The Green Bath.

hansgrohe.com

Table of contents

Editorial

Is sustainability when renovating or building near and dear to your heart?
Excellent. If you're rethinking your bathroom, you'll find an eco-friendly (or friendlier) variant for almost all equipment elements and building materials today.

The great thing: The next generation of bathrooms shines with a high design and experience factor and does away with eco-chic. It points to the future with stylish functionality and smart tools. The pleasant thing: There's no compromise on wellness, comfort, or luxury.

With this guide, we aim to inform you about the green bathroom, let an expert speak on the subject of "healthy living," and provide help in making your decision.

Green Furnishing Tips for Your Renovation

Sustainable Renovtion Has Never Been Easier

A lot has changed – fortunately for people and nature. Questionable building materials and materials that emit harmful substances year in and year out are becoming less and less available. The same is also true for gluttonous water guzzlers or paradises for mold cultures.

The green bathroom focuses on economical use of precious resources. And the wellbeing of people.

You can incorporate countless environmentally friendly considerations into your bathroom renovation or new bathroom construction. What you give thorough consideration before buying will reduce your ecological footprint in the long term – and benefit the health of your entire family.

Here are tips and suggestions on products and installation elements that you can use in a sustainable redesign of your bathroom.

Environmentally friendly furnishing tips

Shower Trumps Bath Tub

Only install high-quality products.

That cheap shower or low-quality plastic shower screen from the discount store will often give up the ghost in no time at all. These kinds of wear-and-tear products are a waste of money and materials; buying them more than once unnecessarily pollutes the environment.

Tip:

Create timeless, quality products that will last a long time and will be easy to recycle later on. Recommended materials are chrome or chrome-plated brass and enameled steel. Additionally: stainless steel, glass, granite, marble, stone or wood.

Shower instead of taking baths

Bath tubs as big as swimming pools are out. Sorry. The same is even true for normal-sized tubs: You can save an enormous amount of water and energy if you do away with them in your bathroom altogether. After all, an average of 100 to 200 liters rush through the pipelines every time you take a full bath, and each of those liters takes energy to heat.

When showering, it's only 40 to 60 liters. Those who invest in a modern shower system with multiple showers can enjoy an equally soothing time-out for body, mind, and soul. Installing a floor-level shower without tripping hazards is a good for provision for older users. Anything that is fit for the future is sustainable.

Tip:

If you don't want to give up your beloved full bath, why not build yourself a space-saving bath with a smaller filling volume? Perhaps you'll consider where else you can save resources – as compensation, so to speak?

Focus on energy-efficient equipment.

Whether it's a shower head, radiator, faucet, lighting, or washing machine, look for the energy efficiency class when buying a new product and choose environmentally friendly models in classes A to A+++. Thermostats with fixed temperature settings will also reduce your energy costs, as they eliminate the need for tiresome readjustments.

Tip:

Economical, ecologically thought-through products consume fewer valuable resources and quickly pay for themselves.

Well-being without a bathtub: microfine PowderRain spray comes out of the Pulsify shower. The Vivenis faucet line surprises with a resource-friendly waterfall at the washbasin.

Water consumption can be actively controlled on the hansgrohe ShowerTablet Select, which saves precious resources.

Choose clever operating functions.

The "user-friendliness" of bathroom design is a major comfort issue. Another exciting aspect here: Functions that make it easier to turn off the water or quickly stop water flow can conserve valuable resources. These include: pushbuttons on thermostats or touchless faucets with sensors instead of levers. Toilets with dual-flush systems can also be installed or quickly retrofitted.

Tip:

