

Cohousing and participation towards a sustainable and inclusive future, Austria

Affordable and ecological co-housing has become the trademark of a group of militant architects involved in mobilisation and advocacy to transform residential architectural practice. With **10 projects co-designed with their residents, representing 452 homes for 1,050 people**, this project shows what innovative and sustainable co-housing looks like when the architect marries the expectations of future residents to life-cycle assessment in the design.



Submitting organisation: Einszueins Architektur

Type of organisation: Private sector (architecture firm)

Key elements of the project:

- **High energy-efficiency and reduced carbon.**

Buildings meet nearly passive house standards and cover energy demand through renewable sources (district-heating, heat pumps, PV). Building Life-Cycle Assessment into the design process helps choose suitable construction materials.

- **Affordability and homes for vulnerable people.**

All projects are either in collective ownership or collective rent to a limited-profit developer and usually include special low-cost or free units. Crowdfunding (a 'wealth pool') was used by two projects.

- **Advocacy and research for cohousing**

Co-housing activists from Einszueins give their time for free to groups with training, lectures, research and political lobbying.

What inspires us ...

Together with a wider movement of activists and the national umbrella organisation for cohousing, Einszueins contributes to make developing affordable residential and mixed-use projects in Austria a viable practice, unlocking democratic, sustainable, and creative design. Whereas many previous Award winners highlight residents' perspectives of community-led housing, this application offers one from committed architects who take sustainability and participation as a serious methodology and contribute to the availability of public policies and private finance for these inspiring practices.

Introduction

Around the time of the global financial crisis (2007-2010), a group of housing activists in Austria started a new movement for community-led housing. They promoted an alternative to expensive, investor-driven real estate, focused on participation, affordability, and environmental sustainability. The national cohousing umbrella organisation, cohousing groups and architects worked together to lobby, access public funding and experiment with ideas.

The architects at Einszueins Architektur are specialists in participatory co-housing and since 2009, they have been involved in developing with the future residents 10 innovative projects providing homes to over 1,000 people in both Vienna and rural towns. The cohousing projects are non-speculative, affordable, and innovative, incorporating low-carbon architecture and mixed-use spaces, whilst fostering solidarity and community governance. Altogether, the developments are helping change approaches in the housing sector, which urgently needs to reduce carbon emissions to mitigate the climate emergency.

Context

Across Europe, residents are all too often left out of the housing development process. Instead, public bodies and private firms dictate what housing gets built, resulting in homes that are often repetitive, standardised, and separated according to residents' income levels.

In Austria, a quarter of housing stock is rent-controlled and owned by municipalities or limited profit developers. However, in Vienna these figures are closer to 45%, although they are decreasing as housing becomes more financialised.¹ Vienna also has a mechanism that makes it possible to obtain land for the development of affordable housing. In 2019, the City of Vienna introduced "subsidised housing" as a land zoning category for affordable housing. Two-thirds of the apartments in buildings constructed on these plots must be subsidised. Developers can acquire these plots through a process called a "concept tender".² The ability to bid for this land tied to subsidies, has been key to Einszuein's projects.

Cohousing is a type of community where people plan their housing and live together based on a shared vision. It was popular in Austria in the 1980s and 1990s, with around 120 projects built. After a bit of a slowdown, cohousing has made a comeback, especially in Vienna where there have been 35 new projects built between 2013 and 2023. Even though there are no specific laws for cohousing, more and more people are interested in it and new developments are appearing across the country.

¹ The Austrian limited-profit housing sector has its roots in the late 19th century. Limited-profit developers receive public housing grants and low-interest loans and in turn can distribute no more than 3.5% of the capital invested as profit and must reinvest all other earnings from rents in limited-profit housing (rental or low-cost purchase). The volume of these subsidies has fallen in the last ten years compared with previous decades in favour of the commercial, privately financed residential real estate sector. Since the 2007-2010 crisis, the commercial sector, seen as a financial investment, has grown at the expense of the limited-profit sector.

² The city's land bank (*Wohnfonds Wien*) offers plots for subsidised housing for sale to the winners of a competition based on four criteria: economy, social sustainability, architecture, and ecology. A jury decides for each plot which is the best project, and the awarded developer can then acquire the plot, receives subsidies to implement the proposed project at the offered conditions (architecture project, rent prices).

