of this brochure is solely the opinion of the authors, not that of the European Commission.

Author: Ilze Neimane, with contributions from Gražvydas Jegelevičius, Nameda Belmane, Rose Schläfli, Lucas Schmitz, Edgaras Stunžėnas and Ulrika Broman

Layout: SIA SP & DE, kaspars@spunde.lv

Images in this brochure are sourced from the image databases Unsplash, Pixabay, and Pexels.

From Tiles to VOCs: How to Give a Bathroom a Much Needed Makeover

How we started?

Who benefited from the renovation?
What problem were they facing?

At 28, she decided it was finally time to turn her apartment into a place bearing her personal stamp — not just a space to live, but a space to belong. One day, she woke up in her modest two-room apartment in a mid-20th-century silica brick building — uninsulated and showing its age — and knew it was time for change. The bathroom, in particular, had long lost its charm (and functionality), and the rest of the apartment wasn't far behind.

Why do we care?

Reasons behind

We care about environmentally friendly renovation because we care about our future. A healthier home and a more stable climate are both key to a better life for ourselves and the next generation. Sure, tackling big issues like climate change can feel overwhelming, but we firmly believe that every small step counts.

How we did this?

Specific objectives, key decisions and solutions

The renovation started in the bathroom — a space that demands durability and moisture resistance. We replaced the old plumbing and updated the finishes, choosing materials that could handle humidity without compromising on style. Not only was the new aesthetically pleasing, it also came with a major bonus: improved indoor air quality.

Throughout the apartment, we planned layout improvements and updated wall and floor finishes. **We carefully chose materials, prioritizing those with a clearly indicated VOC content of no more than 50 g/l.** This was no mere box-ticking exercise — it was about creating a healthier living space, which is crucial in a compact apartment.

We conducted a thorough **analysis of the materials we needed, allowing for precise planning and fewer offcuts.** The result was not only less waste overall — but **less hazardous waste like leftover paint.** Speaking of paint, it's no easy task to find trustworthy information about product composition. Practical advice was essential, and after some research, we chose a **paint certified with the *Nordic Swan* ecolabel** — free from added biocides and safer for indoor use.

What will we tell neighbours?

We'll tell them that the bathroom now feels fresh and functional, and that we chose quality materials to make sure it stays that way. And if they ask for tips, we'll happily suggest preparing a **carefully thought out renovation plan before the start of the project, along with the low-VOC paints.** Good neighbours share more than sugar — they share smart renovation ideas too.

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

We probably won't mention how much time we spent squinting at tiny labels trying to find VOC information — scattered across websites, tucked into technical sheets, or hidden in fine print. It took time (and a bit of patience), but **ecolabels like *Nordic Swan*** were a lifesaver. Let's just say, in every "healthy home" there's someone who spent a few evenings up to their ears in material safety data sheets.

What will we take away?

Key takeaways for ourselves and others

To make healthier, sustainable choices in buildings, everyone — not just professionals — requires a better grasp of the physical and chemical aspects of materials. This renovation taught us a lot about low-toxicity, circular, and climate-neutral construction, and reinforced our commitment to using safer materials in the future. Learning how to assess one material made it easier to evaluate others — a skill we'll be sure to carry forward.

Top it Off the Right Way: Long-life Roofs with Low Environmental Impact

How we started?

Who benefited from the renovation?
What problem were they facing?

A young Latvian couple — an engineer and a musician — set out to renovate their 1910 log house, starting with its aging pitched roof. Seeking a safe and durable home for their growing family, they chose roofing materials with the lowest environmental impact and a lifespan of 30–50 years.

Why do we care?

Reasons behind

We care about finding environmentally friendly ways to renovate our home, because for us - it's a chance to live in greater harmony with nature. By choosing safer materials, we hope to reduce the harmful substances that can leach into the ground from our roof and façade. It's not just about protecting the environment—it's also about preserving the authentic character of our home. The idea of using traditional materials in a modern way really appeals to us, blending the past with the present to create a space that feels both natural and meaningful.

How we did this?

Specific objectives, key decisions and solutions

The old fibre cement roof had done its job. It was a legacy of an era when sustainability wasn't part of the conversation — functional, yes, but a long way from environmentally friendly. We wanted a roof that would last, and ideally, one that would not end up in a landfill in 30 years' time.

After some lively debates over coffee, **we narrowed our choice to three contenders: classic wood shingles, rustic wood chip roofing**, and the bold choice — an **extensive green roof.** And although we haven't yet made a definite decision, one thing's clear: the new roof will be a lot more than just a lid on the house.

What will we tell neighbours?

