



# Circular Building and Refurbishment

Sustainable Design,  
Securing the Future



LAND  
SALZBURG

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## Foreword



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The Alpine region is one of Europe's most distinctive and diverse - geologically, ecologically, culturally and economically. Salzburg lies in the heart of the Alpine region and has therefore been involved in transregional cooperation for decades. As we are responsible for this unique region, we have an obligation to push for transformation into a sustainable economy. In the construction industry especially, new approaches need to be found. After all, the construction and renovation methods we use today will have a decisive impact on quality of life for future generations.

Together with the Principality of Liechtenstein, Austria currently holds the presidency of EUSALP Alpine Strategy, and the state of Salzburg is actively involved in this. We are using our year in office to focus on circular construction and renovation in the Alpine region - an approach that combines ecological responsibility with an innovative building culture. By thinking about the entire lifecycle of materials and buildings, we are creating infrastructure for our region that not only saves resources but that is also future-proof.

In Salzburg in particular, where tradition and innovation are closely interwoven, the principle of circularity offers huge potential: for sustainable architecture, for regional value added, and for careful use of our natural resources. I would like to thank everyone involved for the enthusiastic and expert contributions on the topic of circular construction and renovation. This brochure gives an impressive illustration of how circular construction and renovation is already being tangibly implemented in Salzburg and the entire Alpine region. It is intended to provide inspiration for visionary projects, the continuation of communication across international borders, and sustainable development in the heart of Europe.

A handwritten signature in black ink, reading 'Karoline Edtstadler'. The script is fluid and cursive, with a stylized 'K' and 'E'.

Karoline Edtstadler  
State Governor of Salzburg

# The EU Strategy for the Alpine Region (EUSALP) - Working Together for a Sustainable Future for the Alps



addressing the questions on the one hand of how existing buildings can be refurbished in a circular way, and on the other hand of how new buildings can be developed in a long-lasting, attractive and circular way.

## Review of activities of the EUSALP presidency to date

Thanks to the EUSALP presidency, renowned experts from the Alpine region have been able to discuss current topics and trends at various events, stimulating lively discussions. “Salz21 - Home of Innovation”, organised by Innovation Salzburg, was dedicated to innovative solutions for the circular economy in the construction industry and offered a platform for communication between the various experts. The “6th National Resource Forum”, organised by Resources Forum Austria, offered the opportunity for a series of discussions focused on sustainable use of resources in timber construction, and conveyed practical ideas for the conservation of resources with renowned experts. The Paris Lodron University of Salzburg event “Building Tomorrow” looked at innovative concepts to put the construction sector on course for a sustainable future, with numerous contributions from research and practice. The EUSALP presidency also supported the GRÜNSTATTGRAU Network Partner Day, which brought together stakeholders from research, planning and practice to discuss current developments, projects and perspectives around building greening and climate-resilient urban development. The specialist symposium on “Alpine Building”, organised by the Alpine Building Centre, which will take place in October 2025, will focus on sustainable construction in the Alpine region and in particular discuss the challenges and opportunities of resource-saving construction in this region. The “Salzburg Europe Summit” of the Institute of the Regions of Europe (IRE), will focus on the topic of the circular economy in September 2025. Communication between politics, business and science will be deepened further both in a panel discussion and through company trips.

Further information on EUSALP can be found at: <https://www.alpine-region.eu/about/presidency>

<https://www.salzburg.gv.at/themen/europa/europapolitik/eusalp>

The European Union Strategy for the Alpine Region (EUSALP) is a collaboration of seven Alpine states and 48 regions that have been jointly tackling key challenges in the Alpine region since 2015. The aim is to promote sustainable solutions for economic development, environmental protection, mobility, energy and innovation, through cross-border cooperation - and to protect the quality of life in the Alps in the long term.