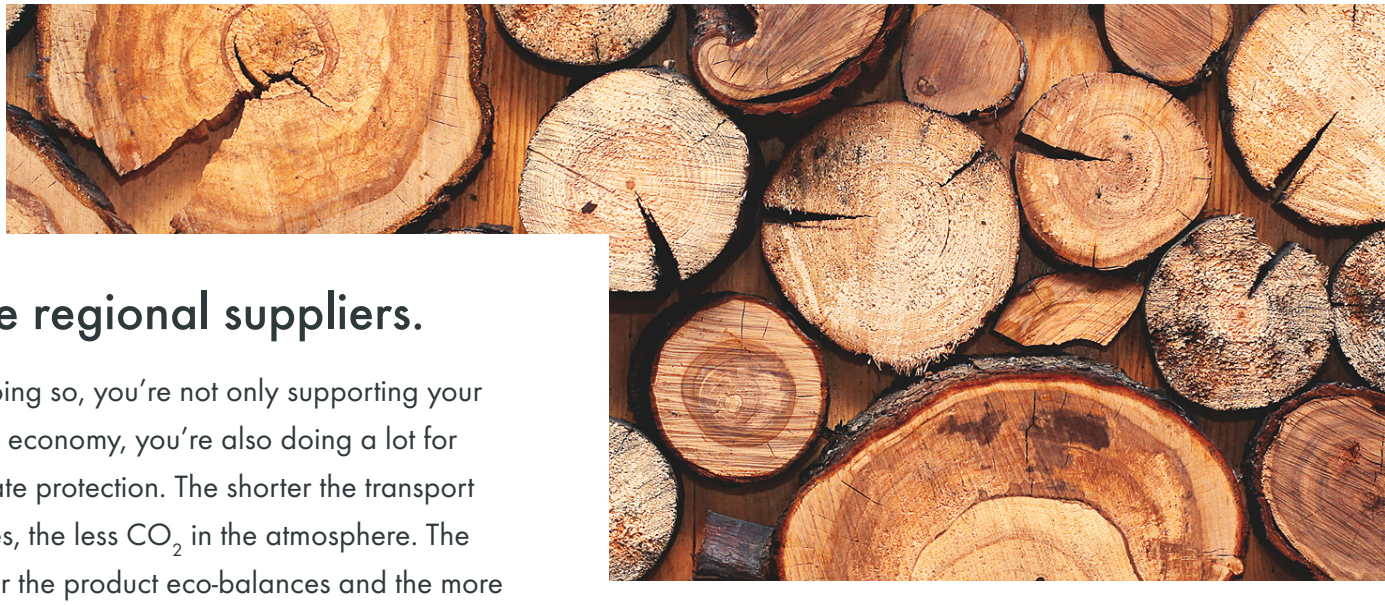
Why not take a stroll through a bathroom exhibition? The sanitation experts on site will be happy to advise you on sustainable technologies.

Buy water and energy efficient faucets and showers.

The reason: they have technical features that throttle water flow. This also means that every liter saved doesn't have to be heated, something you'll immediately notice on your electricity or gas bill. We also recommend faucets with cold water start – they automatically save energy every time they are used.

Tip:

Keep an eye out for terms like "flow limitation" or "water saving function."



Use regional suppliers.

In doing so, you're not only supporting your local economy, you're also doing a lot for climate protection. The shorter the transport routes, the less CO_2 in the atmosphere. The better the product eco-balances and the more sustainable the supplier value chains, the better for the environment.

Tip:

The rule of thumb for bathroom furnishing: Local trumps global.

Look out for environmental seals, eco-certificates, and test labels.

The production conditions of manufacturers are admittedly often difficult to trace, and require research work. Quick and reliable indications of the climate compatibility of products or services are life cycle assessments or eco-labels.

Tip:

Find out which test certificates are relevant for consumers on page 20.

Opt for materials that are healthy for the home.

Evaporating paint and pollutants in floors, walls, or furniture can have adverse effects on health, such as triggering allergies or asthma.

Tip:

Keep clear of polluting materials and cheap plastic junk! You can find out more about this topic in the interview on page 12.

Green Building: Sustainable New Construction

Build New with High Residential Health and Interior Quality

Just a few decades ago, there was little knowledge about how things like negatively volatile organic compounds could affect our health. In fact, the beautifully colorful PVC world of the old days was more of a shadowy realm. And even today, there's still evil lurking in the bathroom.

Whether it's asbestos, biocides, formaldehyde, flame retardants, phthalates, or organotin compounds, the list of ingredients still used reads like the recipe book of a malevolent poisoner. Yet we now know that many non-specific complaints such as headaches, malaise, or allergies can be traced back to irritating, outgassing substances in our living spaces. Some of them have such aggressive emission behavior that they can make you chronically ill. Luckily, if you're building new or renovating, you can do so comprehensively to make sure you get rid of the old pollutants!

The rule of thumb for healthy bathroom construction is: the fewer pollutants and mold, the better the indoor air quality.

Tips:

Make sure that wall paints, floor coverings, adhesives, insulation materials, wood materials, or surface coatings do not contain any substances or solvents that are harmful to health.

Ask your specialist retailer about "emission-free," "allergy-friendly" or "diffusion-open." Good environmental labels evaluate and recommend building materials that far exceed the legal requirements (see also: page 20).

Avoid small tiles with a high proportions of grout, as they can be a reservoir for fungi and germs. The better choice: seamless or low-grout ceramic or natural stone surfaces and mineral plaster.

