RenoBooster

Focus on the Renovation of Private Housing Stock 2019—2022

Final Report of the
EU-Project RenoBooster –
The Smart Renovation Hub Vienna

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Contents

Forewords

Kathrin Gaál , Deputy Mayor and City Councillor for Housing, with NEOS Housing Spokesperson Selma Arapović (left) and Nicole Büchl, Director of Hauskunft (right)

Photo: PID / Votava

Dear Viennese,
Dear project partners,
Esteemed European partners,

Vienna has the strength to make visions become reality. Time and again, the city has shown how major challenges can be overcome, and how objectives can be met and often even surpassed.

Our city has already proven its high level of resilience in several crises – last but not least during the COVID-19 pandemic – and given its inhabitants a sense of security and perspectives. A significant contribution towards this goal was made by social housing and infrastructure-related measures including urban public transport.

Now we are faced with the challenge of climate adaptation, above all in the building sector. As in the past, we will respond to this challenge with commitment and dedication, so that we may say in 2040: We have achieved climate neutrality together!

We have certainly done our homework: With the EU-funded RenoBooster project, we have been able to launch innovative instruments for the subsidisation of refurbishment efforts specifically in the field of private housing. Even before the conclusion of the project and earlier than planned, the project outcomes Hauskunft und Qualitätsplattform Sanierungspartner Wien are fully active and, thus, have already become a key pillar of the "Wir SAN Wien" refurbishment and renovation campaign. Numerous other findings and outcomes of RenoBooster were likewise integrated into urban policy at various levels and/or are being implemented.

The present final report shows clearly how the lively and active partnership of numerous parties – even with quite different backgrounds – can contribute to the attainment of joint objectives.

At this point, I would like to express my gratitude to all these parties – also on behalf of future Viennese generations, who will continue to inhabit one of the world's most liveable cities thanks to their efforts.

Yours sincerely,
Kathrin Gaál

Kathrin Gaál,
Deputy Mayor and Executive City Councillor for Housing, Housing Construction, Urban Renewal and Women's Issues

Foto: PID / Bohmann

Dear Viennese,
Esteemed project partners and
European partners,

Global climate change has become reality. According to a current study by ETH Zurich, Vienna's climate in 2050 might resemble that of the North Macedonian city of Skopje, while temperatures forecasts for London over the next 30 years may well align with those of Barcelona today. For this reason, the City of Vienna has adopted a number of strategic policy documents and legal regulations and is moreover continuously implementing measures that contribute significantly to mitigating the effects of climate change. This specifically includes the Smart Climate City Strategy Vienna and the Vienna Climate Guide 2040 as well as numerous funding channels for refurbishment projects. According to the current Vienna Green Economy Report, 450,000 dwellings in Vienna are still in need of overall thermal renovation.

»It was of particular importance for us to use the objective-driven work of RenoBooster as a further opportunity to intensify our strong partnerships with local institutional actors.«

Stephan Hartmann,
RenoBooster Project Co-ordinator

It is planned to discontinue oil-fired heating systems by 2035 and natural gas-fired heating systems by 2040 at the latest. According to evaluations by the City of Vienna, approximately 450,000 gas-fired central heating systems in flats, about 60,000 gas heating systems in single-family homes, roughly 3,000 central gas boiler plants in multi-storey residential buildings and between 5,000 and 15,000 oil-fired heating systems in commercial and residential buildings are currently in operation in the Austrian capital. The RenoBooster project, whose main task is to advance the climate-compatible refurbishment of privately-owned residential buildings and flats, is part of a roster of activities launched by the City of Vienna and offers two concrete contact points for the population: Hauskunft and Qualitätsplattform Sanierungspartner Wien. The project was conceived for a period of 3.5 years; launched in May 2019, it was concluded in October. During the project run, new, low-threshold services and offerings to increase the refurbishment quota were developed, pooled and tested.

RenoBooster is one of Vienna's contributions to the European Green Deal, which is to bring about the transition to a modern, resource-efficient and competitive economy. Refurbished, energy-efficient buildings are one pillar of the Green Deal.

This is why the City of Vienna, in partnership with key players of the private sector and the field of research, has taken up the challenge and developed a customised project that is targeted to precisely meet Vienna's needs and potentials.

Within the framework of the EU-funded RenoBooster innovation project, the private housing sector, which comprises approximately 53% of all dwellings classified as their owners' or tenants' primary places of residence in Vienna, was identified as a key element for attaining the climate goals. It was the objective of the project to advance the refurbishment and modernisation of heating systems in this segment. Following an in-depth analysis, the main focus was on information and counselling. An analysis of the legal situation highlighted specific obstacles to financing and the passing of relevant resolutions.

Based on the results of these investigations and parallel to the EU "Renovation Hubs", Hauskunft was established in Vienna markedly earlier than originally planned. Since October 2020, Hauskunft has been delivering individual, free-of-charge and independent refurbishment counselling. With the end of the test stage in March 2021, Hauskunft took up regular operation and is financed from the budget of the City of Vienna. Due to brisk demand, its team was enlarged; in September 2022, the facility moved to new premises in Stadiongasse 10.

Qualitätsplattform Sanierungspartner Wien has been active since spring 2022 as a hub between providers and clients of refurbishment services. The platform presents practical examples of such undertakings, disposes of a list of suitable partners for refurbishment concepts and moreover provides a template for subsidised refurbishment concepts. The City of Vienna and its partners have made full use of the opportunities offered by this EU-funded project. This once more confirms the high resilience and future-oriented perspective of the City of Vienna.

For this reason, our special thanks go to all project team members and project partners, who have shown great commitment and creativity in implementing the RenoBooster project and contributed numerous innovations towards the attainment of our shared objectives.

Otto Eckl and Stephan Hartmann,
on behalf of the project management

Otto Eckl
Head of Municipal Department 25
of the City of Vienna –
Technical Urban Renewal

Stephan Hartmann
Head of EU/Special Projects Group,
RenoBooster Project Co-ordinator
City of Vienna – Technical Urban Renewal

Photos: Technical Urban Renewal

Statements by project team members

Members of the Sounding Board and of the Quality Plattform

»The energy supply crisis has made it crystal clear that the most valuable energy is that which is not consumed. Through Hauskunft, many building owners and residents will be enabled to recognise this value in their buildings and, with the help of the Quality Platform, make use of it for their own benefit. ÖGUT receives many queries relating to this issue: From now on, we know where to relay these inquiries to.«

Monika Auer
ÖGUT (Austrian Society for Environment and Technology)

»I enjoyed taking part in the RenoBooster Sounding Board. It is gratifying that implementation is already progressing significantly with Hauskunft and the Quality Platform. Both instruments will certainly boost the success of the energy transition for Vienna's older building stock. While it first might have seemed overly optimistic to expect counselling sessions on energy-saving building refurbishment to augment as they did, the most recent report has shown that the number of these appointments has actually multiplied. The financing aspect including the certification of building refurbishment projects has already been addressed as well and will serve as another cornerstone.«

Josef Schmidinger
Real estate financing expert, Hypo NOE Landesbank

Photos, top to bottom: ÖGUT, private

»We already dispose of good solutions for phasing out natural gas – what is called for now is a comprehensive refurbishment concept. The City of Vienna encourages this development, and the Quality Platform lists providers who are able to plan and execute – and in fact have already successfully implemented – such projects.«

Helmut Schöberl
Chair of Qualitätsplattform Sanierungspartner Wien

»Curtailing our dependence on fossil fuels in the building sector constitutes a challenge we are happy to face. The implementation process will need highly qualified partners; therefore, we as developers and property managers warmly welcome this initiative.«

Karl Wiesflecker
General Manager, Franz Kramas Gebäudeverwaltung

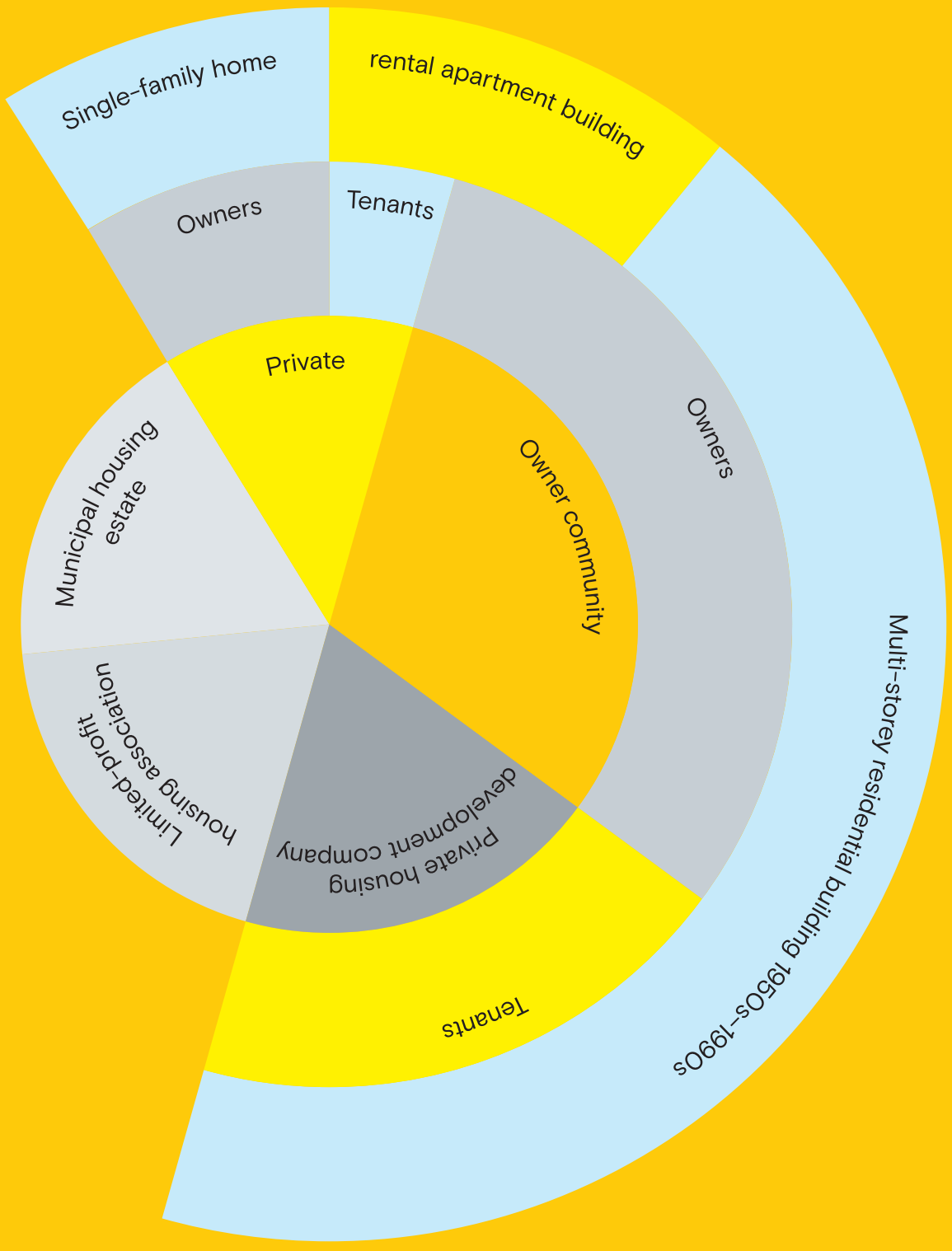
»In my opinion, the key quality of the RenoBooster process lies in the fact that these complex challenges were addressed by an interdisciplinary body, resulting in a pool of diverse experiences and viewpoints. The first implemented results, such as Hauskunft and Qualitätsplattform Sanierungspartner Wien, serve the goals set but harbour potential for further development.

In order to increase the refurbishment rate to a significant extent, we must remain in close contact with those who – without prior know-how – are faced with the decision of having to evaluate and actually implement usually very complex refurbishment projects. Therefore, providing relevant know-how in concise form is very important – as so often in life, clear and compact communication is key.«

Klaus Wolfinger
Developer and business consultant

Photos, top to bottom: Schöberl & Pöll, Franz Kramas, Wolfinger

RenoBooster at a glance



Target groups

The RenoBooster project was implemented under the aegis of the City of Vienna – Technical Urban Renewal (Municipal Department 25) together with numerous partners in the framework of the Horizon 2020 programme and co-funded by the EU to the tune of Euro 1.9 million.