Project Description

Each project starts with the future residents, wider stakeholders and Einszueins Architektur working together on a shared vision for a unique project. In addition to homes, the developments also feature shared spaces such as roof gardens, multipurpose rooms, common kitchens, saunas, libraries, yoga rooms, children's playrooms, guest flats, laundries, and craft workshops. In the city, the cohousing buildings integrate in their ground floors social, cultural, and commercial areas open to the neighbourhood. These open facilities are listed below.

Projects in Vienna (developed by limited-profit developer and subsidised by the City of Vienna):

- [Wohnprojekt Wien](#): completed in 2013, 39 homes, commercial areas, and multipurpose room with professional kitchen for events or workshops.
- [Seestern Aspern](#): completed in 2015, 28 homes, co-working and multifunctional rooms open to the neighbourhood.
- [Gleis 21](#): completed in 2019, 34 homes, cultural multipurpose space (conferences, cinema, theatre, concerts), café, and music school open to the neighbourhood.
- [Willda Wohnen](#): completed in 2020, 19 homes, a food cooperative and co-working space open to the neighbourhood.
- [Leuchtturm Seestadt](#) completed in 2021, 45 homes forming several clusters.
- [Oase.Inklusiv](#): completed in 2021, 81 homes, inexpensive rental-space for initiatives and experiments.
- [Die HausWirtschaft](#): completed in 2023, 43 homes, 14 flexible workspaces for cooperative entrepreneurs, co-working, event hall, hotel.
- [Vis-à-Wien](#): under construction, 132 homes integrated into a larger complex with conventional subsidised housing, residential units belonging to the SOS Children's Village and an association for single parents, creche, neighbourhood kitchen, multipurpose room, seminar room, food co-op, restaurant, bicycle repair shop.

Rural projects (a residents' cooperative or association is the developer):

- [Wohnprojekt Hasendorf](#): completed in 2018, six homes, communal kitchen, 3,300m² of agricultural land.
- [Auenweide \(St. Andrä-Wördern\)](#): completed in 2022, 25 homes, two community buildings with a co-working space and the community house.

Organisation implementing the project

[Einszueins Architektur](#) was founded in 2006 by architects Katharina Bayer and Markus Zilker. Around that time, they also helped to create [IG Architekturstur](#) - an Austria-wide architects' network which stimulates discussion on architectural issues and policy. In 2009, they were part of the launch of the cohousing umbrella organisation 'Initiative for Collective Building and Living' which advocates for improving legal, organisational, and economic frameworks for cohousing and cooperative housing. Einszueins and the umbrella organisation still actively work to advance collaborative housing forms in Austria.

Currently, there are three partners and 20 employees from diverse countries in *Einszueins'* core team, backed up by interdisciplinary and international individuals that collaborate on a project-by-project basis. The studio specializes in innovative, carbon-neutral, residential construction projects using renewable building materials and circular design principles.

After completing their first cohousing development, *Wohnprojekt Wien, Einszueins* began helping other groups wanting to create cohousing communities. They work with the national umbrella organization to connect people who are interested in cohousing but do not know each other yet or are not sure how to get started.

Einszueins sees projects as the outcome of a collaborative process, where the residents' visions shape the design from the beginning, rather than being fed into a 'product' at a later stage. Each project is unique, but the lessons learned from each one inspire the next. Einszueins also believes in sharing knowledge, working with other architects, universities, and businesses to spread these innovative cohousing practices.

Aims and Objectives

The main objective is to create resilient self-organised communities in urban and rural areas. The '*wisdom of the many*', or in other words the creative collaboration between architects, future residents, and other partners, leads to environmentally sustainable, socially inclusive, and economically affordable housing.

The impetus comes from a group of citizens interested in developing a housing project together. They hire an architect and sometimes an additional facilitator. Either the residents self-develop a project through collective ownership (cooperative, association), or a professional limited-profit developer manages the funding and construction, and then the residents rent or buy the homes collectively (association).