## What is the EUSALP presidency?

Every year, one state or region in the Alpine region takes on the EUSALP presidency and actively helps to shape the strategic orientation of the collaboration for twelve months. The presidency is a driving force, a mouthpiece and a catalyst: it sets thematic priorities, organises events and promotes specific projects in the nine EUSALP action groups. Austria and Liechtenstein hold the EUSALP presidency in 2025 - and the state of Salzburg is playing an active part in this. Under the motto “Cooperation empowers transformation” the presidency is acting as a targeted catalyst for sustainable development of the Alpine region. As a part of this, the state of Salzburg is focusing on circular construction and renovation.

## Why circular construction and renovation in EUSALP?

The construction sector is one of the most resource-intensive economic sectors in Europe - and in the Alpine region. At the same time, the region is under considerable pressure to change, in view of the environmental and climate crisis, growing consumption of resources, and increasingly frequent natural hazards. With a focus on circular construction, the EUSALP presidency is tackling a key challenge and

## Circular Economy in the Alpine Region - A Conversation About the EUSALP Presidency



Christina Bauer is the Head of the Department of Regional Development and EU Regional Policy in the office of the Salzburg State Government and represents the state as a part of the 2025 EUSALP presidency. In an interview she classifies Salzburg's role as pushing for the transformation to a

circular economy in the Alpine region, and she explains why small, peer-to-peer projects in particular are so important for this process.

**Ms Bauer, the 2025 EUSALP presidency is aiming to push for the transition to a sustainable circular economy, especially in the construction sector. Why is this topic so important right now for Salzburg and the Alpine region?**

The Alpine region is under considerable pressure: the climate crisis, loss of biodiversity and dwindling resources come to a head particularly strongly here. At the same time, the construction industry is one of the most resource-intensive sectors. The Alpine region boasts a long tradition of sustainable construction, as well as a high number of innovative and visionary architects, companies and builders. That is why it quickly became clear to us that, if we are serious about ecological transformation and want to push for it, we have to start right here. Our goal for the EUSALP presidency is to establish the circular economy as a holistic concept - not only as a recycling solution, but as a new logic for economic activity. Salzburg is deliberately introducing a critical but practical perspective here. Our aim is to reveal specific examples of implementation, to disseminate existing knowledge, to bring experts from all disciplines into the discussion and the joint search for innovative solutions, and to inspire people for change. The dual perspective - existing and new construction - is very exciting here: how can existing buildings continue to be used well and

renovated in a way that both saves resources and is fit for the future? At the same time, how do we successfully plan new buildings in such a way that they are durable, attractive and truly circular? I would like to take this opportunity to offer heartfelt thanks to Salzburg's innovation ecosystem in the field of construction and renovation, with which we have had some very interesting discussions during the EUSALP presidency. In particular, I would like to highlight Innovation Salzburg, the Salzburg University of Applied Sciences and the University of Salzburg, which have incorporated many of our ideas into their events and activities.

**The peer-to-peer project "Pongau entwickelt Potenziale" (Pongau developing potential - PeP) gets HTL (Higher Institute of Technical Education) students to develop an educational module on circular construction and to pass this on to students at the polytechnic schools. Why does this project fit so well into the framework of the EUSALP presidency?**

Because it does exactly what we want: it makes change tangible and it actively involves young people. Not only do pupils learn content about circular construction and renovation, they also implement it in a module of their own - and they themselves bring it into the teaching at other schools. This is real participation and a circular economy in practice. What I think is particularly successful is that, as well as passing on expertise, awareness of the social and economic importance of sustainable construction in the future is created. This project makes a valuable contribution to the early qualification of those skilled workers who are needed for a sustainable construction industry of the future. We are pleased to be able to support such a project as a part of the presidency.

**Further information can be found at:**

State of Salzburg - Department of Regional Development & EU Regional Policy:

<https://www.salzburg.gv.at/themen/wirtschaft/regional>

PeP: <https://pongauentwickeltpotenziale.at/>

## Alpine Crises, Circular Answers - And a House as a Statement

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For over a decade Sonja Eser has supported numerous companies with knowledge development and with the introduction of circularity, as well as supporting the state of Salzburg with the circular economy activities of the EUSALP presidency.