The project was initiated in May 2019 and is scheduled to end in October 2022. In addition to the City of Vienna, project participants included UIV (Urban Innovation Vienna), wohnfonds_wien (Fund for Housing Construction and Urban Renewal), ÖVI (Austrian Real Estate Association), DIE UMWELTBERATUNG (EcoCounselling), e7 (energy innovation & engineering), 17&4 Organisationsberatung GmbH (organisational consultancy company) and the SORA opinion research institute.

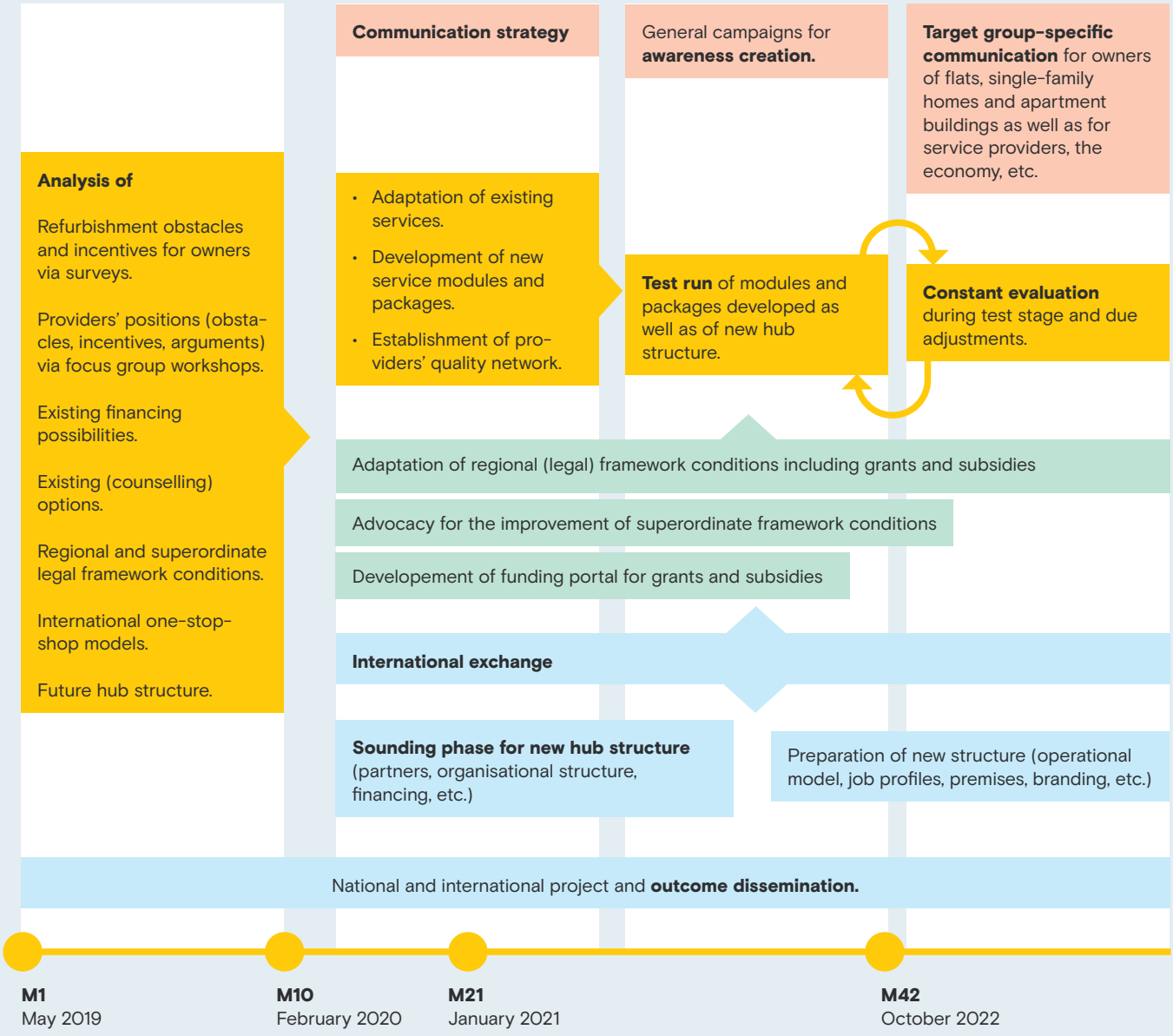
Based on EU and national objectives, the Viennese project background is provided by the Smart Climate City Strategy Vienna, which defines ambitious goals until the attainment of climate neutrality, which is envisaged for 2040. To reach these goals, efforts must be stepped up significantly, in particular regarding refurbishment of the building stock; the specific focus of the RenoBooster project is on the private sector. According to the Smart Climate City Strategy Vienna, goals include the following:

- Per-capita energy consumption for heating, cooling and water heating in buildings decreases by 20% until 2030 and by 30% until 2040.
- Related per-capita emissions decrease by 55% until 2030 and attain zero in 2040.
- Buildings are used for maximum solar energy generation.
- Greening, shading and passive cooling of buildings are standard practice; active cooling is based on renewable energy sources.
- In 2040, the re-usability of at least 70% of the components, products and materials of buildings scheduled for demolition as well as of large-scale conversion projects is safeguarded.

It was the objective of the RenoBooster project to create a central contact point for building owners and their property managers and, in this way, to promote the climate-friendly refurbishment in Vienna's private housing sector.

Following European models, information and consultancy services on technical and legal aspects as well as on grants and financing channels for the refurbishment of residential buildings were to be pooled. Thus, owners and managers of residential buildings from single-family homes to large-scale real-estate companies and property management agencies were to be assisted and supported in all phases of housing refurbishment, from first considerations and counselling to project execution and quality control after completion of all works.

Project steps and time schedule



A dual concept for Vienna

Vienna decided to organise the counselling activities on a municipal basis, which in due course resulted in a “dual set-up”: In the context of RenoBooster, Hauskunft constitutes a central contact point that delivers fully independent and free-of-charge information and consultancy services for all segments of private real-estate ownership as well as for property managers and planning studios. After a six-month pilot phase, which ended in April 2021, Hauskunft was taken over and continued by wohnfonds_wien 18 months earlier than planned. It offers a range of attractive services that are meeting with massive interest in view of the events of 2022.

In addition, project partners established Qualitätsplattform Sanierungspartner Wien (Quality Platform of Refurbishment Partners Vienna) as an association. The Quality Platform supports building and flat owners in their search for qualified planners and contractors for the replacement of oil- and gas-fired heating systems and thermal renovation measures. Towards this goal, the Quality Platform lists competent enterprises that are active in various fields and have already implemented high-quality projects and moreover provides an overview of these projects.

The list is based on in-depth market segmentation. Target group-specific communication supported the development and thorough testing of the new offerings, including such issues as sustainable building refurbishment, efficient technologies, renewable energy sources and energy poverty. Parallel to the development of the varied offerings, numerous – partly also international – analyses as well as networking and training activities were carried out.

Between October 2020 and late June 2022, Hauskunft conducted 2,562 counselling sessions. Of these, half concerned single-family homes, while rental apartment buildings accounted for 15% and residential buildings composed of owner-occupied/freehold flats (condominiums), for 30%. The majority of parties interested in refurbishment were owners (70%), followed by co-owners (13%), property managers (6%), planners (5%) and others (6%). The most frequently raised questions concerned heating, subsidies as well as building refurbishment, thermal insulation and alternative energy sources. So far, the Quality Platform counts 40 member companies and has conducted 15 specialist events together with such partners as ÖVI and the Vienna Business Agency.

Through the project partners’ expertise, it was possible to create novel consultancy services, to establish viable co-operation ventures with key bodies representing the real estate, banking and financing sectors and to support new funding channels, communication formats and improvements of the technical and legal framework conditions. An analysis of existing funding channels e.g. resulted in a resolution by the Vienna City Council to introduce a new subsidy scheme for the development of comprehensive refurbishment concepts.

Project partners

Stadt Wien

urban innovation vienna
Klima- & Innovationsagentur Wien

wohnfonds_wien
fonds für wohnbau und stadterneuerung
Für die Stadt Wien

ÖVI Österreichischer Verband der Immobilienwirtschaft

DIE UMWELT BERATUNG

ENERGY INNOVATION ENGINEERING

SORA

IDEEN KONZEPTE LÖSUNGEN 17&4

Objectives

It is the objective of the RenoBooster project to advance the thermal refurbishment and decarbonisation of the private housing sector in accordance with the European initiative by establishing a central contact point (one-stop shop) and the creation of novel service offerings.

RenoBooster contributes to these overarching objectives:

But not only the refurbishment rate is to be increased, as the quality of refurbishment projects, too, is to be stepped up as an important contribution to the attainment of the European climate targets.

As a first step, an intensive interdisciplinary exploration of the sector was carried out to be able to duly formulate concrete, more far-reaching proposals for experts and politicians. An important, sustainability-oriented output lay in involving enterprises and networking the different parties.

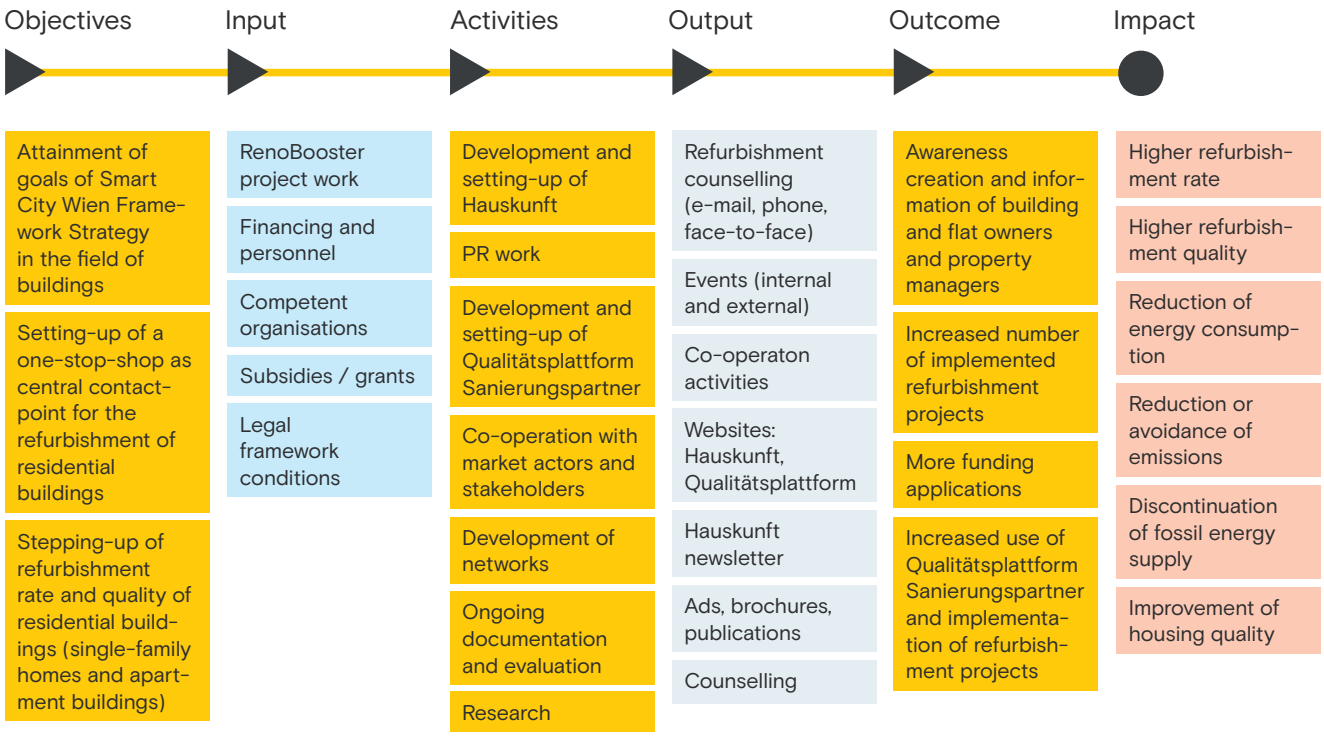
Improving existing services

One task of RenoBooster lay in merging existing offerings, services, subsidies and funding schemes in a newly developed overall and comprehensive solution. Existing offerings were analysed and further developed. The legal framework conditions and funding options were likewise analysed, and suggestions for improvement were formulated.