Let us advise you on bathroom furnishings optimized for damp spaces. When it comes to wood, the following also applies: Exotic woods are a no-go! It's best to buy domestic woods such as beech, oak, or larch. The more sustainable the cultivation, the better.

"The most important aspect by far from an ecological point of view is longevity."

Interview

Residentially Healthy

*We asked **Barbara Bauer** from the **Österreichisches Institut für Bauen und Ökologie GmbH** (Austrian Institute for Building and Ecology, IBO) to classify some building materials and products in the bathroom from an ecological point of view.*

Mrs. Bauer, Which low-emission materials are particularly recommended for the bathroom and which materials are more critical?

Due to the high humidity, wall paints should be hygroscopic, i.e. absorb water – and also be able to release it again. I recommend things like clay plaster with clay paint, natureplus-tested silicate paint, or lime paint. Be careful with glue and emulsion paints! They can be a food source for mold. In the splash area, it's best to have tiles or Tadelakt, a handicraft complex plastering technique, laid out without seams. Tiles are also available with recycled content.

Barbara Bauer has worked at the IBO since 1995, focusing on building materials and interior quality. She accompanies large and small construction sites in product selection, according among other things to the criteria of the German Sustainable Building Council or the klimaaktiv building assessment system. Bauer is a member of the board of natureplus.

Natural stone is usually waterproofed, as otherwise there would be unsightly stains. However, this kind of waterproofing can be questionable; the same is also true for floors. Limestone without a surface coating – such as Solnhofen slate – is considered alkaline and therefore mold-resistant. Caution: The larger floor tiles are, the more plastic is needed in the tile adhesive.

Concrete floors that are ground and surface-finished are also seamless. Instead of solutions also known as 'industrial floors' – which contain highly reactive raw materials such as polyurethane or epoxy resins – you can use the less questionable silicate. Many consumers want natural wood floors, but please install parquet only if the room is well ventilated – and maybe not directly in splash areas.

What about life cycle assessments – for sinks and bath tubs, for example? Which materials are particularly sustainable?

By far the most important aspect from an ecological point of view is durability. If the sink or bath tub have a long service life, that can make up for some things that may not be optimal in terms of materials. Naturally, materials that don't degrade over centuries and contaminate the water are off-limits. Almost more important than the building material, however, is a bath tub's capacity. Large tubs lead to high hot water consumption, and thus high energy expenditure.

My first choice for sinks would be ceramic, then enameled steel, and oiled wood for enthusiasts. Ceramic lasts a long time and is easy to clean, and disposal is unproblematic. Enameled steel can be melted down again, so it is a true recyclable material. Opinions are divided when it comes to mineral casting: these kinds of tubs made of mineral-organic compounds feel pleasantly warm. But what will happen to them after removal? Mineral casting contains combustible plastics mixed with incombustible stone powder.

When it comes to bathroom design, timelessness is an absolute must, as tiles, bath tubs, and sinks are often replaced before the end of their technical life. But because a lot of manufacturing energy goes into these materials in particular, they should be used for as long as possible. More short-lived accessories can also bring variety and fresh color.

Very important: easy-care surfaces, so you can use fewer (less aggressive) cleaning agents. Another thought in terms of climate protection: thick, heavy natural stones or tiles have to be laboriously transported, consuming fuel. Tiles are also fired at high temperatures, which also causes considerable CO_2 emissions.

If at all possible, avoid silicone. Silicone connections are usually technically necessary, but organotin compounds and butanone oxime, which is classified as a suspected carcinogen, are often used. Alternatives to silicone are Schlüter rails or Bette frames.

Wall niches XtraStoris are high quality and easy to clean. Aggressive cleaning agents are not required.

The keyword is "contaminated sites": What do renovators do with problematic substances from their old bathrooms?

Building materials from the period after World War II up to the 1970s are the cause for most concern today. If you want to demolish a typical 1970s bathroom – or are unsure about PVC, asbestos, lead, and similar dangerous substances – it's worth hiring a deconstruction expert or building biologist. He or she will inspect your inventory and provide you with comprehensive advice. Whatever you take out of the old bathroom: The materials must all be disposed of properly and sorted by type. Enameled steel and pipes can be recycled. Mineral materials such as tiles or screed are mostly harmless. Plastics of all kinds have to be separated; they go to the waste incineration plant.