A biodiversity-friendly,

circular economy is important to her in her work, both as a lecturer at the Salzburg University of Applied Sciences and in participation on international standards.

### **Ms Eser, why does the Alpine region need circular construction and a circular economy?**

The impact of climate change is particularly strong in the Alpine region. The effects are clear to see, whether in locally heavy rainfall or in increased rock movements as a result of slipping mountain peaks. Species extinction can also be seen “live” here, because typical mountain plants such as edelweiss are being displaced by others, owing to shifts in vegetation zones. The model of the circular economy is an important response to these interconnected global crises. Around half of all climate emissions are generated from the exploitation of resources, which is why switching to material cycles, especially in construction, can play a key role in climate protection.

### **One focus of discussions is on better resource availability through circular economic activity. But what does circular economic activity have to do with species conservation?**

To date, the Alpine countries have benefited greatly from functioning, regulating ecosystems and we can now see first-hand the economic and social effects of the changing natural processes. We need this change in mindset, so that we can appreciate again how closely we as societies are connected with functioning ecosystems and how we are economically dependent on their stability. Keeping ecosystems resilient and stable, and regenerating them, is a key aim of the circular economy. This is also helped when we recycle existing materials, use secondary raw materials and close material cycles.

### **Ms Eser, you yourself are very inspired by the circular economy. You have even built your house in Bavaria according to this motto. Why is it so important to you?**

Yes, that’s right, in our house and office, we have undertaken a pioneering project inspired by cradle-to-cradle, based on the motto “a house like a tree”. We wanted to live in an environment that is as attractive, healthy and positive as what trees offer, because the interior design around us has a strong effect on us. For me, the regenerative approach of the circular economy is an essential aspect of this - i.e. how we can support ecosystems and biodiversity through conscious, circular use of resources. We have therefore focused not only on the building itself but also on the entire site, with the aim of increasing biodiversity and developing an environment that is in harmony with nature.

# Alpine Trends in Construction - Inspiration from Today for Tomorrow

How can sustainable and circular construction methods specifically be employed in the Alpine region? Experts will demonstrate which approaches are already working today, and what can be done to have the greatest effect in the future. Their insights highlight the fact that change is achievable when bold strategies, regional networks and innovative ways of thinking come together.



**Anna-Vera Deinhammer**  
(endowed professor of SustainRED, Vienna University of Applied Sciences of Vienna Chamber of Commerce; board member of Circular Economy Forum Austria)

“Sustainable construction means expanding - not limiting - our options.”

Anna-Vera Deinhammer combines research, standardisation and financial innovation, to enshrine circular principles in the construction and property industry. She is an endowed professor of sustainable property development at Vienna University of Applied Sciences of Vienna Chamber of Commerce, and a board member of Circular Economy Forum Austria.

“Sustainable construction means expanding - not limiting - our options,” Ms Deinhammer says, referring to an ethical principle that she would like to see enshrined in planning. Deinhammer therefore campaigns for more comprehensive sustainability standards that also include financial flows. In EU projects such as “Smarter Finance for EU” the work being undertaken aims to make sustainable investments visible and assessable. She considers the role of the public sector to be particularly relevant: “Public procurement can have a huge effect - circular criteria could have been introduced a long time ago.” This puts ecological and social objectives at the heart of economic decision-making.

Further information can be found at:  
<https://www.circulareconomyforum.at/>



**Susanne Formanek**  
(Managing Director of RENOWAVE.AT & GRÜNSTATTGRAU GmbH)

“We need space to try things.”

Susanne Formanek is a driving force for sustainable innovation in the construction industry in Austria.

As Managing Director of RENOWAVE. AT she campaigns for sustainable renovation solutions that combine ecological, economic and social considerations. At the same time she also runs GRÜNSTATTGRAU GmbH, a competence centre for building greening and climate-resilient urban development.