New, clearly defined quality standards for services and counselling were developed and formally embedded by involving the relevant stakeholders.

Property managers, building owners and tenants are now better informed regarding the consequences of user behaviour, while service providers know about the quality network. The public at large, too, has a better understanding of the advantages of renovation and the related offerings and services.

RenoBooster impact model



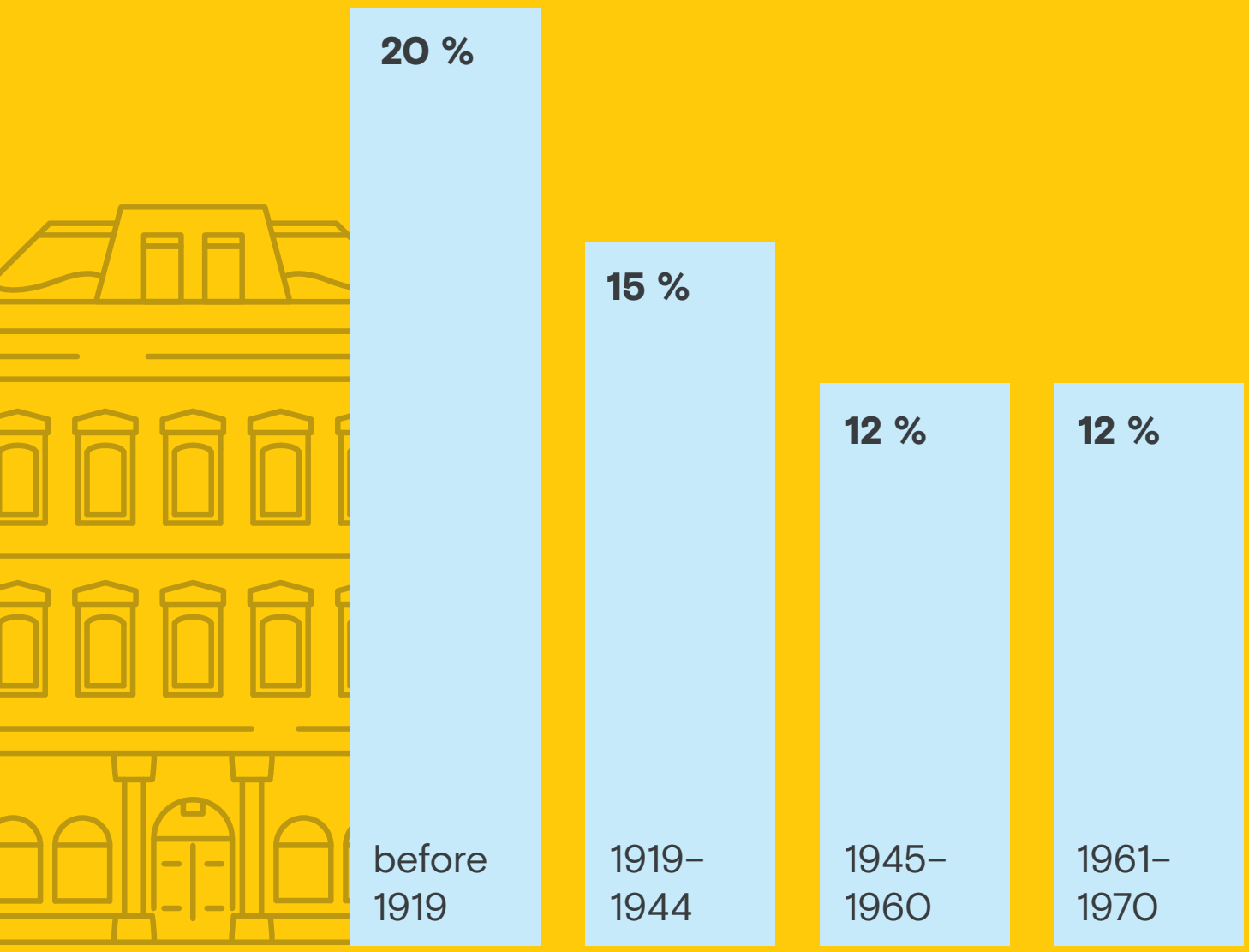
Housing quality and climate protection

The refurbishment of Vienna's building stock contributes decisively to the quality of housing and life of the city's population. A refurbished residential building not only consumes less energy for heating in the winter months but also protects its inhabitants against heat during the summer season.

It is the overarching objective of RenoBooster to contribute to an overall increase in the quality and quantity of refurbishment projects in Vienna in order to cut down on energy consumption and emissions.

Starting point

Vienna's 180,000 buildings accommodate around 1 million dwellings, 925,000 of which are primary residences.



Construction periods of buildings in Vienna
Source: Microcensus 2021

Illustration: PID / City of Vienna

Vienna‘s building stock

Of approximately 180,000 buildings in Vienna, around 20% were constructed before 1919.1 Thus, Vienna is Austria’s city with by far the highest number of historical buildings. This older building stock, where roughly 30% of Vienna’s population lives, is mainly composed of multi-storey edifices, with a much smaller share of single-family homes.

The majority of inhabited older buildings date from the Gründerzeit period and often present structured façades and/or are under monument protection; thus, any thermal refurbishment of these buildings poses technical and economic challenges. Moreover, the trend of converting tenancies into owner-occupied/freehold flats in multi-storey apartment buildings (condominiums) entails additional legal questions.

More than 30% of Vienna’s building stock dates to the period between 1945 and 1980.2 Unless these somewhat “oldish” buildings were comprehensively refurbished and modernised (THEWOSAN programme), their energy consumption for heating is high and their condition in need of improvement. In particular, this concerns residential buildings from the early 1950s to the late 1970s lacking thermal insulation and efficient heating systems.

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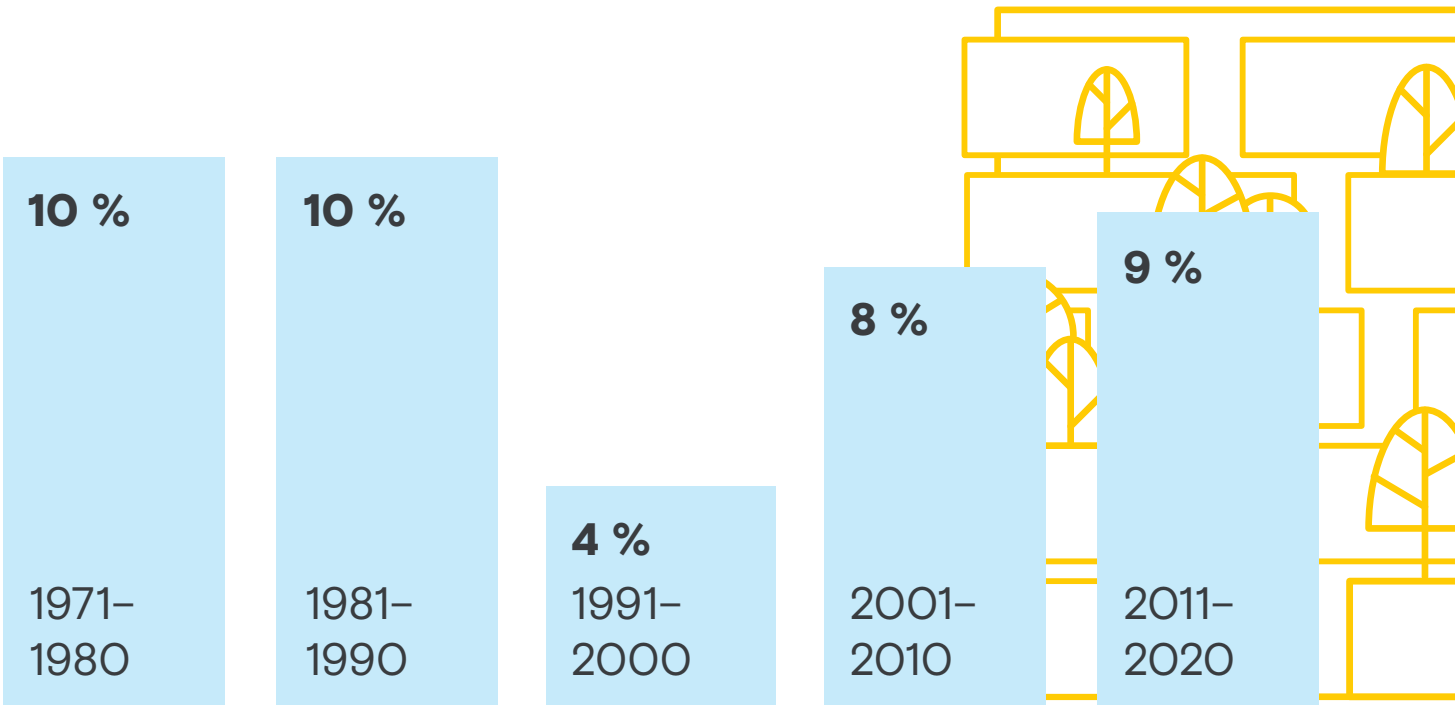


1)
Source: STATISTICS AUSTRIA. Gebäude- und Wohnungsregister (2021) and Wohnen in Wien, analysis based on housing survey conducted as part of the microcensus, update for 2021, status as per July 2022, ed. Municipal Department 23, p. 3 and p. 4

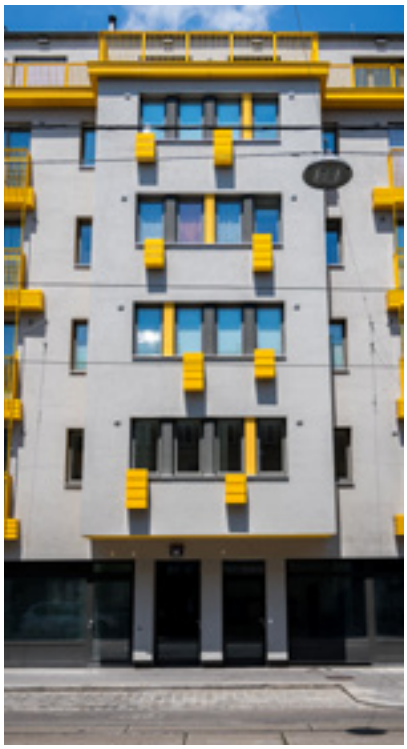
2)
Source: STATISTICS AUSTRIA. Gebäude- und Wohnungsregister (2021)

Illustration: SKIP TO L.A.

Market segment of privately-owned buildings

67% of all buildings in Vienna are privately owned (but account for only 53% of primary places of residence); the national Austrian average is 89%. Depending on building type, ownership structure and usage, three main types of privately-owned buildings can be distinguished:

Single- and two-family homes



Apartment buildings with owner-occupied/ freehold flats (independently-owned individual units)

Rental apartment buildings (often dating from the Gründerzeit period)