These founding groups are generally made up of highly educated people who have time to dedicate to the project and are interested in the collective process. They must meet the income criteria for subsidised housing, which embrace middle-income households, but aim for diversity in ages, cultural backgrounds, and incomes. They select future members of the group when the design and construction are underway by which time the number and characteristics of the homes is more defined. In four of the ten projects, the founding group decided to collectively pay for homes for vulnerable people (low-income households, refugees).

The limited-profit developer benefits from the close-knit community of tenants. They care for the building and are likely to ensure homes are occupied. The city and wider society also benefit from the influx of new dynamic communities into neighbourhoods, especially within new urban developments such as *Sonnwendviertel* or *Nordbahnhofviertel* in Vienna.

Key Features

Projects grow from the ground up. First, the cohousing group picks an architect to help them plan and build the project. Sometimes they choose a facilitator to assist with outside institutions and set up how the community will govern itself.

Einszueins focuses on the group's vision and the participatory process, which is a different approach to traditional real estate development. They start by helping the group define their goals and dreams for the living space and the community, using popular participation methods such as the art of hosting and sociocracy. Everyone is encouraged to take responsibility and contribute to the discussion. Through its experience and feedback from the groups,

Einszueins has also developed its own participatory design tools that architects can refine and adapt to each project. The architecture is the outcome of this journey.

In Vienna, the residents' group, the architect, and a limited-profit developer make a joint application to a public "concept tender" (see above). If they win the tender, the developer can purchase the land. Trust and transparency within the team are key, as complex decisions are taken around costs, use of the land, design, and sustainability.

Decisions about commercial and community spaces are an essential part of participatory planning, and are often more complex than apartments, involving the non-resident stakeholders who will be involved in running them. The aim of the **Oase.Inklusiv** project was to create a strong local network and a neighbourhood centre, so existing residents of the district were included in the development process. The **die HausWirtschaft** project with its radical mixed use of housing and cooperative entrepreneurs required entirely new strategies to meet the needs of both the residents and the people who work in the building.

In the case of **Wohnprojekt Wien** and **die HausWirtschaft**, residents envisioned contributing to a lively neighbourhood. As a result, in the former project, residents run a little shop, café and neighbourhood centre hosting readings and concerts. The latter project set up an in-house cultural association with an event space to hold regular concerts and film screenings.

Gleis 21 aimed to promote solidarity and foster social encounters. Therefore, the community started a solidarity fund to support group members with financial difficulties. Money from the fund is also used to finance four 'flex' apartments where refugees live for free and are supported by the community in partnership with the NGO Diakonie. The refugees have integrated into the housing community, and two of them are employed by the cultural association Gleis 21. An artists' collective located in the house regularly hosts language courses and events for refugees.

Similarly, the housing community of **Wohnprojekt Wien** pays for two 'Soli-Flats' for those unable to pay full rent and a rent-free apartment for refugees. Likewise, the **Oase.Inklusiv** group works with Neunerhaus, a homelessness NGO, to include affordable homes for 15 refugee families who have been granted asylum, supporting them to become part of the community. At **Leuchtturm Seestadt**, the vision of the group was to create intergenerational solidarity in the house.

Generally, the cohousing projects try to be as heterogeneous as possible in terms of age, education, and income. While rural projects are predominantly composed of Austrian-born residents, in Viennese projects there is a great cultural mix with people from Germany, Greece, Italy, Spain, Syria at **Gleis 21** and from Germany, Italy, Malta, Palestine, Syria, Ukraine and the USA at **Wohnprojekt Wien**.

Innovation

Collective intelligence and creativity: Future inhabitants participate in the planning process from the very beginning. Through direct interaction, the whole project team understands and pushes each other's boundaries, meeting challenges with win-win solutions.

Sustainable building structures and materials (see also Environmental impacts below): The wood-composite-concrete ceiling elements of **Gleis 21** on which the reinforced concrete balconies are fully assembled are unique and do not exist anywhere else in the world. No scaffolding was necessary. **Auenweide** is the largest straw insulated housing project in Austria.

Pioneering research: The planning process of **Vis-à-Wien** works together with the “City of the Future” subsidised public research and technology programme, to examine the intersection between affordability, climate-neutrality, and multi-storey timber constructions. The researchers, the project team and the builders are in constant dialogue and an iterative process of learning-by-doing. This project also pioneers the dissemination of ecological knowledge: researchers explain the building’s lifecycle assessment to the group and via a blog to the public.