Ms Formanek can still see clear obstacles to circular construction: “There are many good projects and demonstrators, but the transfer into practice still remains difficult.” One reason: the previous construction mindset is fixated on new construction - “I’ll just build new” is still the standard attitude. The existing standards do the rest: they often exclude reuse and impede innovation through long amendment processes. Formanek is calling for regulatory open spaces, so-called “regulatory sandboxes”, in which new approaches can be tested without legal obstacles. The fact that reuse makes economic sense can be seen from realistic lifecycle costing: “If you take everything into account, there can be no further debate - reuse is the order of the day.”

Further information can be found at:  
<https://gruenstattgrau.at/en/services/trends-innovation/>



**Clarissa Rhomberg**  
(ZirkuLIE -  
Competence Centre  
for Circular Economy  
in Liechtenstein)

“Circular construction  
must be tangible.”



**Simon Pezzutto**  
(Team Leader at  
EURAC Research -  
Institute for  
Renewable Energy)

“With the right  
strategy, the circular  
economy will become  
a reality.”

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Clarissa Rhomberg is committed to the establishment of circular construction in the Alpine region. As a project manager at ZirkuLIE, the knowledge and networking platform for circular economy in the construction industry and the platform for used building materials in Liechtenstein, she connects regional stakeholders with specific implementation projects. ZirkuLIE is a project of the Liechtenstein Foundation for a Liveable Future.

“The question of resources remains the central driver of innovation in the construction sector,” Rhomberg explains. Circular construction is a necessary response to these challenges - ecologically sensible, socially anchored and economically sustainable. She sees this as a great opportunity for the region: “The value added remains local and strengthens the local trades.” In a country like Liechtenstein, where distances are short and networks already exist, ZirkuLIE relies on the targeted involvement of all relevant stakeholders along the value chain - from the waste and construction industry to administration and the financial sector. Pilot projects and participatory formats make the topic tangible - as the basis for a regional learning process. “Circular construction must be tangible,” she emphasises. “Only when it can be experienced is everyone involved able to recognise its additional value - and help to shape it.”

**Further information can be found at:**

<https://www.zirkulie.net/>

ZirkuLIE Newsletter: [ZirkuLIE Newsletter](#)

Simon Pezzutto brings together a scientific perspective and a political strategy to promote sustainable construction in South Tyrol. He does this as a team leader at the Institute for Renewable Energy of EURAC Research in Bolzano.

“Circular construction is still in its infancy in South Tyrol, but there are already signs of movement,” Mr Pezzutto explains. There is plenty of scope for new funding models and legal frameworks. The autonomous province of South Tyrol is currently developing a dedicated circular economy strategy, which should become the basis for further specific measures. Pezzutto highlights the economic potential of the sector: nearly 20,000 people are employed in the construction industry, which generates around seven percent of the region’s gross domestic product. Around one million tonnes of construction waste are generated every year - offering huge potential for circular solutions. “These figures illustrate how much is possible, and how important it is to provide the right framework to actively shape this change.”

**Further information can be found at:**

<https://www.eurac.edu/en/people/simon-pezzutto>

Provincial Strategy for the Circular Economy - South Tyrol:

<https://www.eurac.edu/en/institute-for-renewable-energy/projects/landesstrategie-zur-kreislaufwirtschaft>

# Implementing the Circular Economy Today - The “Circular Time Lab”



*Model design of the Circular Time Lab*

How can we build in such a way that materials can still be used sensibly tomorrow? In the “Circular Time Lab” at Lucerne University of Applied Sciences and Arts, architecture students and apprentices from regional timber construction companies work together on projects that put circular construction into practice. Sonja Geier offers a more in-depth insight here.