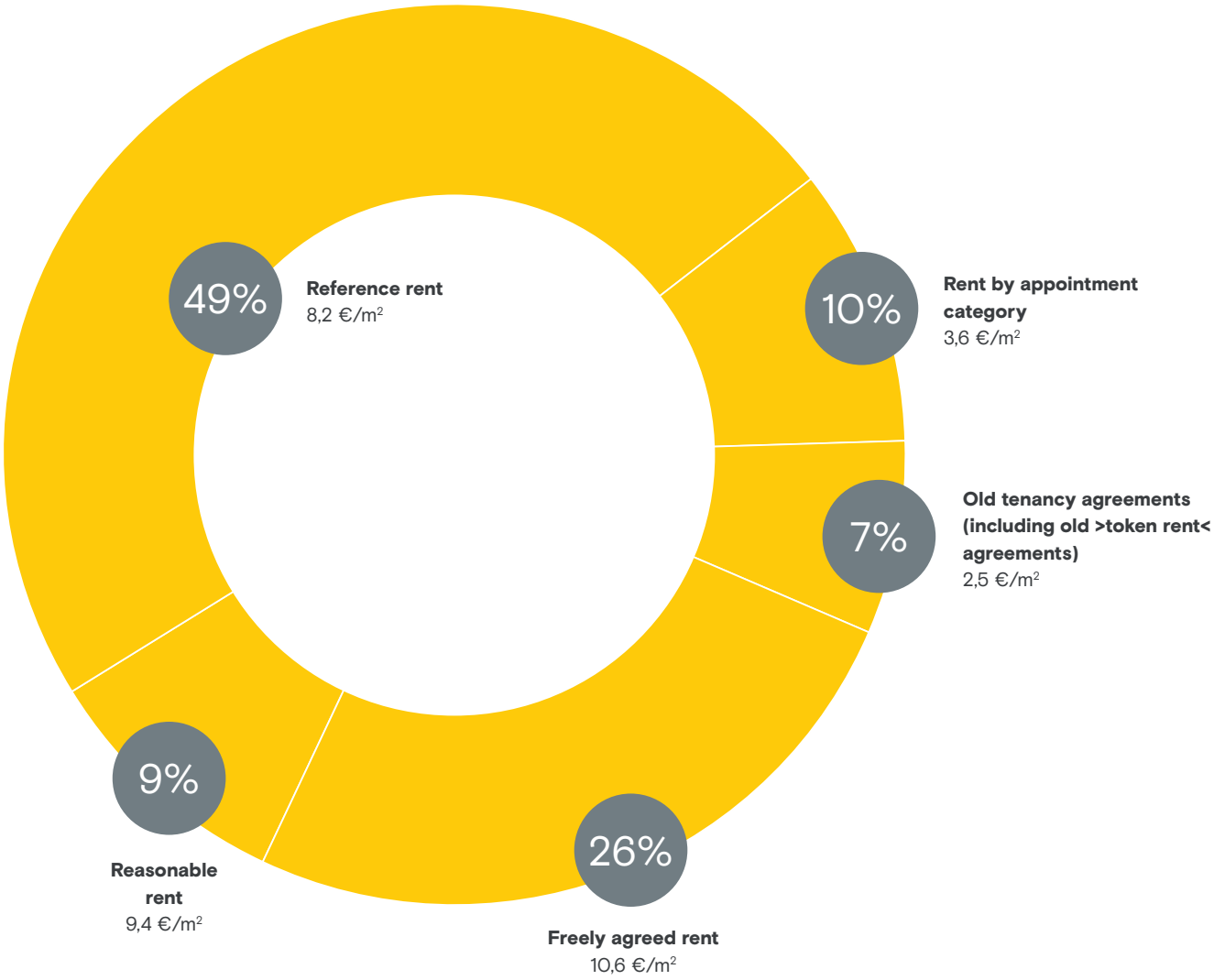
Many of Vienna's rental apartment buildings date from the Gründerzeit period and present a highly structured façade. Residential buildings containing only freehold/owner-occupied flats (condominiums) were mainly constructed in later phases of strong population growth and are characterised by simpler façades. The share of single-family homes in Vienna varies markedly across the city's 23 municipal districts: The overwhelming majority of privately-owned buildings can be found in the 17th (81%) and 18th (80%) municipal districts, while only four out of ten buildings are privately owned in the 1st (40%) and 20th (45%) municipal districts. This is above all due to building typologies: The inner districts (1st to 9th) are mainly characterised by multi-storey edifices that are either publicly owned or have been converted to condominiums.

Therefore, despite the much higher number of single- and two family homes, most of Vienna's population live in apartment buildings with numerous flats. This situation differs strongly from that in the other federal provinces of Austria, which calls for and justifies specific strategies to promote housing refurbishment in Vienna.

photos left to right:

Kurt Hoerbst 2014, Philipp Löffler, wohnfonds_wien

Distribution and average rent (including VAT) of privately-owned rental flats by rent categories in 2021 (in % and €/m²)



Source: Wohnen in Wien, analysis based on housing survey conducted as part of the microcensus, update for 2021, status as per July 2022, ed. Municipal Department 23, p. 16

Target groups for refurbishment projects

The main target groups for refurbishment projects are private building owners – mostly flat owners, but also (co-) owners of entire buildings. An important group closely linked to the owners of bigger buildings and condominiums is composed of (professionally organised) property managers (management agencies), of which there are approx. 1,000 in Vienna. They are charged with administering buildings on behalf of the flat owners. According to the Austrian Freehold Property Act, they are in charge of steering the refurbishment process in residential buildings and, hence, play a key role in planning and organising building refurbishment projects.

Energy consumption of buildings in Vienna

Private households account for around 34% of Vienna's total energy consumption (final energy) volume of 35,000 GWH.[1] The major part of the energy consumed by private households is due to household electricity (48%), while space heating accounts for 38%.[2]

Due to the high energy standards of new buildings and efficient refurbishment measures, the share and volume of energy consumption by private households have begun to decrease since mid-2000; recently, however, this decrease has slowed down.

Since 2021, the heating demand (HD) of buildings subjected to major renovations must not exceed 17 × (1 + 2.9/ℓc) kWh/m². For very compact buildings (e.g. multi-storey residential buildings), this equals an HD of 25 kWh/ m²; for non-compact buildings (such as single-family homes), the maximum value is 80 kWh/m². By way of comparison, the average heat consumption (including hot water consumption) of non-refurbished buildings is 140-180 kWh/m² for apartment buildings built after 1945, 150 kWh/m² for Gründerzeit buildings and 150-250 kWh/m² for single-family homes.

1) 2)
Source: Energy flow chart for 2020, Vienna City Administration, Municipal Department 20 – Energy Planning

Phasing out oil and gas-fired systems in Vienna

Currently, there are approximately 450,000 gas-fired heating systems in individual flats, 45,000 gas-fired heating systems in single-family homes and 3,000 central gas boiler plants in apartment and multi-storey residential buildings in Vienna. In recent years, more gas-fired heating systems were installed than replaced in the Austrian capital, leading to a slight increase of such systems in the city. Moreover, there still exist around 3,400 oil-fired heating systems in Vienna's residential buildings; their installation in new buildings as well as in major renovation projects was prohibited in January 2021.

Analysis of potentials inherent in refurbishment projects and heating replacement

A basis for the target-oriented development of services and funding schemes is provided by an estimate of the number of flats or buildings requiring thermal refurbishment/energy renovation and/or replacement of the existing heating system by units running on renewable energy sources. For this reason, Work Package 6 also contained an analysis of potentials for building envelope refurbishment and heating replacement. Due to a lack of data, this analysis of potentials is in many ways based on assumptions and expert estimates. Despite this, it does give a rough overview of the yearly quotas required until 2040 and, respectively, 2050 and thus also provides a reasonable idea of the dimensions of the challenge Vienna must confront in order to attain its climate targets.

Envelope refurbishment

Taking the 2011 census as a basis, the stock of dwellings built after 1991 (approximately 140,000 housing units, HU) is subtracted from the total stock of dwellings in residential buildings (roughly 960,000 HU). It is assumed that the buildings constructed after 1991 do not (yet) require potential thermal refurbishment/energy renovation in the 2020-2040 forecast period.

As a next step, flats in already refurbished buildings are subtracted from the total stock of dwellings in residential buildings constructed before 1991 (roughly 820,000 HU). In this field, very reliable data exist above all for subsidised, comprehensive refurbishment interventions; for buildings refurbished without subsidisation, only estimates are available. The table below shows the refurbishment potential, structured by ownership types.

Refurbishment potential by ownership types and building types

Ownership type	**private**			**PC**	**GBV**	**Total**
Building type	**Small-volume**	**Large-volume**				
	Single and two-family homes	Apartment buildings with 3-10 flats	Multi-storey apartment buildings with more than 10 flats	Sum total/Ø	Sum total/Ø	Sum total/Ø
Dwellings in Vienna 2011 (number)	**79.782**	**95.479**	**401.420**	**242.197**	**144.754**	**963.632**
Of which built between 1991 and 2011	20.888	8.828	44.030	12.468	55.793	142.007
Total useful floorspace of dwellings (m^2)	**8.090.406**	**7.863.366**	**26.631.072**	**14.775.558**	**10.461.690**	**67.822.092**
Already refurbished without subsidy	2.000	2.035	40.581	0	18.000	62.616
Already refurbished with subsidy	2.000	2.035	40.581	71.064	27.021	142.701
Refurbished dwellings (number)	**4.000**	**4.070**	**81.162**	**71.064**	**45.021**	**205.317**
Share of refurbished dwellings in housing stock built before 1991	7 %	5 %	23 %	29 %	31 %	–
Ø annual refurbishment rate 2000-2020, referred to housing stock built before 1991	0,3 %	0,2 %	1,1 %	1,5 %	2,5 %	1,2 %
Refurbishment potential (number)	**54.894**	**82.581**	**276.228**	**158.665**	**43.940**	**616.308**
Ø size of dwellings (m^2)	101	82	66	61	72	70
Refurbishment potential expressed in useful floorspace of dwellings (m^2)	**5.566.603**	**6.801.125**	**18.325.564**	**9.728.254**	**3.295.341**	**43.716.887**

Replacement of heating systems

Parallel to the RenoBooster project, several members of the project team also participated in the development of the "Wiener Wärme und Kälte 2040" concept (Heating and Cooling in Vienna 2040, WWK 2040). The resulting estimated potential for heating replacement interventions could also be used for the RenoBooster project.

Due to the participation of Wiener Netze GmbH (main electricity provider) in the WWK 2040 project, it was possible to determine the number of units in use heated with gas with great precision. However, the data of Wiener Netze do not distinguish between dwellings and other forms of use, e.g. offices, doctor's surgeries, shops and restaurants; therefore, the figures given in the table below reflect the overall number of units in use in residential buildings. Moreover, it was not possible to distinguish between ownership types, either.

Potential for heating replacement by building types

Decarbonisation types						Quantities and numbers				
Description	Building type	Construction period	Energy source	Gas for cooking	Code	Buildings / number	Units in use / number	Ø units in use per building	Number of units in use heated with fossil fuels	
									Total	In buildings with district heating
Single- and two-family homes (SFH/TFH) with fossil-fired (central) heating	SFH/TFH	fro 2001	Gas	Yes	E1	522	571	1,1	571	keine
	SFH/TFH	fro 2001	Gas	No	E2	5.211	5.657	1,1	5.550	
	SFH/TFH	bef 2001	Gas	Yes	E3	6.690	14.951	2,2	11.947	
	SFH/TFH	bef 2001	Gas	No	E4	23.404	31.666	1,4	25.783	
	SFH/TFH	bef 2001	Oil	No	E5	2.000	2.500	1,3	2.500	
					E	**37.827**	**55.345**	**1,5**	**46.351**	**–**
Apartment buildings (AB) and multi-storey residential buildings (MRB) with fossil-fired central heating	AB	fro 2001	Gas	No	Z1	160	994	6,2	994	keine
	MRB	bef 2001	Gas	No	Z2	921	27..582	29,9	27.582	
	AB	bef 2001	Gas	No	Z3	410	2.317	5,7	2.317	
	MRB	bef 2001	Gas	No	Z4	1.213	35.578	29,3	35.578	
	AB	bef 2001	Oil	No	Z5	400	2.260	5,7	2.260	
	MRB	bef 2001	Oil	No	Z6	1.000	29.331	29,3	29.331	
					Z	**4.104**	**98.062**	**23,9**	**98.062**	**–**
Apartment buildings (AB) and multi-storey residential buildings (MRB) with fossil-fired and decentralised heating (mostly gas-fired heating systems for single flats)	MFH	fro 2001	Gas	Yes	DZ1	692	4.681	6,8	3.967	genaues Zuordnen nicht möglich
	MFH	fro 2001	Gas	No	DZ2	397	2.278	5,7	1.584	
	GWB	fro 2001	Gas	Yes	DZ3	5.070	180.335	35,6	106.513	
	GWB	fro 2001	Gas	No	DZ4	365	7.570	20,7	3.943	
	MFH	bef 2001	Gas	Yes	DZ5	4.319	27.281	6,3	22.246	
	MFH	bef 2001	Gas	No	DZ6	1.714	8.952	5,2	6.058	
	GWB	bef 2001	Gas	Yes	DZ7	17.512	427.718	24,4	315.148	
	GWB	bef 2001	Gas	No	DZ8	927	17.121	18,5	10.719	
					DZ	**30.996**	**657.936**	**21,8**	**470.178**	**38.300**
					Sum total	**72.927**			**614.591**	

Geothermal heat probe
(Volkgasse, 13th municipal district)

Evaluation

Evaluation shows that, in all, approximately 615,000 units in use in roughly 73,000 buildings require replacement of their heating systems. Of these, around 46,000 units in use are located in roughly 38,000 single- and two-family homes and another 98,000 units in use, in about 4,100 centrally heated apartment buildings and multi-storey residential buildings.