Funding

The total cost of the ten projects was €114 million (\$123,3 million USD).

All the projects set rents below market-rate and fall into the category of affordable housing, with rents below market-rate. They are funded through a mix of members’ savings (shares), bank loans and subsidies (reduced land costs and rents, grants for energy-efficiency projects).

In Vienna, most of the plots of land were acquired through the aforementioned “concept tenders”. Subsidies for rural projects are more complicated because currently they lack the public support that the City of Vienna offers. In both rural projects, residents reduced the construction costs by completing some of the works themselves. At **Auenweide** they did the clay rendering themselves instead of choosing cheaper, but less environment-friendly plasterboard.

To boost funding, some projects established an “wealth pool” ([Vermögenspool](#)) crowdfunding mechanism³. The rural project **Auenweide** was provided with a €6 million (\$6.5 million USD) loan through its wealth pool, thus reducing the traditional bank loan to only 50% of the project cost. **Wohnprojekt Wien** received €500,000 (\$540,800 USD) through their wealth pool when the project was already finished, to be more resilient and independent from the financial market.

Some projects also receive additional grants due to their high environmental credentials and innovations. For instance, **die HausWirtschaft** was part of a public programme called “Smart Cities Demo – Living Urban Innovation 2018”, which included funding from the Austrian Climate and Energy Fund.

³This funding mechanism was created by an Austrian lawyer who co-created and lives in the cohousing *Wohnbauprojekts Dörflein* (1984) in the town of Herzogenburg and contributed to the founding of dozens of community projects of all kinds. External people can invest in the “wealth pool” to support a meaningful project. They deposit the amount they want and choose the interest rate between 0% and 2,5% a year. At least 10% of the total sum of the “pool” always stay liquid so that investors can get their money back from the pool within 12 months. When money is taken out of the pool, other investors can put their money in.

Impact

Financial

The affordability of rents and the variety of financing systems (combinations of non-profit developers, solidarity funds, *wealth pools*) are strong indicators of the projects' economic impact. Because cohousing flats are smaller than conventional ones⁴ due to communal facilities (laundry, storage, bicycle and pushchair parking, workshop, library, playroom, garden, etc.) the cost of individual shares and rents are reduced.

Conversely, architects' costs for cohousing projects are higher than conventional housing projects. *Einszueins* estimates that participatory processes require up to 3,000 additional working hours over a project's three-year duration. However, the non-profit development, shared facilities, high energy-efficiency, rental incomes from commercial and cultural premises, and tickets to events help to significantly reduce management costs.

Future generations will benefit from the affordability of the projects due to their non-speculative nature. If the projects are built and owned by a limited-profit developer, the residents' associations rent it collectively. If the resident's association purchased it from the developer or self-built the project, it is fixed in their statutes that group members cannot sell their flats individually. If a member moves out, the cohousing association refunds them the shares and hands them over to the new member who will live in the vacant home.

The operating costs are met by rents and membership fees. Rent for each home is based on cost recovery over the long term, ensuring it remains permanently affordable.

Members must contribute a varying share of personal funds to enter the project: between €0 (for solidarity homes) up to €600 (\$650 USD) per m² of their home. At **Wohnprojekt Wien** for example, the contribution for a 30m² flat was €15.000 (\$16,240 USD) and for a 100m² flat €57.000 (\$61,700 USD). At **Gleis 21** the cost was €500 per m² of floor space (\$541 USD) plus a monthly user fee of € 11 per m² (\$11.90 USD), well below rents on the open housing market (on average \$16 USD per m²). At **Auenweide**, located in a small town, all members initially contributed €1,100 per m² (\$1,200 USD) and rent costs are €9 per m² (\$9.8 USD) per month.

Social

Cohousing founders are often motivated by a desire to be part of an active and supportive community and to contribute to a meaningful social project. During the process, members invest a lot of their time and develop their skills in communication and empathy, financial project management, housing rights, sustainability and much more. They also make solid friendships and deepen the bonds of solidarity.