Explore options - even those you think can't afford. Doing this will help you to understand which qualities matter most to you in regard to design. **For a more rewarding and sustainable option, don't just compare prices**; also compare the quality of materials, the technology available, and the local craftsmanship on offer.

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

Even within the same grade, roofing performance can vary more than you'd expect. On the surface, two products might look identical, but dig a little deeper and the differences in durability, composition, and long-term impact become clear.

For instance, **some green roofs systems require much plastic layers and details**, while the amount of plastic can be moderated wisely. It takes time to explore the available options and helps if you start with clearly defined needs.

What will we take away?

Key takeaways for ourselves and others

Once you start thinking sustainably up top, you're bound to look around and wonder what's hidden indoors. **The more we discovered about eco-friendly roofing, the more we started questioning the materials throughout our home.** Were our walls, floors, and finishes as harmless as they seemed?

What started as a roof replacement quickly turned into a deeper mission: to create a healthier, more natural living environment. It turns out that once you open the door to sustainability, it's hard to close it again — especially when it leads to a home that feels better in every way.

Transitioning to a Greener Life: the Tale of a Health-conscious Home Makeover

How we started?

Who benefited from the renovation?
What problem were they facing?

In a 42 m² flat in a newly built apartment building in Kaunas, a 47-year-old associate professor from the Institute of Environmental Engineering embarks on a personal renovation journey. With no interior furnishings, she plans to transform the kitchen, living room, and bedroom into a safe, modern space.

In light of her daughter's allergy to VOCs from conventional materials, she's taking a DIY approach focused on low-emission, sustainable solutions.

Why do we care?

Reasons behind

For me, the main reason for this renovation is my family's health—especially my daughter's. She has allergies to VOCs, which are often found in paints, glues, and furniture. So I'm very careful about the materials I choose.

To be honest, the climate impact of my renovation is not at the front of my mind. My focus is on creating a space where my daughter can live comfortably and breathe easily.

How we did this?

Specific objectives, key decisions and solutions

With my daughter's health in mind, I wanted to take a closer look at the flooring and paints. Using a DIY guide, I started investigating safer options during the renovation process.

After comparing different options with the help of the DIY guide, I found that natural linoleum stood out as the second-best choice among all flooring types. I checked out its price and aesthetics online. Although it was clearly a healthier option compared to PVC flooring, I wasn't fully satisfied with its appearance. In the end, I decided to stick with PVC flooring—but with caution. Although the supplier promotes it as a "green" option, it provides no supporting data, so I studied the technical specifications myself.
I selected a product with formaldehyde emissions below ≤0.124 mg/m³, certified under the E1 standard for low emissions.

Although the DIY guide recommends highly sustainable options like clay-based paints, natural pigments, and limewash, I eventually chose water-based, **low-VOC paints with VOC levels as low as 10 g/L. These paints carry the *EU Ecolabel* and the *M1* certificate for low emissions.** Their resistance and washability made them a practical choice for daily life. In this case, durability and ease of maintenance outweighed the more traditional alternatives.

What will we tell neighbours?

I'm proud to share that we took a thoughtful, health-conscious approach to our renovation. We'll mention the water-based paints with the *EU Ecolabel*, chosen to reduce indoor air pollution, and how we carefully reviewed materials using a DIY guide designed to minimise exposure to harmful chemicals.

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

What won't we mention? Our brief flirtation with natural linoleum. It looked perfect on paper—green in every category, the DIY guide's top pick. But once we saw the actual designs, the romance evaporated and we quietly returned to PVC flooring. Although the supplier calls it "green," they forgot to provide any proof. At least we were on the hunt for the safest, best-looking version.

What will we take away?

Key takeaways for ourselves and others

This renovation taught us to look beyond marketing claims and to dig into the details. One key lesson: **don't trust self-declared environmental claims**—always check for certifications and technical data. For us, **durability and ease of maintenance** are just as important as sustainability, especially when it comes to everyday living.

From PVC to Peace of Mind: A Sustainable Kitchen Makeover

How we started?

Who benefited from the renovation?
What problem were they facing?

An environmental psychologist with a deep-rooted commitment to sustainable living, not just in theory but in every corner of her home, is planning to renovate her kitchen. With a background in sustainable construction and renovation, she knows the ins and outs of eco-conscious design. Her challenge: replacing the PVC flooring in her kitchen—a relic from a past renovation that clashes with her aesthetic and her principles.

Why do we care?