A large part of the units in use thus heated, i.e. approximately 470,000, are situated in around 30,000 decentrally heated apartment buildings and multi-storey residential buildings, with around 38,000 units located in buildings already connected to the district heating network.

photo: wohnfonds_wien

National and international framework conditions

Federal Renewable Heat Act

According to the current government programme and the City of Vienna's Climate Guide, it is planned to discontinue the consumption of fossil fuels and to attain neutrality in the building sector by 2040. As soon as the statutory provisions are definitely adopted, this goal is to be achieved in several phases. The draft Renewable Heat Act of the Federal Republic provides a ban on the installation of fossil heating systems in new buildings starting in 2023. In case of existing buildings, heating systems running on coal, oil or LPG must be shut down by mid-2035 at the latest. From 2040, boilers may no longer be operated with fossil gas.

Central heating systems requiring refurbishment must be switched to district heating or renewable energy sources. Moreover, oil, coal or LPG heating systems must not be replaced with fossil fuel-fired heating systems. Decentralised oil, coal or LPG heating systems must be switched to centrally operated systems by 2035 at the latest; decentralised gas-fired systems, by 2040. Within a period of five years, individual flats in a building must then be connected to the central system.

Draft Renewable Heat Act
www.parlament.gv.at/PAKT/VHG/XXVII/ME/ME_00212/index.shtml

EU Taxonomy Regulation

To attain the climate and energy targets of the EU, investments must be directed towards sustainable projects and activities. This calls for a clear definition of what "sustainable" precisely means. The EU Taxonomy Regulation was created for this purpose.

The EU Taxonomy Regulation explicitly defines real estate transactions as "eligible" under the two environmental objectives of "climate change mitigation" and "climate change adaptation" from a catalogue of six sub-objectives for sustainable investment (the others are: sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems).

The technical screening criteria of the Taxonomy Regulation with regard to "construction and real estate activities" describe seven financing categories that range from the construction of new buildings and building renovation to the installation of energy-efficient systems and the acquisition of ownership in buildings.

The Taxonomy Regulation is to serve as a guideline to channel capital towards an ecological restructuring of the economy (Green Deal) and to prevent "label fraud" by greenwashing. Moreover, it will provide orientation for other regulatory provisions, subsidy schemes and investment decisions.

Press release of Wiener Zinshausforum
www.ots.at/presseaussendung/OTS_20220706_OTS0051/5-wiener-zinshausforum-nachhaltiger-ertrag-und-energiefitness-sind-bestimmend-fuer-moderne-vermarktungskonzepte

COVID-19 crisis and war in Ukraine

The global crises – the COVID-19 pandemic and war in Ukraine – were not foreseeable and have profoundly changed the framework conditions for refurbishment projects, as these are severely hampered by supply bottlenecks and risks with all concomitant price hikes and skills shortages.

Since the outbreak of war in Ukraine, the population across Austria has been anxious above all about potential energy supply disruptions and has been showing greater interest in measures designed to reduce energy consumption. The currently very high energy prices act as an additional motivator. This is also reflected in the much higher number of inquiries received by Hauskunft since late February 2022. Due to its early launch, Hauskunft was already fully operational in this difficult period.

The team of consultants has been stepped up. It contributes significantly to information and awareness raising among Vienna's population regarding all issues related to sustainable building refurbishment/decarbonisation. To be able to cope with the flood of inquiries, Hauskunft is developing co-operation plans with partners and envisaging a further enlargement of its team of consultants.

photo: Kupka / DIE UMWELTBERATUNG

Stakeholder and multipliers

The attainment of the project objectives was only made possible by the support of numerous stakeholders.

Therefore, relevant stakeholders were identified and proactively informed already during the initial stage of the RenoBooster project; where necessary, their support of RenoBooster and the future hub was secured.

Photo: MD-BD Clemens Kuprian

The pool of stakeholders and other interest groups is composed of:

- Real estate managers
- Owner representatives (of institutions and private owners)
- Project developers
- Planners

Private building owners were involved in several project stages in order to ensure that the services to be developed would be suitable for different types of building owners. By the same token, experts along the entire customer journey – from energy consultants to property inspectors – were asked for their feedback to ensure the development of integrated services.

In particular, further **key actors involved in RenoBooster** included bodies interested in achieving higher refurbishment volumes and qualities. On the one hand, these are parties committed to energy and climate protection policies and related objectives, e.g. authorities and consultancy companies including potential providers of integrated building refurbishment services; on the other hand, these are actors invested in the economic dimension of building refurbishment, e.g. the construction, real estate and financing sectors. All key actors thus identified are represented either in the Consortium or in the Sounding Board, which provides strategic support to the Consortium.

The RenoBooster project team was characterised by great diversity.

Special attention was paid to including important players active in such areas as administration, the construction and real estate sectors, consumer advice and financing. Project leadership was handled by the City of Vienna – Technical Urban Renewal (Municipal Department 25).

The project was assisted and monitored by a Sounding Board composed of experts from other important institutions, such as the Vienna Economic Chamber, the financial sector, the architectural and project development professions as well as real estate management. It was the task of the Sounding Board to relay the project output to the different stakeholder groups on the one hand and to submit important feedback of the stakeholder groups for further project work on the other hand. The Sounding Board met twice a year.

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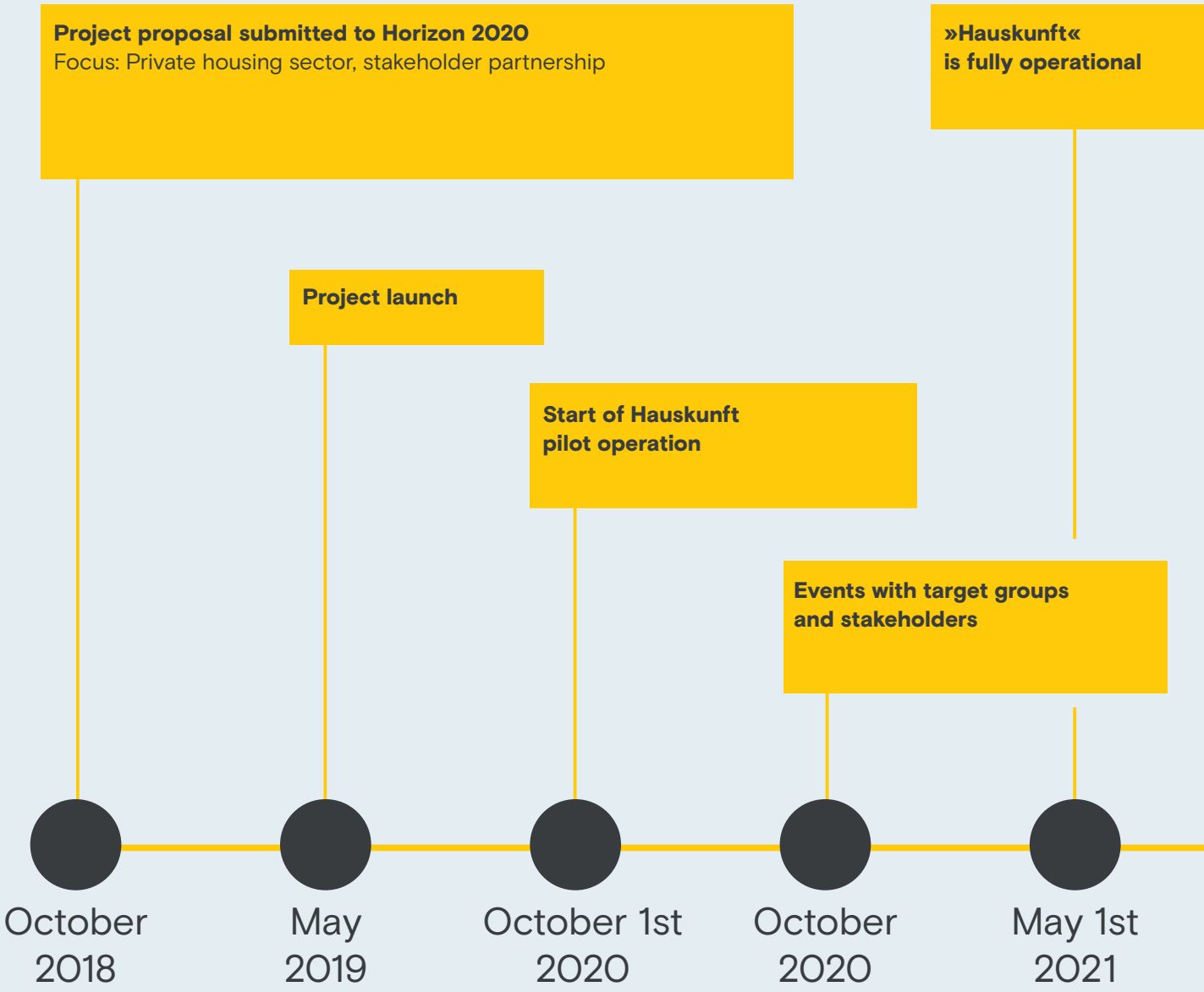
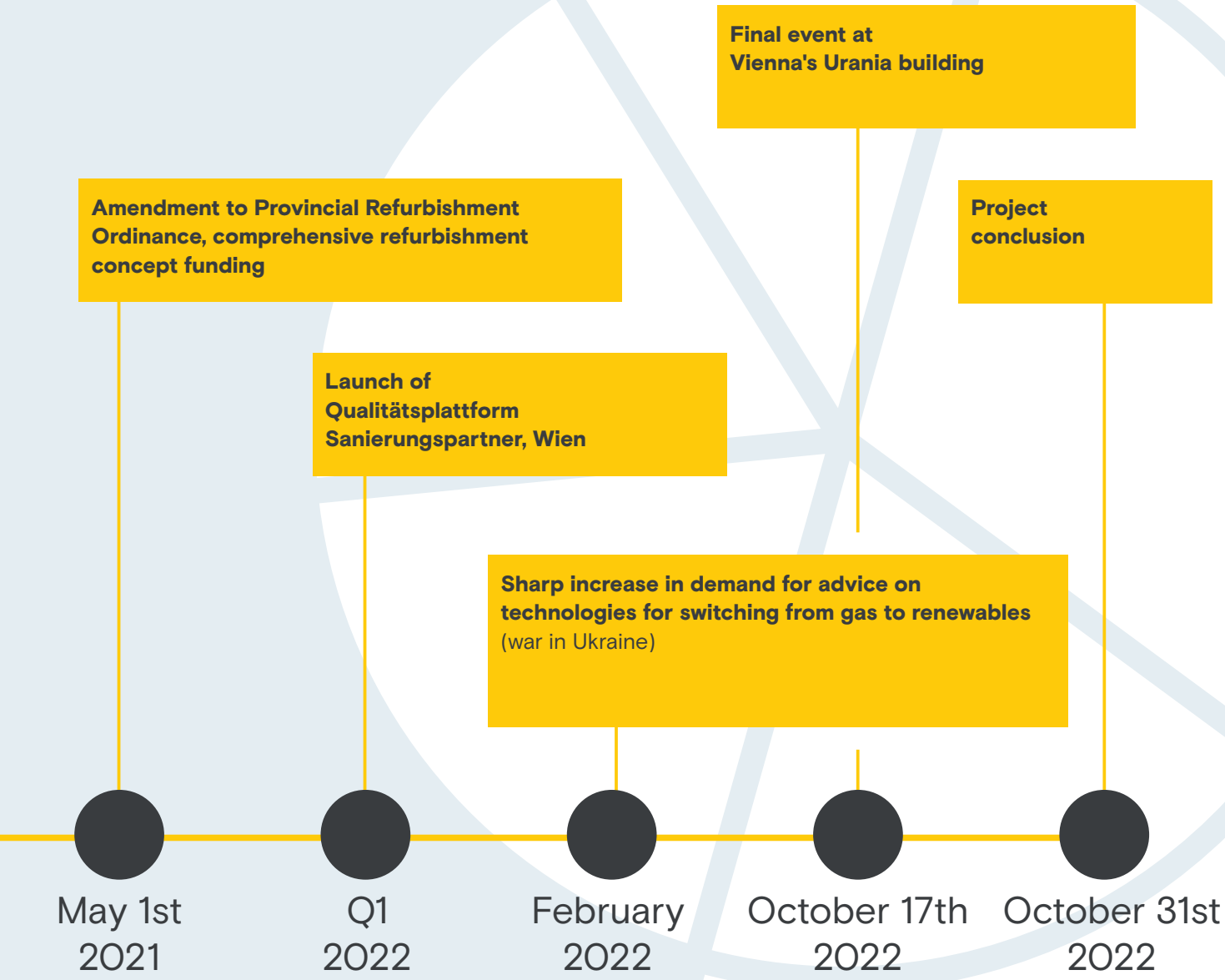
The **Sounding Board** acts as the expert board of the project.