## **Ms Geier, what is the aim of the “Circular Time Lab” and how does this approach differ from conventional planning and construction?**

The “Circular Time Lab” is a joint project of the Competence Centre for Typology & Planning in Architecture (CTTP), the architecture course at Lucerne University of Applied Sciences and Arts, and committed companies in the construction industry. Unlike classic design-build formats, students do not build alone, but rather together with regional companies. The university, timber construction companies and the cantonal administration create a learning and experimentation space that combines theory and practice. Students design and build together - both sides benefit: apprentices gain insight into planning, and students reflect on their designs in direct collaboration with implementation. The aim is to achieve better understanding between the stakeholders in construction. This close cooperation lays the foundations for new, collaborative construction processes.

## **How are the circular principles implemented in the “Circular Time Lab”?**

In the “Circular Time Lab” circularity does not remain theoretical; it is built, dismantled and reused. In the spring term of 2025 an initial timber structure was built, which will be dismantled in the autumn and rebuilt for a new use from the spring of 2026. In total, three such cycles with changing requirements are planned. Used or surplus timber components are employed during initial assembly. The structure is planned in such a way that components remain intact and connections can be detached. The guiding principle: “It must be possible to reuse it next year.” In this way, architecture students gain practical experience of planning with existing materials - an important step towards sustainable construction that saves resources.

## **How can research and practice benefit from the findings?**

Many projects promise circular construction - whether they succeed usually becomes apparent only decades later, when they are dismantled. The “Circular Time Lab” takes a different approach: dismantling takes place immediately after use and is taken into account from the outset. This is already generating significant insights - for example, on how components need to be procured and how planning processes are changing. Students and apprentices gain core skills from this: they get to try out new solutions together, to integrate different perspectives and to implement innovative approaches directly. This collaborative action is crucial; it is the only way to ensure that the experience is transferred directly into regional construction practice - in offices, in workshops and on construction sites. As a result, the “Circular Time Lab” becomes a catalyst for circular construction - today and for tomorrow.

## **Further information about the “Circular Time Lab” can be found at:**

The Architecture Hub of the Lucerne University of Applied Sciences and Arts:

<https://sites.hslu.ch/architektur/circular-time-lab/?lang=en>

Wood blog of Lignum, the timber industry of central Switzerland: <https://lignum-zentral.ch/de/206/info/blog/140/circular-time-lab-%7C-der-luzerner-sommer/>

## 81%: Foresighted Dismantling - “DreiGang” and the “R70” Project



A conversation with Roland Wernik, former Managing Director of Salzburg Wohnbau GmbH and Chairman of the Salzburg Science and Research Council, about sustainable construction, digital dismantling processes and “DreiGang” as a flagship project of the circular economy.

locally, within the immediate area. As a project partner, the ETH Zurich spin-off “neustark” was responsible for CO<sub>2</sub> sequestration in limestone. Consequently, it was possible to produce around 900 tonnes of CO<sub>2</sub>-enriched recycled concrete. CO<sub>2</sub> sequestration, in addition to avoidance, is an important and necessary step towards a circular economy.

**Mr Wernik, you were Managing Director of Salzburg Wohnbau for 25 years, and you are regarded as a pioneer and implementer in the field of sustainable construction. What needs to happen for the property industry to become fit for the future?**

I am sure we are at a turning point. 100 years ago we were talking about New Objectivity; today it's the New European Bauhaus. This is about clear questioning: What do we really need to live? What can we preserve, what do we already have, and what do we need anew? Many new buildings are still being constructed, even though the substance already exists. Admittedly, our formalism means that new is easier than “old with new” or “new with old”. With “DreiGang” we are demonstrating everything that is already possible within an economic framework. The new economy will be the circular economy! This idea has thus become a reality in the housing industry.

**Further information about the “DreiGang” project can be found at:**  
<https://www.dreigang.salzburg-wohnbau.at/>

**Mr Wernik, what makes the “DreiGang” project in Golling a pioneer for circular construction?**

On the former site of a retirement home, we have built 36 apartments as a best-practice example of circular economy. The project was run as a research project called “R70”. Our aim was to build to last for at least 70 years without major renovation - i.e. for at least two generations. This has been achieved: More than **81%** of the materials used are recyclable and many come from the dismantling of the retirement home - and within the usual budget of the Salzburg housing subsidy.