Reasons behind

For me, sustainability means using natural materials that don't come with a side dish of mystery chemicals. I care about the planet, and I'd much prefer not to get a headache every time I walk into my kitchen. The good news? **Sustainable materials have come a long way—they're not just healthy, they're actually stylish.** In other words, I get to have my eco-cake and eat it too. On a beautiful, non-toxic floor.

How we did this?

Specific objectives, key decisions and solutions

Renovating a kitchen solo is not for the faint hearted—or the easily frustrated. But with a bit of research, a ton of determination, and a healthy respect for both aesthetics and sustainability, I rolled up my sleeves and got to work.

The existing PVC flooring had outstayed its welcome. **I opted for click-linoleum**, a relatively low-toxicity, and DIY-friendly option that ticked all the right boxes: it's visually appealing, reasonably priced, manageable without professional help (or emotional breakdowns), and performs well in terms of chemical safety, climate impact, and circularity.

Although I couldn't get a full content declaration from the manufacturer—and my REACH request for SVHCs (Substances of Very High Concern) is still somewhere in bureaucratic purgatory—I felt confident enough to proceed based on the product's overall sustainability profile.

In the end, the process proved to be empowering. I now have a kitchen that feels healthier, looks better, and reflects my values—without sacrificing functionality or style.

What will we tell neighbours?

During this renovation, I talked to a friend about my search for toxin-free, ecolabel-certified paints. She told me that **she'd never really thought about what's in the paint she uses—just whether it matched the curtains**. But after hearing about the health and environmental benefits, she told me that she's planning to consider safer options in her own future renovations.

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

Yes, it's true—eco-friendly materials often come with a higher price tag. And yes, I did have a moment of sticker shock when comparing the cost of click-linoleum to the usual suspects. Ultimately though, cost wasn't the deciding factor for me. Knowing full well that I'd regret compromising on something so central to my values, I was fortunate enough to be able to afford the more sustainable option.

What will we take away?

Key takeaways for ourselves and others

With VOC-free paints now gracing my kitchen walls, I can confidently say that the air in my home is no longer something I need to second-guess—unless I burn toast. **The improved indoor air quality is a direct result of choosing materials that don't release questionable chemicals.** And my floor has been replaced with click-linoleum, resulting in a significant drop in phthalates and a big win for both my lungs and my conscience. It's a renovation that not only looks good but breathes better—and so frankly do I.

From Petrol Blue Walls to Greener Choices: A Student's Guide

How we started?

Who benefited from the renovation?
What problem were they facing?

This renovation marks an exciting first for a young student moving into their very first apartment—a dormitory room that offers not just independence, but also the chance to shape a space in her own inimitable style. With a strong personal commitment to sustainability, she was instantly drawn to the idea of using environmentally friendly materials. Although she was new to non-toxic paints and eco-conscious renovation, she was eager to learn. And so the project began with a simple but meaningful step: painting the bathroom walls with loving care and attention to detail.

Why do we care?

Reasons behind

A chat with one of the project experts made me aware of the potential health risks linked to toxins in conventional products, which really shifted my perspective.

Since then, I've been much more careful in regard to the materials I choose. Environmental protection has always been important to me, and the financial support available for eco-friendly options made it easier to make better choices without going over my student budget.

I'm naturally drawn to soft, earthy tones and the imperfect charm of natural materials—I just find them more honest and personal. Choosing sustainable options matches my values and style.

How we did this?

Specific objectives, key decisions and solutions

The plan was simple: paint the bathroom walls a deep blue or petrol colour and maybe even give the tiles a little glow-up with adhesive covers. This was my first real chance to make a space my own, so I tried to be creative without accidentally ruining anything.

Originally, somewhat absentmindedly I picked out PVC flooring and solvent-based paint. But after diving into the DIY guide (and realising that some of those materials are basically the environmental equivalent of junk food), I decided to rethink things. I checked out how they scored on stuff like toxins, climate impact, and durability—and let's put this way, the results were not exactly inspiring.

I've already made one solid move in the right direction: I used lime paint and steered clear of hazardous substances — because breathing clean air in your own bathroom shouldn't be a luxury.

What will we tell neighbours?

If anyone asks, I'll proudly say that I went for natural paints, skipped the toxic stuff, and even looked into greener flooring options. In passing, I might mention that I read up on ecolabels and made some smarter choices—because yes—I care about the planet and my lungs.

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

Even though natural linoleum flooring scored way better than PVC in almost every category, I still went with PVC in the end—mostly because it blended better with the rest of the space. Sometimes even when your eco-conscience puts up a good fight, aesthetics still come first.

What will we take away?