Project milestones




Amendment to Provincial Refurbishment Ordinance, comprehensive refurbishment concept funding
Launch of Qualitätsplattform Sanierungspartner, Wien
Sharp increase in demand for advice on technologies for switching from gas to renewables (war in Ukraine)
Final event at Vienna's Urania building
Project conclusion
May 1st 2021
Q1 2022
February 2022
October 17th 2022
October 31st 2022

Project activities

Vital pillars of the work of RenoBooster included the identification of target groups, the development of a communication strategy and the analysis of the legal and economic basis as well as of financial incentives.

Foto: PID / Votava

Investigating the motivations of target groups

The target groups of the RenoBooster project were surveyed by means of workshops, focus groups, over 1,000 phone talks and in-depth interviews. To ensure high-quality results, the interviewees and participants were selected with a view to obtaining a representative cross-section of each target group. Due to systematic preparation and reflection within the Consortium, the outcomes are characterised by high standards of objectivity, reliability and validity.

Key findings:

- Refurbishments are above all carried out because they are necessary or increase living comfort.
- At the time of analysis, climate- or energy-relevant aspects rarely constituted a main reason for refurbishment but rather were “windfall effects”; however, this changed dramatically in the course of the project.
- The biggest obstacles to a decision in favour of refurbishment include a lack of knowledge and of trust as well as personal and financial risks, in addition to the considerable costs involved.
- Value preservation and cost efficiency are central aspects underpinning refurbishment projects.
- With regard to rental apartment buildings (older buildings constructed before 1945), a lack of financial incentives to introduce energy-related measures constitutes the biggest impediment.

Photo: Chief Executive Office – Construction and Technology/Clemens Kuprian

Development of communication strategy

As a rule, refurbishment projects are technically challenging, costly and time-consuming, especially if they are to exceed the absolutely required minimum. In addition, expenses and effort can mushroom almost exponentially if more than just one specific building element or building utility is to be replaced, hence necessitating several teams of specialists to carry out the works. For this reason, communication plays a key role here. RenoBooster launched a scientific exploration of a suitable communication strategy right at the project outset, resulting in the identification of three main obstacles on the way to high-quality refurbishment interventions. The survey and the qualitative one-on-one interviews have shown that all owners, notwithstanding their individual characteristics, must overcome the same three obstacles, no matter whether their property is a single-family home (i.e. a house) or a flat.

»It's all Greek to me.«

Lack of knowledge, lack of trust

Especially during the orientation stage of a rehabilitation project, owners must handle a demanding learning curve, whose course will reveal the various areas in which they lack knowledge: They need an overview of all interventions that must and can be implemented as well as information about the related costs and procedures. For this, they need trustworthy partners, i.e. planners and skilled craftspeople (and the property manager in charge of their building). The owners of single-family homes above all face the big drawback of being unable to rely on the professional assistance of a property manager.

Work input

The preparation and implementation of a refurbishment project not only cost owners money but are also time-consuming and stressful until all information is finally available and all necessary decisions have been taken. Moreover, flat owners still have to discuss their decisions with the property manager and the co-owners of flats in the building. Hence, the second obstacle that must be overcome lies in developing confidence that the expected work input resulting from the refurbishment decision can actually be mastered.

»It's all so overwhelming!«

»That'll be the end of me.«

Personal risks

The bigger a refurbishment project, the bigger the related risks. The owner's personal quality of life, financial stability and living comfort may all be impacted to a greater or lesser extent during the project and afterwards, especially if unexpected problems arise during project execution or if the technical quality and implementation of the interventions are inadequate.

Therefore, the third obstacle to overcome lies in minimising or mitigating the risks inherent in the project as far as possible.

Comprehensive refurbishment of historic building

Analysis of legal issues

The attainment of climate neutrality by 2040 and the related energy-efficient refurbishment and decarbonisation of the building stock (phasing-out of oil and gas-fired systems) has assumed top socio-political priority, not least due to the war in Ukraine.

Although Vienna may look back on a decades-long tradition of gentle urban renewal and disbursement of subsidies for refurbishment projects, the actual implementation of increasingly urgent climate policy measures for rental apartment buildings and condominiums still poses a series of legal and financial challenges due to the complex legal situation and case law.

RenoBooster has addressed these issues in great depth and commissioned relevant legal opinions, whose findings are given below in abbreviated form:

Photo: Technical Urban Renewal

Refurbishment and decarbonisation under tenancy law

Vienna is a city of tenants. Of 925,000 primary places of residence in Vienna, 76% are rental units. The private rental market covers 300,000 tenant households.

The overwhelming majority of privately rented flats (212,000) are situated in older buildings constructed before the end of the Second World War; many of them date from the Gründerzeit period with its typical structured façades, etc. Rental units in such buildings are largely governed by the Tenancy Act (Mietrechtsgesetz, MRG). Most Viennese apartment buildings from that period are heated with decentralised gas-fired systems (single-flat systems). Converting these heating systems and introducing thermal improvements of the building envelope are quite difficult to implement because of the architectural structure of these buildings but also due to limitations imposed by public law (cityscape protection, architectural protection zones, etc.).

Of **925,000 primary places of residence in Vienna, 76%** are rental units.

Building maintenance or building improvement?

According to the provisions of the Tenancy Act, it is incumbent on the landlord to maintain central heat supply facilities as well as decentralised heating systems in rental units if these are part of the unit as rented by the tenant. Conversely, the landlord is not obligated to maintain a heating system that was installed by the tenant and, hence, is not reflected in the rent paid.

Moreover, the classification of works as maintenance or improvement interventions has consequences for financing modalities and the tenant's obligation to tolerate such works. However, works can only be classified as necessary maintenance interventions if a defect, such as the need for repairs or an impairment of functionalities, etc., was clearly established. Furthermore, the costs must be "appropriate" and, in case of renewable energy systems, "economically viable".

Principally, maintenance works have to be tolerated by the tenant. Conversely, improvement interventions inside the rental unit are subject to stricter regulations regarding financing and the tenant's obligation to tolerate and, in fact, require the tenant's consent.

For this reason, the accelerated switch to renewable energy systems poses special challenges within the scope of the Tenancy Act unless these interventions were ordered by public authorities. It is moreover questionable whether measures for energy generation, in addition to measures for reducing energy consumption, could be covered by the concept of maintenance as defined in the MRG, such as – and in particular – the installation of devices for the generation of renewable energy.

While tenants have no say in the retrofitting of central heat supply facilities, they only have to tolerate the switch to a climate-friendly heating system inside a rental unit if this intervention can be classified as maintenance work. So far, case law has qualified the creation of a district heating connection as an improvement intervention, which is not covered by the tenant's obligation to tolerate and, hence, requires the tenant's consent.

According to the applicable statutory provisions in their entirety, tenants are not obligated under the Tenancy Act to tolerate the replacement of the heating system in their flats. Thus, a tenant may also refuse the replacement of the heating system in his or her flat without stating reasons.

Burden sharing and cost sharing

According to the currently applicable statutory provisions, the costs of energy efficiency measures in buildings or of the replacement of heating systems commissioned by the landlord or possibly implemented in the future as a result of an obligation under public law must not be imposed on tenants. Moreover, it must be borne in mind that the landlord is not only obligated to cover the actual costs of heating system replacement but all related preliminary and follow-up interventions, including any compensation claims on the part of tenants, as well. In connection with the decarbonising replacement of heating systems, numerous such secondary maintenance interventions may become necessary, while compensation claims, too, may occur.

The retrofitting of heating systems alone entails substantial investment costs ranging from currently Euro 100 to 400 per square metre. Public subsidies granted for these works to landlords (and tenants) are currently unable to significantly mitigate these expenses. Under the applicable statutory provisions of the Tenancy Act in their entirety, the legal possibilities of integrating investment costs for improving energy efficiency or for other climate protection measures (such as switching to a climate-friendly heating system) over time into the rent to be paid by tenants are extremely limited.

The system for calculating reference rents does not really allow for climate-friendly improvements of building utilities or the enhancement of a building's energy efficiency to be mirrored in the hierarchy of surcharges forming part of the monthly rent. In the rent-cap housing segment in particular, there is a lack of incentives to invest in energy-efficient, resource-conserving and climate-friendly installations.

To boost high-quality refurbishment projects, financing models are called for that offer building owners incentives to invest in resource-conserving, integrated building utility concepts.

Refurbishment and decarbonisation of freehold/owner-occupied flats

As a legal concept, home ownership is defined as the proportional co-ownership of a piece of real estate with the right to exclusive use of a specific housing unit. Thus, flat owners always are also co-owners of the entire piece of real estate, which consequently entails responsibility for the general portions of this building: The owner community is responsible for the external building envelope including the roof, windows, façade, chimneys, utility lines and pipes, staircases, shared heat supply facility, lift, etc., and all owners are obligated to bear the costs for these portions proportionately. Decisions regarding the maintenance and improvement of the general portions of a propertymust

Retrofitting heating systems to energy-efficient standards costs **Euro 100 to 400** per square metre.

be taken by a majority of flat owners; thus, many divergent interests must be reconciled.

Furthermore, there exist variously formulated minority rights for outvoted parties or modification rights of individual flat owners.

As a rule, a manager is chosen to administer the property; this legal or physical person represents the owner community in all administrative matters, manages the property by providing caretaking services, concludes agreements, handles payments and also implements decisions of the owner community. The property manager or managing agency represents the owner community. The manager is in charge of proper maintenance of the property but is also obligated to protect the shared common interests of all flat owners and to administer the property according to the principles of economic efficiency, thrift and appropriateness.

In the context of ordinary management activities, the property manager may also take independent decisions; in these cases, the property manager may – but is not obligated to – obtain decisions from the owner community. With regard to extraordinary administrative measures, such decisions are mandatory; however, the boundary between ordinary and extraordinary administrative measures is not always clearcut, as will be described in greater detail below.

With the 2022 WEG amendment, **climate policy** became a **fixed element of housing law.**

Changes brought about by the current amendment to the Freehold Property Act (WEG) of 2022

With the current (2022) amendment to the WEG, housing legislation for the first time takes account of climate policy; at the very least, this may be regarded as an initial step towards facilitating the implementation of climate-political measures. The current measures are to relax the conditions governing the retrofitting rights of individual flat owners. The preconditions for the ex-post creation of electric charging stations as well as for other climate-relevant modifications, such as the installation of solar or photovoltaic systems in terraced and free-standing houses or shading devices, were simplified.

With regard to property management, the fixing of legal minimum reserves and less stringent requirements for the adoption of majority decisions are to increase the likelihood of climate protection and modernisation measures – thermal refurbishment, energy efficiency improvements of the building stock or the transition from fossil fuels to renewables – being implemented.

From 1 July 2022, some decisions may also be adopted without the consent of a majority of all co-ownership shares. Hence, a decision is now valid if taken by a qualified majority of two thirds of the votes cast, calculated on the basis of co-ownership shares, and if this two-thirds majority attains at least one third of all co-ownership shares. Thus, the determination of the required two-thirds majority hinges on the number of votes cast. Basing the determination of whether a majority is reached on the votes cast increases the chances of attaining a majority decision because this curbs the influence of nonvoting flat owners.

The WEG amendment may be regarded as a first step towards further housing law initiatives of the legislator to promote climate protection. Above all with regard to the decarbonisation of the building stock, further adjustments of the tenancy and freehold property laws are necessary, also in view of the upcoming Renewable Heat Act (Erneuerbare-Wärme-Gesetz, EWG), which is to introduce the obligation under public law to gradually limit the installation but also the operation of fossil-fired heating systems.

Is the climate-friendly replacement of heating systems an extraordinary or an ordinary administrative measure?