**How did the dismantling of the old retirement home work?**

It was based on a digital inventory of the building. The result was “CICO - Circular Concrete”, a research project on the recycling and CO<sub>2</sub> enrichment of old concrete. Together with a company from Salzburg, this was handled

## “futureBloc - S”: Circular Building with Regional Resources



The “futureBloc - S” project is an innovative approach by the Salzburg University of Applied Sciences in cooperation with regional partners, to develop a fully circular wall structure. By using recycled materials and natural insulation materials, the project aims to make the construction industry more sustainable and independent of global supply chains. Alexander Petutschnigg and Hermann Huber were available to answer questions.

**Mr Petutschnigg, on which particular priorities is the Salzburg University of Applied Sciences in Kuchl focusing in the field of sustainable construction - and what do you see as the greatest contribution of your research and teaching to regional and transregional development?**

Sustainable construction is not a “nice-to-have” but rather a “must”. The greatest contribution that a university can make to this is its graduates. We prepare them to plan functional and competitive buildings - with long-term effects in mind.

Short-term, cheap solutions are not automatically the best. It often becomes apparent only in the overall cost calculation that sustainable variants are also economically superior. Disposal costs, for example, are often overlooked. We educate our students holistically - with the conviction that, as future decision-makers, they will clearly promote sustainability.

**Mr Huber, what were the main objectives in the development of “futureBloc - S” and what challenges had to be overcome here? What prospects do you see for broad application of “futureBloc - S” in the construction industry?**

The idea of “futureBloc - S” came about as part of the “CICO - Circular Concrete” project, which aimed at use of recycled concrete, shorter transport routes and CO<sub>2</sub> reduction in the construction sector. Instead of making only individual wall components sustainable, a holistic approach was developed: a decentralised, regional value chain in the Alpine region with a high level of resilience to market fluctuations. One key challenge was the development of an insulation material from locally available raw materials that can be processed locally in the future. One material from a business partner from Salzburg was an obvious choice here: lignified residues from green waste composting, which could be processed into a biogenic insulation material by means of defibring. After initial laboratory tests, the material was processed into concrete blocks for cladding and installed as a test wall in the “Twin<sup>2</sup>Sim” building on the Kuchl campus. Further test areas are planned to optimise production and, if the results are positive, to attract investors or manufacturers for a market launch. “futureBloc-S” combines recycled concrete with a biogenic insulation material made from local, secondary raw materials - a potentially new product for the domestic construction industry.

**Further information about “futureBloc - S” can be found at:**

<https://www.fh-salzburg.ac.at/fhs/aktuelles/news/futurebloc-s-recycling-wandaufbau-mit-natuerlichen-daemmstoffen>

# Freedom for the Construction of Tomorrow - Why We Need Experimental Buildings

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How do we want the construction of tomorrow to look - climate-friendly, resource-saving, circular? Many ideas fail not because of the technology but rather because of current regulations. Building type E provides a solution here: under the regulations, as a field of experimentation, it

allows new types of structures, materials and concepts, outside the usual norms. Gunther Graupner, one of Salzburg's leading construction researchers explains why this is particularly important now, and why there are often still problems.

## **Mr Graupner, under the regulations, why are fields of experimentation such as building type E crucial for transformation of the construction industry?**

Innovation in the construction industry often comes up against limits in the field of standardisation, which lead to uncertainties concerning liability and warranties. Let me give you an example here from the area of the circular economy. Currently, according to the standard, you can mix 38% recycled content into the concrete, but if you want to add e.g. 45%, to get closer to the goal of the circular economy, you are acting outside the standard and so taking full risk. Without a clear legal framework and legal certainty, many construction companies shy away from the risk of employing new technologies on a large scale. Under the regulations, fields of experimentation are therefore crucial.