Key takeaways for ourselves and others

This renovation may have started with a simple idea—painting the bathroom—but in the end I learned a lot more than I expected. **I've become much more aware of how building materials can affect health, especially when it comes to indoor air quality.** Even though I didn't go 100% eco-perfect, I made better choices wherever I could, learned to ask the right questions, and realised that sustainability isn't about doing everything—it's about doing something. And that's a pretty good place to start.

A House with History and a Cold Floor

How we started?

Who benefited from the renovation?
What problem were they facing?

Built in 1920, this charming stone house has seen its fair share of seasons, stories, and structural tweaks. In the late 1990s, it was given a wooden extension—roughly 15m2 in size—that added some extra space and, unintentionally, a very chilly floor. With hardly any insulation underneath and a foundation that could politely be described as "minimal," the 3x5 meter area has become the next objective for a much-needed upgrade.

The homeowners, a married couple in their mid-50s with academic backgrounds, stumbled upon the project info stand and were instantly curious. And so began their journey into the world of eco-conscious renovation—one cold floorboard at a time.

Why do we care?

Reasons behind

I've discussed this with friends for years—**renovation isn't just about fixing what's broken, it's about making smart choices that last.** For me, it's totally clear: if a material holds up over time, it's not only better for the environment, but it also saves money in the long run. Nobody wants to redo the same job every decade if they can possibly avoid it.

When we started giving some serious thought to renovating the extension, I wanted to focus on durability and health. We'd already been curious about how building materials affect indoor air quality. This is no mere a renovation—it's a chance to make our home healthier and more future-proof.

How we did this?

Specific objectives, key decisions and solutions

Since the extension was built about 25 years ago, we had no idea what was hiding under the floor. What we did know was that there's hardly any insulation and no real foundation, which meant we were in no position to just use any material we liked. Hence the plan: insulate first, then figure out what can go on top.

The existing floor is tiled, which gave us a few options. We considered cork, more tiles, or something that could be poured over the current surface. After reading the DIY guide, I realized my plan didn't get more expensive—just smarter. Thanks to the guide, I ruled out cork (sorry, cork fans) and leaned towards wooden flooring instead.

We selected solid larch wood flooring due to its favourable thermal properties and aesthetic appeal. Larch has a warm, amber-toned grain that enhances the visual warmth of the space.

One big eye-opener? Glue. The guide made it very clear that **many adhesives are not great for health or the environment.** From now on, I'm avoiding glue wherever possible, which, as it turns out, is trickier than expected but definitely worth it.

What will we tell neighbours?

We're proud to share that we're insulating the floor and choosing materials that won't make us regret everything in five years. It's nice to know that what started out as a personal project has inspired a few others **to think twice before grabbing the cheapest paint or flooring on the shelf.**

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

What we won't tell the neighbours is just how much effort went into making the floor look "effortless." From the outside, it's all sleek and smooth. But underneath? It's a miracle of modern engineering—and a testament to the power of not asking too many questions.

What will we take away?

Key takeaways for ourselves and others

With the future in mind, I'll definitely pay closer attention to the climate aspects of any renovation work we do. And I've made a personal note to do more research into the chemical content of materials before bringing them into our home. **It's not about being perfect—it's about being better informed and making smarter choices**, one layer of flooring at a time.

Old House, New Ideas: Renovation with a Conscience

How we started?

Who benefited from the renovation?
What problem were they facing?

Spanning approximately 150 m² and built in the 1960s, this two-story villa is owned by a 72-year-old retired architect. His 35-year-old nephew resides in the home. An exterior renovation—focused on the plaster façade, windows, and doors—is underway, and is due to be completed sometime between 2024 and 2025. The project carefully balances preservation and renewal, informed by the owner's architectural background.

Why do we care?

Reasons behind

While environmental impact is not the most important consideration in this renovation, efforts have been made to minimise unnecessary waste. **For aesthetic and financial reasons, preference was given to repairing original elements—such as windows—rather than replacing them.**

Waste has been sorted and transported to recycling facilities, paying particular attention to health and local environmental effects rather than broader climate concerns.

How we did this?

Specific objectives, key decisions and solutions

Our main rule has been to avoid buying anything new unless absolutely necessary. To improve the environmental profile of the renovation, we used resources such as the Swedish Building Product Assessment (Byggvarubedömningen, BVB), ecolabelling, and the DIY guide. These tools helped us to identify safer alternatives to conventional chemical products, particularly in categories such as paint, primer, joint compound, plaster, and cement-based fillers.

In light of the fact that some of the products originally used did not have ecolabelling—and one was actually rated "Avoid" by BVB—subsequent efforts focused on identifying replacements with better environmental assessments. For example, two alternative sealants rated "Accepted" by BVB and one approved by the BASTA system were identified as suitable substitutes.