With regard to the replacement of heating systems in condominiums, one must primarily distinguish whether heat supply is central (for the entire building) or decentralised (one separate system for each flat). The conversion of a central heating system to another type of heat supply constitutes an extraordinary administrative measure, which requires a majority decision. It is not yet clear whether individual flat owners have an obligation to tolerate accompanying measures carried out in their own flats. Principally, the obligation to tolerate only extends to maintenance interventions but not to measures to improve general portions of a property; however, it is certainly conceivable that an obligation to tolerate may be convincingly argued. In this case, the costs of heating replacement must be financed from the reserve.

Switch from decentralised to central heating

An owner community wishing to switch from a decentralised to a central heating system will be able to do so as an extraordinary measure based on a majority decision. This will in any case require a majority decision, which may be appealed by the outvoted owners within a period of 3 months (or 6 months if they were not duly notified). However, flat owners who want to continue using their decentralised heating system cannot be forced to connect to the central plant.

The switch to a **central heating system** requires a **majority decision.**

What changes in the field of home ownership are brought about by obligations under public law?

Ultimately, it remains to be seen what specific measures will be adopted by the Federal Republic through the EWG, which as yet is only a draft law.

If the replacement of heating systems to promote decarbonisation is ordered under public law, this measure will be classified as a maintenance intervention, analogously to tenancy law.

Analysis of existing funding instruments in Vienna

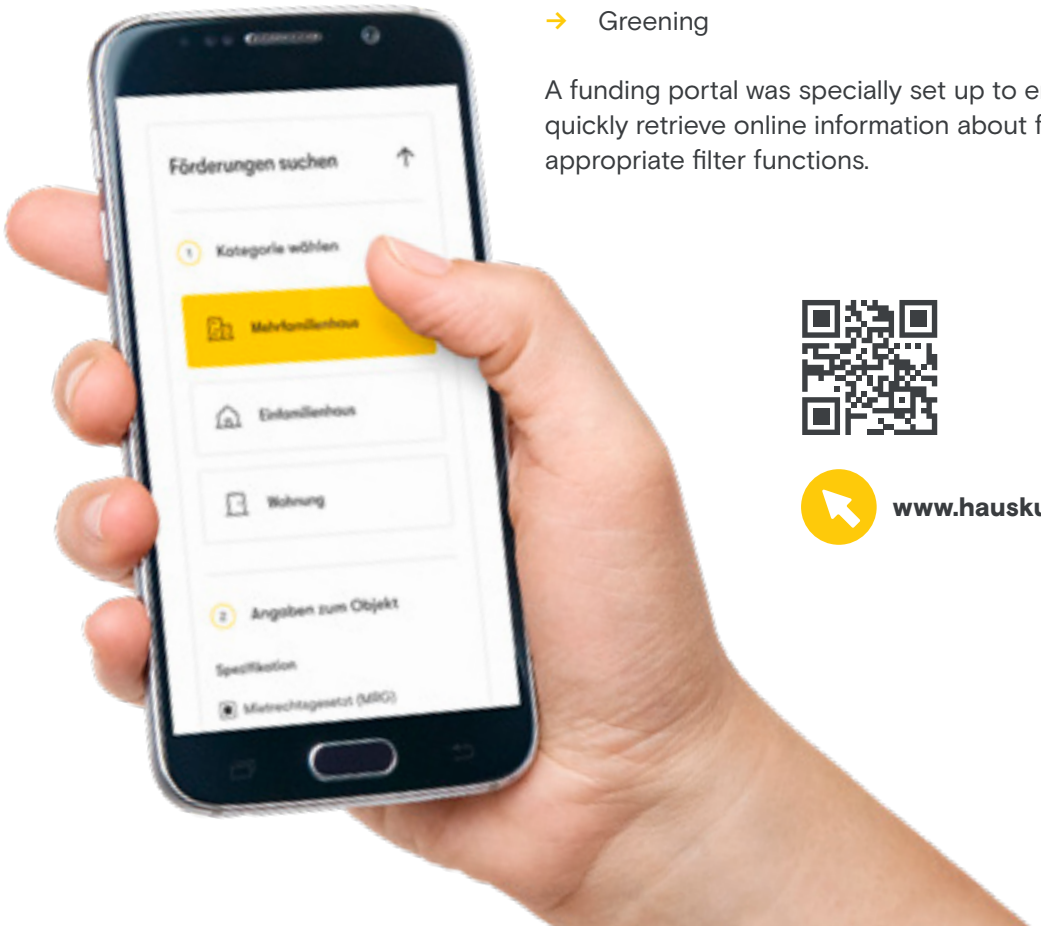
The funding instruments for housing refurbishment constitute a vital toolbox for improving housing quality and advancing climate protection. This set of tools was developed over decades to serve highly divergent objectives and target groups and comprises many different funding channels and schemes. Tapping them often requires specially trained consultants, and this was one of the reasons for setting up Hauskunft – namely, to be finally able to pool all information in one place.

In the course of the RenoBooster project, the existing subsidy options were screened and organised for one-stop presentation. Further outcomes include special funding for the preparation of comprehensive refurbishment concepts and, consequently, the development of a refurbishment concept template.

The funding instruments are structured into refurbishment projects for owner-occupied flats/houses and for apartment buildings with multiple housing units and reflect the following categories:

- Comprehensive refurbishment and energy-efficient refurbishment of individual building components
- Densification of built structures (attic conversions)
- Maintenance interventions and measures to increase living comfort
- Building utilities and energy efficiency
- Greening

A funding portal was specially set up to enable interested parties to quickly retrieve online information about funding channels by means of appropriate filter functions.



www.hauskunft-wien.at/foerderportal

Funding scheme overview

<table>
<tr><td rowspan="11">Large-scale refurbishment</td><td>COMPREHENSIVE REFURBISHMENT</td><td>MAINTENANCE INTERVENTIONS AND LIVING COMFORT</td><td>BUILDING UTILITIES AND ENERGY EFFICIENCY</td></tr>
<tr><td>Comprehensive refurbishment (+ conservation of existing stock)</td><td>Living comfort</td><td>District heating connection/ central heating</td></tr>
<tr><td>Refurbishment of building envelope</td><td>Passenger lifts</td><td>Co-funding by the Federal Province of Vienna for waste heat recovery projects</td></tr>
<tr><td>Residence/dormitory funding</td><td rowspan="2">Maintenance interventions for properties mainly of categories C and D</td><td>Funding in support of mobility projects</td></tr>
<tr><td>Refurbishment of façades under monument protection</td><td>E-mobility promotion (electric vehicles and charging stations)</td></tr>
<tr><td>Comprehensive refurbishment (demolition + new or largely new construction)</td><td>Maintenance interventions, building safety, barrier-free design</td><td>E-car sharing in housing development</td></tr>
<tr><td>Structural improvement</td><td colspan="2">GREENING</td></tr>
<tr><td>Creation of car parking spaces</td><td>Inner courtyard greening</td><td>Roof greening</td></tr>
<tr><td>Demolition of buildings and parts of buildings</td><td>Façade greening</td><td>Greening of company premises</td></tr>
<tr><td colspan="2">Thermal and energy renovation of residential buildings (THEWOSAN)</td><td>Ddensification of built structures</td></tr>
<tr><td>Funding for heating demand reduction</td><td>Refurbishment of individual building components</td><td>Attic and loft conversions</td></tr>
<tr><td rowspan="2">large & small</td><td>Comprehensive refurbishment concept funding</td><td rowspan="2">BUILDING UTILITIES AND ENERGY EFFICIENCY</td><td rowspan="2">With refurbishment of building envelope</td><td rowspan="2">With thermal and energy renovation</td></tr>
<tr><td>Funding for refurbishment concepts</td></tr>
<tr><td rowspan="8">Small-scale refurbishment</td><td rowspan="2">THEWOSAN (small-scale)</td><td>Water-to-water heat pump</td><td colspan="2">Attic/loft conversion for owner's personal usef</td></tr>
<tr><td rowspan="2">Air-to-water heat pump</td><td colspan="2" rowspan="2">Funding for heating systems</td></tr>
<tr><td>Funding for heat demand reduction</td></tr>
<tr><td rowspan="3">Refurbishment of individual building components</td><td>Photovoltaic plant</td><td rowspan="3">Switch to district heating and installation of appropiate technology</td><td rowspan="3">Switch to highly efficient alternative energy systems and installation of appropriate technology</td></tr>
<tr><td>Stationary electricity storage system</td></tr>
<tr><td colspan="3">MAINTENANCE INTERVENTIONS TO ENHANCE LIVING COMFORT</td></tr>
<tr><td>Soundproof windows</td><td>Sanitary installations in flats</td><td rowspan="2">External sun protection</td><td rowspan="2">Age-adequate and barrier-free remodelling of flats</td></tr>
<tr><td>Thermally insulated windows</td><td>Improvement of category standard</td></tr>
</table>

Funding scheme overview developed by Daniel Glaser,
Housing Promotion and Arbitration Board for Legal Housing Matters (Municipal Department 50)

Window refurbishment for Jugendstil building
(Bunsengasse, 21st municipal district)

Financial engineering – Further financial incentives and business models (contracting)

Most implemented projects for comprehensive building refurbishment or heating system retrofitting rely on several financing sources, with the client's own capital, subsidies and bank loans as main pillars of funding. In addition, energy supply contracting plays an increasingly important role especially in the switch from oil or gas to more climate-friendly heating systems. The RenoBooster project examined all these financing solutions and contributed to the information and networking of stakeholders as well as to the improvement of the funding basis for building refurbishments:

- The 2022 amendment to the Freehold Property Act (WEG) introduced a minimum reserve of Euro 0.90 per square metre and month to improve the financial basis of condominium complexes.
- The most recent amendment to Vienna's housing subsidy schemes duly adjusted the funding disbursed for refurbishment projects and the replacement of heating systems and also introduced the first-ever possibility of subsidising refurbishment concepts.[1]

1) Comprehensive refurbishment concept funding
www.hauskunft-wien.at/news/forderung-eines-gesamtheitlichen-sanierungskonzeptes

Photo: MP Architekten ZT GmbH

- Together with banks, their current financing solutions for building refurbishment projects and the replacement of heating systems were screened (such as long-term bank loans via the European Investment Bank with fixed interest – e.g. Erste Bank Green Housing) and potential ways of co-operation with Hauskunft for contacting clients were discussed (including a workshop with several representatives of the banking sector on 1 February 2022).

- On 21 July 2022, a major event with over 100 participants focused on new business models for climate-neutral energy supply. The event presented contracting solutions for the switch to climate-neutral heating systems by presenting already implemented projects. A follow-up event featuring further concrete examples will take place on 27 October 2022.

A **central portal of funding options** would be welcomed by clients.

Federally disbursed funding for building refurbishment and the replacement of heating systems

Projects for building refurbishment and the replacement of heating systems are not only supported through the Federal Province of Vienna's instruments (which are administered at the provincial level) but also through funding channels disbursed by the Federal Republic. These funds may be additionally applied for and are handled by Kommunalkredit Public Consulting GmbH (KPC). A central portal of funding options that allows for the uniform administration of all funding at both the federal and provincial levels would be welcomed by clients but is not yet available. In this context, a streamlining of funding criteria, too, would render the process much easier for clients.

Financing offers by banks/ESG and compliance with the Taxonomy Regulation

Even if clients can draw on funds disbursed by the Federal Province of Vienna and/or the Federal Republic, a large part of building refurbishment costs must almost always be financed via bank loans. Direct talks with banks have shown that most of them today dispose of customised financing solutions for building refurbishment and the replacement of heating systems. Banks are faced with the necessity of being able to prove that a growing segment of their financing schemes complies with the ESG regulatory framework and the Taxonomy Regulation, hence demonstrating that financing models for sustainable investments are part of their portfolio. Building refurbishment and the switch of heating systems to climate-friendly energy supply constitute an important element towards this goal, even though criteria and processes for documenting compliance are still being developed. At the moment, energy performance certificates documenting refurbishment projects constitute the most important evidence for proving compliance. However, criteria for documenting taxonomy compliance are currently still underway, although it is likely that modules complementing the already established building certificates (e.g. klimaaktiv, ÖGNI/Austrian Sustainable Building Council, etc.) as well as comparison and alignment of individual taxonomy criteria with the available housing construction subsidies will constitute the most efficient approaches.