As mentioned previously, the residents of some cohousing projects chose to provide zero-share/reduced rent flats for young people on low incomes (e.g. two soli-flats at **Wohnprojekt Wien**) or free homes for war refugees (e.g. one flat at **Wohnprojekt Wien**, four at **Gleis 21**). Both projects have an additional solidarity fund that supports group members struggling to pay rent. At **Oase.Inklusiv**, 15 migrant families pay reduced rent (around \$8,60 USD per m²) and can receive subsistence loans from the City of Vienna. They do not have to pay a deposit and have their own independent rent contracts.

⁴ For example, in **Gleis 21**, private surface per resident is 31m², against 38m² on average in Vienna.

These projects prove that resilient, self-organised citizen can find creative solutions and use public money wisely, allowing them to build in benefit of the community without aiming for profits. The projects improve neighbourhoods and respond to the climate emergency. They bring people from different backgrounds and ages together, to live better, for example by making housing, shared and cultural spaces affordable and accessible.

Environmental

Architecture is kept compact to reduce the amount of coverage on plots, leaving green spaces for natural rainwater-drainage and biodiversity. Additionally, compact cohousing projects are a sustainable alternative to scattered single-family houses that contribute to more impermeable land surfaces. Urban projects integrate vegetable gardens on rooftops, whilst bioclimatic design optimises natural ventilation and lighting and reduces the need for artificial heating and cooling.

Conventional building materials appear cheaper than natural construction materials until the costs of demolition, disposal and environmental damage are calculated in a full Life Cycle Assessment. The state-subsidized research project *Klimademo Vis-à-Vis, Einszueins* did a Life Cycle Assessment and comparison of different construction materials to make a collective decision on the **Vis-à-Wien** cohousing (currently under construction).

By building to nearly passive house standards, *Einszueins* decreased the operational carbon of **Vis-à-Wien** by 55% compared to conventional projects. The remaining heating demand is covered by renewable energy (district-heating, geothermal heat pumps) and solar electricity. *Einszueins* aims to analyse Life Cycle Assessment scenarios in every upcoming project.

Due to building rules, using natural building materials for high buildings in urban areas is still problematic. The timber construction of **Gleis 21** and eight-storey **Vis-à-Wien** have contributed to boosting this technology in Vienna. At **Gleis 21**, prefabrication reduced the number of heavy goods journeys transporting concrete, as well as assembly time and neighbourhood exposure to noise and dust.

The terraced house models featured in rural projects lend themselves to natural, healthy, and compostable materials. For instance, the overground construction at **Auenweide** consists entirely of load bearing timber, insulated with straw sourced just 50 km from the site. Residents cut, assembled and rendered interior insulation panels made from jute mats with loam. All these construction materials are compostable when they reach the end of their lifecycle.

At **Auenweide**, the buildings all meet near-passive standards which is ground-breaking in the area⁵. A groundwater pump provides heat and a solar power unit (80 kWp), delivers electricity to the building as well as the local grid.

Learning, evaluation and recognition

Die HausWirtschaft which offers a radical mix of uses (50% residential space, 50% work-related space), has recently been analysed by Christian Peer and Emanuela Semlitsch. They propose that “social affordability can be measured by the attractiveness of places/neighbourhoods, by the integrative function

⁵ The buildings have an average thermic resistance of 4.5 m²K/ W and a primary energy demand of 43.2 kWh/m².yr.

of public spaces, by resource efficiency and sustainability”.⁶ They argue that this unique cooperative, co-formed by residents and cooperative entrepreneurs, “can offer its members spaces and support that otherwise only big companies can afford (e.g. childcare, canteen, flexible meeting rooms, attractive open spaces, etc.)”.

Given their diversity, it is important to measure each cohousing project’s impact differently. For instance, by residents’ level of commitment and solidarity and their contribution to a lively housing community and vibrant neighbourhood; by the number of social events that take place inside and outside the buildings; by the audience and event participants; by the number of crowdfunding campaigns, donors, and solidarity funds; or by the number of refugees or people on low incomes supported by the communities.