## **In your opinion, what are the biggest obstacles to the implementation of such “regulatory sandboxes” - on both the technical and the official level?**

The question here is: how do you give an industry limited freedom? If we apply the idea to Austria, for example, we could stipulate compliance with the OIB\* requirements in all cases. However, everything beyond that could be questioned. Many people will now argue e.g. that the OIB requirements already allow the provision of alternative evidence and the implementation of innovations. Yet in practice you will find few places that would authorise you to do this, because almost everyone currently refers to the standard, in order to avoid liability risks. To promote innovation, we need a more flexible legal basis that allows for alternative solutions, and clear assessment criteria upon which authorities can base their approval.

\* The OIB guidelines, published by the Austrian Institute of Construction Technology (OIB), serve to harmonise construction regulations in Austria. They are adopted by the federal states as the basis for their construction legislation.

## **How can building type E help to ensure that bold construction projects gain widespread application more quickly in the future?**

Building type E creates legal freedom for innovative construction projects, which means they can be implemented more quickly and safely. Courage on the part of construction companies and authorities is crucial here, as innovation always involves risks. Let's go back to the example from earlier: it could make sense to use e.g. concrete with 50% recycled content, if it meets the static requirements, and it would be nice to be able to do this without having to face a legal challenge or reference to a standard. As an entrepreneur, I will then be able to roll out this kind of innovation much more quickly - if it also makes economic sense - and so contribute toward change.

Further information about the ZAB can be found at:

<https://www.zukunft-bau.at/en>

## Circular Thinking in Existing Buildings - The “Wir InHAUSer” Pilot Project



The Salzburg Institute for Regional Planning and Housing (SIR) played a central role in the coordination and implementation of the “Wir InHAUSer” project. Under the project management of Patrick Lüftenegger, an ambitious concept was turned into a practical, publicly visible pilot project that has won multiple awards.

**Mr Lüftenegger, what were the key challenges and opportunities for the implementation of circular principles in the renovation process of the “Wir InHAUSer” project?**

The task of the renovation was sustainable transformation of existing structures. Construction in existing buildings is a serious encroachment into established living areas and requires a sensitive, cooperative approach. Reuse of the building fabric necessitated careful static tests. The selection of pure, recyclable materials for the additional timber hybrid storey also demanded strong planning and logistics. At the same time, the project offered great opportunities. A model fit for the future was created with energy efficiency, mobility solutions and social integration. New standards were set in particular with the CO<sub>2</sub>-neutral energy supply and the intelligent use of resources.

**In your opinion, what makes the “Wir InHAUSer” project special, and why is it a good example of circular renovation?**

The integrative approach combines ecological, technical and social considerations. The use of circular materials, such as wood and cellulose, demonstrates how sustainable renovation can be successful in existing buildings. The additional storey in timber hybrid construction created new living space without developing on new surfaces. Active involvement of the residents strengthened social sustainability. Mobility solutions such as car- and bike-sharing emphasise the nature of the pilot. The project has received multiple awards for this.

**To what extent can this renovation project be seen as a model for other residential construction in existing buildings? Which recommendations would you pass on from your experience?**

The approach can be transferred to many residential construction projects. In particular, close cooperation between everyone involved is key to success. It is important to define clear quality targets at an early stage and to involve all stakeholders. The accompanying evaluation demonstrated that the pilot is viable not only ecologically but also economically - with impact as a role model far beyond the region. “Wir InHAUSer” is an exemplary illustration of how renovation in residential construction can be raised to a new level ecologically, socially and technically. The combination of material cycles, climate-positive technologies, social inclusion and mobility makes it a flagship project - with valuable incentives for similar existing buildings, especially in the Alpine region.