This whole process demonstrated how helpful it is to have easy-to-understand advice and product comparisons—they make it much easier to make smart choices without sacrificing quality.

What will we tell neighbours?

„We've tried to make smart, sustainable choices wherever we could—reusing whatever we could and picking better materials when we found good options."

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

Finding eco-friendly alternatives is not always as easy as one may think. While we've done our best to choose better products, not everything is available at the local DIY store. **Sometimes, one is forced to compromise between what's ideal and what's actually available on the shelf.**

What will we take away?

Key takeaways for ourselves and others

"In my continued renovation, I will endeavour to replace other products with eco-labelled or environmentally assessed products," says the owner.

Ecolabels and BVB system in Sweden – Lighthouses for Sustainable Choices

How we started?

Who benefited from the renovation?
What problem were they facing?

The renovation started with a simple goal: to make life easier for the environment-friendly 93-year-old owner of a summer house. For instance, his shower cabin was showing signs of moisture damage. With visits from his daughter, grandkids, and friends, it was clear that a solution was required. This small makeover made a big difference—bringing comfort and safety.

Why do we care?

Reasons behind

I've always cared about the environment, though I didn't used to think of it in those terms. When I built most of my house using wood from my own forest, it just felt natural—practical even. I didn't need to buy much, and I knew where everything came from. Over time, I began to ask myself how the choices I make affect my health and that of the planet. I try to buy reasonably priced things that work well and are easy to use. These days I also think about how they're made and the impact they leave behind. It's not about being perfect, just thoughtful.

How we did this?

Specific objectives, key decisions and solutions

We had a careful look at the ecolabels on the paint and sealant, and checked products in the *BVB system* to make sure they met good environmental standards. I assumed that installing a shower cabin would be simpler and more sustainable than building a full wet room with moisture barriers and layers of waterproofing. To make sure it would last, we chose a more expensive model—**better to invest once than to replace often.**

We also considered the question of waste. Packaging was sorted and recycled, and the old shower tray and walls found a second life in the garden. The paint we used was ecolabelled, and we made sure the leftovers could be used elsewhere in the house.

Ultimately, it wasn't about being perfect—it was about making thoughtful choices, step by step, that respect the home I live in and the world outside.

What will we tell neighbours?

If the neighbours ask, we'll say it's a classic summer house solution—nothing fancy, just smart. A shower cabin that doesn't leak, doesn't require a construction crew to waterproof the floor, and won't surprise you with a puddle in the hallway? Sounds good to me.

We went for the more expensive model—not to impress anyone, but because we'd rather install it once and not have to think about it again until the grandkids are renovating *our* renovation. It's practical, clever, and just the right degree of "green." Besides, who doesn't love a renovation story with a happy ending and no mould?

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

We probably won't mention how choosing a paint turned into a mini science project—or that we still don't fully understand what silicone sealant contains. Although we chose eco-labelled products, the choices weren't always simple.

Although we did recycle most of it, there was a lot of packaging. The leftover sealant? Hazardous waste. The extra paint? Hopefully useful next year… if we remember it's there.

What will we take away?

Key takeaways for ourselves and others

Next time, as a homeowner I'll know exactly what to ask for: **ecolabelled products** or those assessed in the *BVB system*. The renovation reminded me how important it is to think about what we bring into my home—and where it ends up.

Insulation, Inspiration and a Touch of Back Pain

How we started?

Who benefited from the renovation?
What problem were they facing?

Andrius, 36, is a systems engineer specializing in plumbing and building infrastructure. He and his wife are building a home for their young family—including two small children—with the clear goal of creating a healthy, sustainable living space.

He has long been interested in environmentally friendly construction. While working in Germany under a master builder, Andrius acquired hands-on experience with materials that are kind to both people and the planet. Now, back home, not only is he putting that knowledge into practice—he's eager to learn more.

Why do we care?

Reasons behind

We believe that the building materials we use shouldn't contaminate the soil, air, or water. A home should be a safe space, not a source of hidden pollution. While we didn't focus much on climate change in this project, we made a conscious effort to choose **long-lasting, environmentally friendly materials**.

How we did this?

Specific objectives, key decisions and solutions

As we planned our home, one of our top priorities was understanding **what's actually in the materials** we use. I started by checking the **chemical content** of current products and reaching out to manufacturers for more detailed information—especially for coatings, adhesives, sealants, and plasters.

We focused on selecting materials that are **safe for human health**, avoiding common conventional solutions like: **polystyrene insulation, mineral or glass wool, OSB boards.** Instead, I looked into alternatives like **wood fibre insulation mats and panels**, but even here, I wanted to know: *What kind of flame retardants are used?* So I made sure to check that they didn't contain **hazardous brominated or organophosphorus compounds**.