The environmental impact can be measured in terms of CO₂ savings using timber, clay rendering or straw insulation. Some of the cohousing projects were recognised with a national energy-efficiency or green building standards, such as:

- The Austrian State Award for Architecture and Sustainability for **Wohnprojekt Wien**.
- Gold [Klimaaktiv Certificate](#) (Ministry for Climate Protection, Environment and Energy) for **Gleis 21** (mark 948/1000)
- [Total Quality Building](#) Certificates ([Austrian Association for Sustainable Building](#) ÖGNB) for **Gleis 21** (mark 805/1000), Baugruppe **Leuchtturm** (810/1000), Baugruppe **Seestern** (876/1000).

Residents’ satisfaction with the design process and architect’s support can be seen in small video clips on Einszueins Architektur’s [website](#). On their own websites, most of the cohousing projects describe their vision, creative process, and activities or spaces open to the public.

Recognition

Gleis21 has been honoured with various architecture and sustainability prizes. [Among them](#):

- 2022 New European Bauhaus Award Winner - category “Regaining a sense of belonging”.
- 2022 Detail Award winner.
- 2022 Mies van der Rohe Award finalist.

Transfer and future plans

Founders of the studio have *made significant contributions to the perception, scaling up and transference* of cohousing as an optimal route to affordable, sustainable, and inclusive living in Austria.

Social transfer within cohousing is an ongoing process. Residents from well-established projects coach and inspire individuals in newly formed groups. Two residents from **Wohnprojekt Wien** have written books about their experiences with the planning process and life in cohousing. Guided tours and an

⁶ Peer, Christian & Semlitsch, Emanuela (2022). [Vita cooperative. Local co-operative impulses for sustainable development](#). In *New Social Housing. Positions on IBA_Vienna 2022* (pp. 314-317). Berlin: Jovis.

annual “Cohousing Hike” (where participants hike from one project to the other), in both rural and urban settings, also help to spread the notion of participation. International groups and institutions visit and are inspired by the award-winning and pioneering projects.

Staff members of *Einszueins* nurture both personal and institutional contacts, with the aim of influencing Viennese and Austrian housing policies towards providing more opportunities for collaborative housing.

As a result, more cohousing projects, along with participatory processes, are appearing in Austria. Some provinces are transforming their policies to allow burgeoning cohousing projects, some of them have even developed new funding programmes for cohousing projects.

Within the past 15 years, the quality of every new *Einszueins* project grows, in terms of the social, financial, and technical aspects. Through its practice, it has trained dozens of young architects and trainees. Additionally, *Einszueins* architects lecture internationally, ensuring their approach and expertise spreads to wider audiences.

The scale and number of projects are growing, especially in the field of decarbonization and the growing application of urban timber construction. *Einszueins Architektur* has started to export its expertise in urban timber construction to Germany and is working on scaling up straw-insulation. Conventional housing projects are also stronger because of the lessons from cohousing projects. For example, research for the construction of three carbon-neutral buildings has been launched together with three non-profit developers.

Future plans

Einszueins and its partners will continue to learn, develop, and push the boundaries of sustainability, affordability, and solidarity with every project. Their vision is to contribute to a worldwide network of resilient, self-organised communities that can address today’s environmental and social challenges.

Current energies centre on the development of new sustainable construction strategies with a focus on two topics:

- Extending the use of renewable and regenerative resources in building and operations, leading to carbon neutrality in the whole life cycle of a building.
- Transforming existing buildings towards decarbonised and resilient cohousing. Currently *Einszueins* is working on the redevelopment of a hundred-year-old workers settlement ([Transform Ternitz](#)) into cohousing.

World Habitat Reflections

This project shows the vital role of activist architects in transforming mainstream affordable residential architecture into sustainable and cohesive communities. With participatory planning each contributor, including the architects, gains new experiences and skills which can be applied to other contexts too. The commitment and additional time investment by the architect compared to conventional projects leads to ground-breaking results. The number and scale of the recent Viennese projects shows that community-led housing can become a neighbourhood driving force, providing services, urban commons, a circular economy, social diversity, and a sense of belonging.

A World Habitat Award would inspire more architects, planners, and policymakers to engage with participatory projects. Not only would it be a recognition for the work led by Einszueins, but for the ecosystem of contributors behind each of these ten projects, who give energy to their success: residents, the organisations working with refugees, community-driven organisations and social entrepreneurs who run activities in these buildings and make their neighbourhoods flourish.