Otherwise, I find it worrying how many questionable ingredients are repeatedly found in building materials. In recent years, the infamous asbestos, which was banned in Germany in 1993, has been discovered in tile adhesives. And that's just one example from the past. But when we build new, we have to do it with as little pollution in production, use, and disposal as possible. I know that the abundance of substances is unsettling. So my advice and my request: Get reputable, independent information on the environmental and health compatibility of all the materials you want to use in your new bathroom. That way, you can enjoy your new bathroom to the fullest.

Consumer tip

Look Up Certified Products Online

For consumers, planners, and artisans wanting to compare healthy, sustainable building materials and products: The database www.baubook.at/natureplus will help you learn more.

There, you will find all products certified by natureplus (around 600). You can access information relevant to interiors and obtain product-specific data and test results. Free of charge and with no registration.

Even more is possible in new construction:

Systematic Resource Conservation

Because water and energy are becoming increasingly precious, hotels and other large-scale users are investing in recycling systems that reduce costs in the long term. Many home-builders are also fascinated by the idea of integrating ecologically valuable cycles. If you want to use resources more efficiently – even multiple times – in your private bathroom, a cost-benefit analysis is recommended. It's best to talk to building professionals, energy consultants, or plumbers who can help you figure out whether the purchase, operation, and maintenance of the systems will be worthwhile for you. Don't forget: Many sustainable projects can receive municipal funding.
What are the options?

WATER: Don't waste another drop

No. 1: Collect rainwater and direct it into the house. In addition to watering the lawn, rainwater is ideal for flushing toilets, cleaning, washing cars, or doing laundry. The more precipitation there is in your region, the greater the demand for water in the house or yard, the more interesting the purchase of a storage and filtration system. Tips: Use manufacturers' websites to calculate what your needs are and what storage capacities you require. Be sure to find out what your municipality's requirements are for domestic use of rain. Brochures on the subject can be found, for example, at the Professional Association for the Use of Industrial Water and Rainwater (Fachvereinigung Betriebs- und Regenwassernutzung, www.fbr.de, German website).

A lot of water also accumulates in the kitchen. The Aquno Select M81 kitchen mixer is particularly efficient. The flat spray needs only 4 l/min of water and cleans delicate fruit and vegetables carefully.

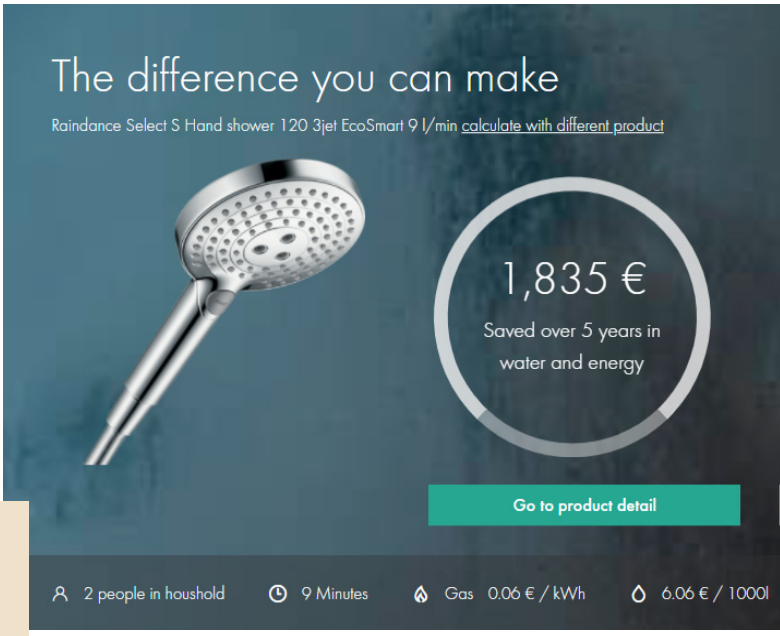
No. 2: Install a gray water recycling system so that used water from the shower, bath tub, or sink can be used again. However, the service water must not be heavily contaminated – for example, with grease from the kitchen or fecal matter from the toilet (= black water). The treated, sterilized service water is no longer of drinking water quality, but can be used for many things around the house and yard – see rainwater. This saves fresh water, and therefore also wastewater and drinking water fees. In private households, however, water recycling only makes sense if consumption is very high. Tip: Combine several households at once.

ENERGY: Collect, store, and make optimal use of heat

No. 3: Heat or preheat water with solar energy. In times when summers are getting hotter and winters milder, it is more true than ever: The sun is an inexhaustible supplier of heat that can be tapped all year round – with the help of solar cells, (mini) photovoltaic systems, and solar collectors on roofs or facades. It's good for the climate and good for your wallet. If you find the right solar system for your bathroom, the energy savings can be immense. Tip: Compare products and providers thoroughly and calculate the energy yield online.