What will we tell neighbours?

At first, our friends, relatives, and neighbours watched our project like it was a reality show, with equal parts curiosity and skepticism. You could almost hear them thinking, *"Let's see how long this 'eco-house' idea lasts."*

But as the walls went up and the story got out—literally, on national TV—the tone changed. Suddenly, we weren't just "those people with the weird insulation," we were *the people to ask*. A couple even reached out to us after the broadcast, asking for advice on building their own health- and eco-friendly home.

Now, friends ask us which paint is safest, which sealant won't gas them out, and whether we can help them to choose. Sometimes, neighbours drop by mid-build for tips. Other times, they visit proudly waving a paint can with a *Nordic Swan* ecolabel, saying, *"Look what we got!"*

Even our architect gave us a big thumbs-up for our sustainable goals. So yes, **we may have raised a few eyebrows at first—but now, we're raising awareness.**

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

We won't mention that our eco-friendly insulation and interior choices—like wood fibre instead of standard OSB and foam—were nearly twice as expensive, and required a tighter, more stressful schedule.

Our house may end up 30% pricier than a typical build. Take the roof: clay tiles were as costly as metal, and installation was twice the price (though we saved by doing it ourselves—at the expense of our backs). And the foundation? We dreamed of glass foam insulation, but at 10x the cost of XPS, we had to compromise—with style (and spreadsheets).

What will we take away?

Key takeaways for ourselves and others

In 20 years, when green construction becomes more mainstream, I believe that homes like ours will be in high demand. If our sustainable choices perform well—without issues like moisture, condensation, mold, or fungal damage—the **value of our house will only grow**. It's an investment in both our family's well-being and our future.

From VOCs to Victory: How We Fought for a Healthier Home

How we started?

Who benefited from the renovation?
What problem were they facing?

Law graduate and mother of two Kristina joined the DIY renovation campaign after a troubling experience with construction materials. A strong chemical odour in her home led to respiratory and eye irritation—probably caused by uncertified stretch ceiling components imported from outside the EU.

For Kristina, this renovation isn't just about walls—it's about wellness, awareness, and—most importantly—making sure her home is truly a safe space.

Why do we care?

Reasons behind

I've always been sensitive to my environment. Being allergic to dust and cats, I've learned to be careful. I choose healthy food, check labels on cleaning products and cosmetics, and always opt for tox-free options if I at all possible. When it came to building our home, I took the same approach. I wanted to make sure the materials we used were safe—not just for me, but for our whole family.

After experiencing health issues linked to building materials, we realised how much the air between our walls matters. It's not about saving the planet—it's more about protecting our loved ones. Although we're not building on a global scale, every choice we make influences the space our family grows up in. That's reason enough to care deeply.

How we did this?

Specific objectives, key decisions and solutions

Not long after we installed a certified PVC stretch ceiling, I started experiencing respiratory and eye irritation. Even though the product had labels claiming low VOC emissions, a strong chemical odour convinced me that something was wrong.

I took matters into my own hands and arranged indoor air testing through the National Public Health Laboratory in Vilnius. The results were alarming: **high levels of phthalates and phenol in the air.** Although the strong odour we noticed was probably caused by other volatile organic compounds (VOCs), the air test results still raised serious concerns. According to scientific literature, phthalates don't typically cause immediate symptoms like respiratory or eye irritation. Their real danger lies elsewhere: **many phthalates are known to disrupt the endocrine system and can lead to reproductive and developmental issues.** For a young family with two small daughters, these long-term health risks are simply unacceptable.

Digging deeper, I discovered that the ceiling's attachment components were made from PVC and weren't certified. What's more, they'd been imported from outside the EU. Eventually, the company agreed to dismantle the ceiling—but it took nearly a year of waiting and persistent communication for this case to be settled.

As part of our DIY project, we carefully searched for safer materials and analysed all the materials already in use. Another product stood out: the wall plaster. Its styrene-acrylic copolymer based composition was a cause for concern, because according to scientific literature, the copolymers could contain phthalates. However, its safety data sheet (SDS) only listed *isothiazolinones* among the hazardous ingredients.

Other alternative materials we used include zero-VOC and preservative-free indoor paint, as well as ***Blue Angel* ecolabel certified** laminate flooring, which the family researched itself before deciding to use it.

Finally, in our search for an alternative ceiling, we decided to use gypsum plasterboard ceiling in most of our rooms. We realised we should have originally chosen typical, time-tested materials with known properties, and we definitely advise others to avoid synthetic and exotic materials in their homes.