**Further information about the “Wir InHAUSer” pilot project can be found at:**

[https://linktr.ee/wir\\_inhauser](https://linktr.ee/wir_inhauser)

## Bavaria Makes Timber Construction a Role Model



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*Efficient construction, affordable living  
Experimental housing construction using wood  
Nuremberg; Köppen Rumetsch Architekten*

Bavaria is setting new standards in the Alpine region with its promotion of timber construction: it is the first region in the Alps to promote timber construction in the residential sector with a uniform, CO<sub>2</sub>-based subsidy. This model combines climate protection, regional value added and affordable housing - and it is considered a pioneer across the Alpine region. In an interview with the Bavarian State Ministry of Housing, Construction, and Transport we discover why Bavaria is taking this approach.

### **What was the motivation behind this forward-looking funding model specifically to promote timber construction?**

The government's "Klimaland Bayern" (Climate-State Bavaria) declaration of 21<sup>st</sup> July 2021 set the target of making Bavaria climate-neutral by 2040. To achieve this objective, timber construction, among other things, was declared a key part of the state climate strategy. Timber is to be promoted as a renewable raw material for building, owing to its impact on the climate, in particular its long-term capacity for CO<sub>2</sub> sequestration and the reduction of energy-related CO<sub>2</sub> emissions.

The Free State of Bavaria is supporting climate protection with its directive on the promotion of long-term carbon sequestration in timber buildings in Bavaria (Bavarian timber funding directive - BayFHolz).

### **The Free State of Bavaria is setting new standards with its CO<sub>2</sub>-based subsidy. Why does timber construction play such a central role in Bavarian housing policy?**

Housing subsidies in Bavaria are essentially neutral in terms of building materials and construction methods. In the Bavarian timber construction funding programme, the subsidy is not directly for the building material timber but rather for its impact on the climate, i.e. its ability to store CO<sub>2</sub>.

Under the directive, timber construction is the use of timber in key structural elements of buildings. Proof of the use of renewable, carbon-storing building materials must be provided. This is done using a calculation tool, which determines the quantity of renewable raw materials used and the corresponding amount of CO<sub>2</sub> stored.

The building materials eligible for subsidies include the solid wood products and wood-based materials listed in the current version of the calculation tool. Insulation materials made from renewable raw materials are also eligible for subsidies.

### **What would you recommend for other regions that want to follow Bavaria's successful model?**

Subsidy practice has shown that the Bavarian CO<sub>2</sub> tool for the promotion of timber construction establishes a simple, clear link between timber use and climate protection. The tool is used to determine the amount of the subsidy on the basis of total storage volume. The amount of stored biogenic carbon is calculated on the basis of the entered amount of each carbon-storing building material used and the corresponding data recorded. The total amount of biogenic carbon stored in the building is determined from the sum of the biogenic carbon stored per material.

The subsidy is capped at a maximum of € 200,000, which means in practice that timber is used precisely where it makes economic sense. No planner will use specific timber materials solely because of the subsidy; rather, appropriate structures will be realised in a way that makes efficient use of resources, taking into account the additional requirements of the subsidy system.

Further information about can be found at BayFHolz:

<https://www.stmb.bayern.de/buw/bauthemen/gebäudeundenergie/foerderprogramme/bayfholz/index.php>

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## Publishing Information

**Media owner:** State of Salzburg

**Publisher:** Department 1 Economy, Tourism and Local Authorities,  
represented by Head of Department Dr Reinhard Scharfetter, MBA

**Editor:** MMag Dr Christina Bauer MBL, Mag. Rainer Steindler, Sebastian Siller BA  
Department 1 Economy, Tourism and Local Authorities,  
Section 1/01 Regional Development and EU Regional Policy

**Typesetting & Graphics:** State media centre

**Printing:** State of Salzburg in-house printer

**P.O. box:** Postfach 527, 5010 Salzburg

**Publication date:** September 2025



Printed in accordance with the “Printed Products”  
guideline of the Austrian Ecolabel,  
Druckerei Land Salzburg UW-Nr. 1271



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SALZBURG