No. 4: Rely on professional ecological thermal insulation. If you have your new (bathroom) construction optimally insulated, you can save on heating costs, blow less CO2 into the atmosphere, and maintain your property value. Tight windows are also the be-all and end-all in the bathroom. The rule for all materials to disappear for years behind the plaster: moisture- and rot-resistant, durable, and recyclable. Tip: Use building biologically tested and certified insulation materials that increase the health of the home and improve the indoor climate.

No. 5: Reduce energy consumption with heat recovery. While still-hot bath water or warm exhaust air usually disappear "into the ether," the recovery or recirculation system captures the heat and keeps it in the house, where it can heat cold water or warm rooms. Good ventilation systems with heat recovery exchange moist, stale air for fresh. This is also good against mold growth. The required heat exchanger can be located in the chimney, for example. Tip: Ask about heat recovery systems that can also recycle gray water.



Find out quickly and easily using the water savings calculator how much you can save with hansgrohe products. Showers and faucets with EcoSmart technology require up to 60% less water than conventional products.

Calculate your saving potential now: hansgrohe.com/savings

Good Signs for the Environment

They help orientate consumers and motivate manufacturers to make their products ever more environmentally friendly, healthy for the home, and fit for the future: independent eco test seals. Which labels can you rely on for sustainable building and renovation? We've compiled a selection of meaningful certificates for you.

Tip:

Tip:

You can find more labels and detailed information on the free specialist portal www.baunetzwissen.de (German website) under Nachhaltig Bauen (Sustainable Building). Here, you will find many well-substantiated articles on the subject, including a glossary with more than 4,000 explanations of terms.

In the Bathroom I Am Human, in the Bathroom I Can Be

Come down, enjoy, brighten up:

The Perfect Light

Close the door and unwind: For many, the bathroom is their favorite rest area in the house. Our wellness island is for body and soul care, and is sacred to us. Is it sacred to you, too? Then you certainly need soothing light in the bathroom. After all, what good is the most environmentally friendly design equipment if it's uncomfortably illuminated? That not only ruins any effect, it also ruins our mood.

Ideal: A mix of functional and atmospheric lighting

Nothing is healthier or more beautiful than daylight, so large windows and skylights that let you bathe in natural light would be ideal. Not everyone has them. If it's too much renovation work for you to retrofit windows, you can rejoice in great advances in lighting research and luminaire design. Gone are the days when energy-saving light fixtures were cold, grim lamps. LED interior lighting bathes your interior in warm light – and works true wonders in terms of mood.

Smart: Control light symphonies by phone

Digitally controlling light and sound and intelligently networking products: this is the future. If LED light is cast in intuitive technologies, it can increase the wellness factor enormously. App-controlled organic lighting, for example, ensures that the light adapts to the user's wishes throughout the day. It's not just convenient, it's healthy. Revitalizing, calming, or meditative settings are available as preconfigured shower scenarios for every mood. They compose water, light, video, sound, and fragrances to stimulate all the senses and set new standards in the home spa.

More dream bathrooms:
hansgrohe.com/dream-bathrooms

Living philosophy, or:

Let's Listen to the Little Ones

We are growing in numbers, our cities and metropolitan areas are bursting at the seams, and the earth is groaning under our excessive consumerism. We have known for a long time that bigger, faster, further is outdated. But how do we put this knowledge to good use when building and renovating? For example, by keeping an eye on the eco-balance of our living spaces.

The "tiny house" marks a big trend, as "downsizing" inspires more and more people. We are adopting a new attitude towards living size and our demands for space. The central question is: How much stuff, how much space do we actually need? It sounds simple, but it's true: a smaller house, a smaller apartment are cheaper and more environmentally friendly. A space-saving building consumes fewer resources and funds, requiring less heating and cleaning later. The positive environmental impact of minimalism can be enormous.

So let's shrink our demands, close ranks, tear down the walls! In many forward-thinking homes, for example, cooking, eating, living, sleeping, and personal care already flow into each other "roomlessly." If you're planning to build a new home in the near future, why not plan a compact, highly functional bathroom?

Small bathroom made large

In the next hansgrohe white paper on the bathroom, we take a closer look at the miracle of space. With plenty of furnishing and lighting tips as well as expert statements. You'll be amazed at the great potential that lies in even the smallest of spaces.

Make your green bathroom dream come true.

hansgrohe.com/#partner-finder