What will we tell neighbours?

We'll definitely tell the neighbours that our journey to uncover the truth was worth it. After months of back-and-forth communication, tests, and enough e-mails to comprise a novel, our consumer rights case against the stretch ceiling company was decided in our favour. They had to refund the full cost—installation and all.

So yes, we'll share our story. Not just because we love a happy ending, but because others deserve to know that you *can* stand up for your health and your home—and win. And if anyone's thinking of installing a stretch ceiling, we'll just raise an eyebrow and say, "Would you like to hear our story?"

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

We probably won't mention that if we'd planned to use sustainable materials right from the start, we could've avoided the whole stretch ceiling mess. Although seemed like a good choice at the time—certified, modern, and stylish— it proved to be a lot more trouble than it was worth. In hindsight, simple plasterboard would've been the healthier, safer option.

What will we take away?

Key takeaways for ourselves and others

If there's one lesson we're taking with us, it's this: plan for sustainability right from the start. Choosing safe, eco-friendly materials early on is not just about being green—it's about protecting your family, your time, and your peace of mind. Next time, we'll trust our instincts, do the research up front, and build smarter from the outset.

A Natural Builder and the Chemical Detective

How we started?

Who benefited from the renovation?
What problem were they facing?

Almantas, 36, has spent his entire professional life working in construction. He has designed homes, managed builds, and worked hands-on as a builder. Almantas joined the DIY household campaign with a clear goal: to better understand ***hazardous chemicals in building materials*** *and how to avoid them. His motivation is both professional and personal—he wants to protect his customers from the effects of hazardous chemicals and to avoid using unnatural materials in his natural construction practice if at all possible. Over the years, customers have shared stories that have resonated with him: a woman whose respiratory issues vanished after moving into a clay house, and a child whose severe allergies eased dramatically after switching to clay-based interiors. These experiences have reinforced his belief in the benefits of* ***natural materials****.*

Why do we care?

Reasons behind

I've seen the effects of toxic building materials first-hand. Synthetic materials and hazardous chemicals in the indoor environment, especially just after renovation, can impair health, causing respiratory issues and allergies. That's why I care. I want to understand what's in the materials I use, so I can build homes that are not only environmentally friendly and beautiful, but also safe for the people living in them.

How we did this?

Specific objectives, key decisions and solutions

For this project, I focused on the interior work—mainly building partitions and setting up the layout of the rooms. My initial plan was to use plasterboard for the partitions, combined with Isover acoustic wool for sound insulation. The surfaces will probably be finished with decorative clay coating in line with my preference for natural materials.

My main goal in joining this campaign was to deepen my understanding of chemicals in construction materials—not just for this project, but for my broader building practice.

In this renovation, we worked with primitive yet versatile materials: clay, sand, and straw. The biggest difference between this and a conventional home lies in the wall composition—natural materials "breathe", regulate humidity, and don't emit harmful substances.

Interestingly, the overall cost of a cob house isn't necessarily lower. It's roughly comparable to conventional construction, but the benefits in terms of health and indoor climate mean that it's a worthwhile investment.

What will we tell neighbours?

We'll tell the neighbours that we chose **natural materials** like clay and straw—not just because they're healthy and locally sourced, but because they're the kind of house components that **don't haunt landfills for centuries**. When their job is done, they simply return to the earth—no drama, no pollution, no awkward goodbyes.

We'll also tell them that using **local materials** means a smaller footprint and fewer trucks rumbling across the country. What's more, it feels good to say, "Yeah, that wall? It's basically made of the same stuff as the field next door."

And if anyone asks why we didn't go with something more "modern," we'll just say, "Because our walls breathe better than most people after a yoga class."

What will we not tell neighbours?

What were the greatest challenges and compromises you had to make?

We won't mention that sometimes figuring out whether a material is hazardous or sustainable feels like needing a **PhD in chemical detective work**. Labels don't always help, and unless you're fluent in the language of VOCs, phthalates, and formaldehyde, you're guessing.

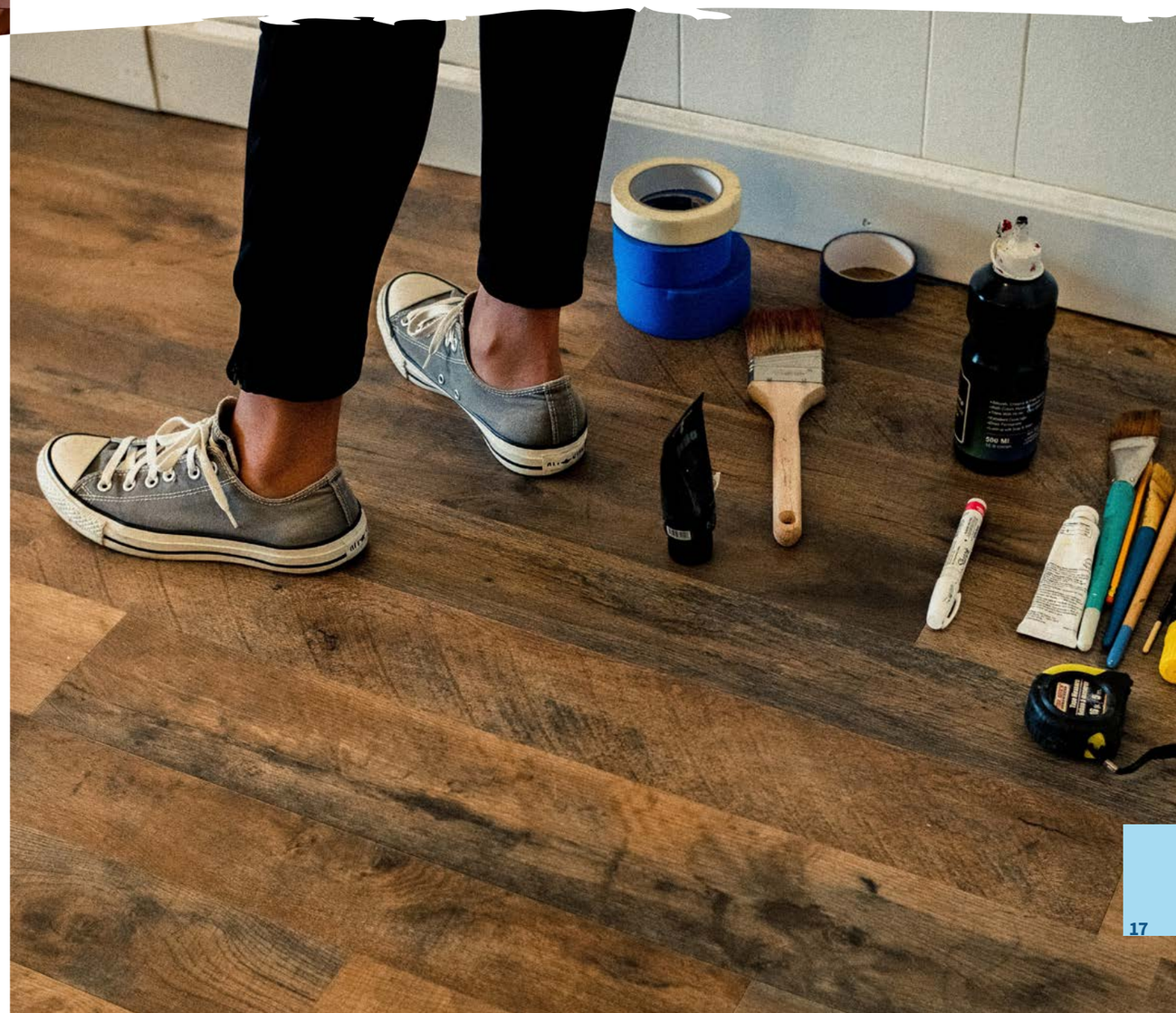
We also won't bring up the moment we realized that **wooden-framed windows cost 2–3 times more** than PVC ones. So yes, we went with the conventional option. There are times when budget talks louder than eco-ideals.

And while we're all for natural materials, we're still wondering: **Is inhaling clay dust bad for you? What about lime dust?** We love the earthy vibe, but we're not trying to inhale the walls (as inhaling any kind of dust is not good for you). Thus we learned that personal breathing protection is recommended.

What will we take away?

Key takeaways for ourselves and others

If there's one thing I'm walking away with, it's this: **knowledge of chemicals is not just powerful** but also invaluable. Before this, I didn't even know that some of these hazards existed. Now, I've started looking at materials differently, asking questions I never thought to ask: *Is this safe for human health? What's actually in this product?* Learning to read and analyse chemical data might not sound exciting, but it's like getting X-ray vision for building materials. It's helped me think more critically about what I use—not just for myself, but for the people I build homes for. And while I'm still no chemist, I now know enough to be cautious, curious, and just a little bit nerdy about what goes into a wall.



www.nonhazcity.eu

Ekodizaina kompetences centrs

Ecodesign Competence Center

www.ekodizains.org

EkodizainaKompetencesCentrs