Criteria for documenting taxonomy compliance are currently still being developed.

Energy supply contracting/new business models

According to the current provisions under the Tenancy Act, the costs for building refurbishment and the replacement of heating systems cannot be passed on from building owners to tenants. Solutions that would be viable on a long-term basis – e.g. conversion to heat pumps in combination with geothermal probes – are often not implemented due to the massive initial investment, despite the possibility to apply for subsidies. A potential way out is suggested by new business models: Here, external third parties construct and operate the new heating system – possibly also including the geothermal probes – at their own expense, while the investment costs remaining after subtraction of the subsidy are factored into the energy tariff (similar to the district heating model).

By now, several providers that offer the construction and operation of climate-friendly or climate-neutral energy supply systems for existing apartment buildings as their USP are well-established in the market. During an event organised on 21 June 2022 for property managers and building owners, two concrete building refurbishment projects entailing the conversion to heat pumps with geothermal probes (Geblergasse in the 17th municipal district/construction and operation by the BCE company and Zwölfergasse in the 15th municipal district/construction and operation by the Terra company) were presented and discussed.

WieNeu+

Stadt Wien

The possibility of climate-friendly energy supply solutions extending across several buildings above all harbours major potentials for decarbonising the building stock outside of zones supplied by district heat.

These questions are addressed in detail by the urban renewal programme **WieNeu+** on the basis of actually implemented projects.

wieneuplus.wien.gv.at

In the course of a comprehensive refurbishment project in Geblergasse in the 17th municipal district (project developed by zeininger architekten), the heating system was converted to solar energy and heat pumps with geothermal probes (top: building after refurbishment, bottom: situation before refurbishment).

Photos: Lisi Zeininger, zeininger architekten

Analysis of European good practices

In the context of RenoBooster, 16 relevant organisations operating one or several one-stop shops (OSS) were analysed. All organisations offer support for housing refurbishment measures with a focus on private building owners. The available services for building owners range from individual interventions, general awareness raising or independent counselling on energy-saving measures to package solutions with financing advice and subsequent implementation of these interventions. The costs of the services on offer range from zero – most free-of-charge 16 services are delivered by public bodies (e.g. independent counselling) – to services fully payable by the building owner (e.g. package solutions). Personal contacts (via an information desk) and a website are key channels of all one-stop shops to reach their target groups. The necessary interdisciplinary know-how constituted a major challenge for all service bodies. All concurred that the refurbishment sector for single-family homes and smaller apartment buildings with fewer flats is more complicated and less profitable for planners and technical service providers than residential buildings with at least 20 housing units.

1. **Île de France Energies**, Pantin near Paris (FR)
2. **CoachCopro**, Paris (FR)
3. **SPEE**, Picardie (FR)
4. **Homegrade**, Brussels (BE)
5. **The Brussels Green Loan**, Brussels (BE)
6. **Leiedal** (»Warmer Wonen« – REFURB Project, Kortrijk (BE)
7. **Reimarkt**, 6 branch offices (NL)
8. **ACE-Retrofitting Project**, Antwerp (BE)
9. **ACE-Retrofitting Project**, Liège (BE)
10. **Better Home**, Copenhagen (DK)
11. **Frederikshavn (INNOVATE Project)**, Frederikshavn (DK)
12. **Haarlemse Huizenaanpak**, Haarlem (NL)
13. **Octave, Alsace Champagne – Arden Lorraine**, Strasbourg (FR)
14. **Småland-Blekinge pilot OSS**, Växjö (SE)
15. **Retrofit Works**, London (GB)
16. **Tighean Innse Gall**, Stornoway, Isle of Lewis, Scotland (GB)

Exchange at the European level

Being part of the Horizon 2020 programme, RenoBooster is a member of a European network. In the context of the Green Deal, the “renovation wave” was launched on 14 October 2020 with the Communication of the European Commission “A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives”. It is an integral part of the roadmap for implementing the European Green Deal. Vienna, too, wants to ride this wave with RenoBooster.

RenoBooster was invited for exchanges of opinion by numerous representatives of comparable EU projects as well as by networks including the Covenant of Mayors (EU co-operation movement), by the EU database CORDIS and by research projects, with a special focus on the question: How does Vienna deal with this issue?

An issue frequently addressed in these talks concerned Vienna’s special resilience based on the city’s decades-long tradition of systematic support for urban renewal and building renovation (“gentle urban renewal”), a varied set of funding schemes and a network of relevant institutions, such as wohnfonds_wien.

17 **Cordis**, Brussels (BE)

18 **Energy Renovation**, Antwerp (BE)

19 **Homegrade**, Brussels (BE)

20 **Île de France Énergies**, Paris (FR)

21 **Covenant of Mayors (CoM)**, Brussels (BE)

22 **Opengela**, Bilbao and Eibar (ES)

23 **ProRetro,** Wuppertal, Böblingen, Berlin, Hanover, Bottrop (DE)

24 **Transition Stories**, Turnhout (BE)

25 **Cities4PEDs**, Stockholm (SE)

26 **SEI Forums roundtable in Slovenia**, Ljubljana (SL)

27 **Urban Future Conference**, Helsingborg (SE)

28 **Smart City SuMMit**, Vienna (AT)

29 **ORFEE**, (FR)

30 **PadovaFIT / Climate Alliance**, Padua (IT)

Hauskunft

Together with Qualitätsplattform Sanierungspartner Wien, Hauskunft is the central institutionalised project outcome of RenoBooster. Since October 2020, it is the contact point for refurbishment-related matters in Vienna.

Hauskunft (a play on words that combines the German terms for “house” and “information”) offers free-of-charge, impartial and individual counselling. Advice is available for the owners of single-family homes, condominiums or apartment buildings as well as for property managers and planners intending to render their properties climate-friendly and fit for the future.

Photo: PID / Votava

Objectives

The objective lies in rendering building refurbishment as easy as possible and to provide information concerning all related aspects. As a future-oriented consultancy service, Hauskunft focuses on issues such as building refurbishment and building envelop insulation, building utilities including the replacement of heating systems and alternative energy sources, barrier-free design and living comfort, flat upgrading and the addition of new flats, the greening of buildings as well as subsidies disbursed at the provincial and federal levels.

> Hauskunft makes an important contribution towards the attainment of the climate targets by 2040. After all, the high-quality refurbishment of existing residential buildings in Vienna helps to conserve energy and cut down on emissions while increasing the living and housing quality of the population.

Structure, financing and organisation

The structure and organisational development of the Smart Renovation Hub Vienna and Hauskunft is based on an extensive status analysis and needs assessment conducted at the outset of the project. Further key factors included strong commitment on the part of the City of Vienna and – a true cornerstone – independent, impartial and free-of-charge support.

The result is a “hub+” concept that, on the one hand, offers and constantly expands important supportive services through a hub (Hauskunft), while additional services (the + sign) addressing practical project execution are provided by a separate platform.

At a very early date, it was clear that the new hub should be established close to the Vienna City Administration in order to generate additional services for owners and simplify the network procedures. After a successful test stage from October 2020 to March 2021, Hauskunft was integrated into the organisation of RenoBooster’s partner wohnfonds_wien in April 2021, as that body has acquired extensive expertise in the field of subsidised housing refurbishment over many years. The first consultancy team was composed of four persons, with reliance on the expertise and experience of RenoBooster’s partners wohnfonds_wien and DIE UMWELTBERATUNG. In May 2021, financing by the City of Vienna was safeguarded for the coming years thanks to a City Council resolution.

Development of services and test phase

In addition to establishing a contact point (Hauskunft), it was also a fundamental task of RenoBooster to develop the services to be provided. These considerations were informed by the experiences of wohnfonds_wien and DIE UMWELTBERATUNG as well as by international experiences and a market analysis conducted by SORA.

The objective lay in creating independent (i.e. impartial and product-neutral) consultancy services that would enable interested clients to obtain, on the one hand, a comprehensive idea of the necessary refurbishment interventions and, on the other hand, to recognise the added value inherent in future-oriented refurbishment. This is to enhance the refurbishment quota and refurbishment quality in Vienna.

So far, all consultancy services thus developed are free of charge. Moreover, such aspects as safeguarding property value, living comfort and ecology were identified as decisive areas to consider for the future.

To further improve the customer journey, all offerings and services are evaluated on an ongoing basis and further developed as required.

The consultancy services of Hauskunft are complemented by those of Qualitätsplattform Sanierungspartner Wien (Quality Platform of Refurbishment Partners Vienna), which networks specialised companies and parties interested in implementing refurbishment projects.

Current service range

	Initial stage	Planning stage	Execution stage	Utilisation stage
Orientation Counselling				
Future Check				
Refurbishment Concept				
Quality Platform		Separate association since Jan 2021		

Available services

At the conclusion of the project, four consultancy formats had proven most successful; they form the basis for the work of Hauskunft. Appointments can be booked via hotline:

→ The **Orientation Counselling** format was launched in autumn 2020 as the first Hauskunft service. Owners of single-family homes, apartment buildings or flats as well as property managers may count on independent counselling tailored to their specific refurbishment projects. Objectives include providing an overview of framework conditions, highlighting various refurbishment possibilities, supporting clients in the decision-making process and informing them about further consultancy services of Hauskunft and Qualitätsplattform Sanierungspartner Wien.

→ The **Future Check (single-family home)** format provides owners with sound information about such issues as safeguarding property value, living comfort and ecology. Especially in case of comprehensive refurbishment ventures, an on-site inspection and analysis of potentials are part of the service. When providing an overview of refurbishment possibilities, comprehensive solutions and an eventual multi-stage plan are given priority

to prevent poor decisions and, hence, bad investments. Interested parties are given concrete recommendations for action and extensive information about quality standards, savings potentials, funding schemes and ideas for further support (e.g. Quality Platform).

→ The **Future Check (apartment building)** format provides owners of apartment buildings with multiple flats, owner communities and property managers with sound and independent information to facilitate decision-making. In this format, communication is largely conducted via the property management agency as the representative of the owner community.

→ **Counselling on subsidised comprehensive refurbishment concepts** was launched with the coming into force of the amendment to the Refurbishment Ordinance of 2008 as per 1 May 2021. Since that date, the development of comprehensive refurbishment concepts for interventions to improve thermal and energy efficiency is eligible for funding. Hauskunft offers related counselling and safeguards the quality of applications through objective evaluation.

Photo: PID / Wache

Website / newsletter / contact

www.hauskunft-wien.at presents services and news relating to Hauskunft. Relevant issues, such as the importance of phasing out oil and gas consumption and instruments to achieve this goal, as well as events in the real estate sector are covered here.

An e-newsletter contains seasonal information and details about upcoming events and training activities at various levels.

E-Mail: beratung@hauskunft-wien.at
Address: Stadiongasse 10, 1010 Wien
Hotline: +43 1 4028400

www.hauskunft-wien.at

Photo: Dan Nelson / Montage

Interactive refurbished building

The interactive refurbished building provides interested visitors to the Hauskunft website with a good overview of eventual refurbishment potentials and various refurbishment interventions, such as insulation, building utilities, barrier-free design and living comfort as well as façade and roof greening. For interested parties, this is a good place to visit before planning a counselling appointment at Hauskunft.

Building

Open space design

Building utilities

Living comfort

www.hauskunft-wien.at/sanierungsmassnahmen

Grafik: Jill Goritschnig

Evaluation

Hauskunft took up operation in October 2020. Between October 2020 and the end of June 2022, a total of 2,562 counselling sessions preceding actual refurbishment interventions were conducted. Hence, the evaluation details given below relate to the demand for consultancy services as well as to their nature, scope and quality.

To measure the long-term climate-relevant impact of Hauskunft, clients were asked whether they would participate in a survey 1 to 2 years into the future. At that time, it will be possible to conduct a concrete evaluation of the interventions implemented and their effects (relevance for the climate, emission reduction). Rund 50 % der Beratungen betrafen Eigenheime.

- Around 50% of counselling sessions concerned single-family homes.
- 15% of counselling sessions concerned apartment buildings with multiple flats.
- 30% of counselling sessions concerned condominiums.
- Most parties interested in refurbishment projects were owners (70%); the rest were co-owners (13%), property managers (6%), planners (5%) and others (6%).
- In the course of these 2,562 counselling sessions, 8,632 questions were addressed, which indicates the high intensity of the sessions. The most frequently discussed issues were heating, funding, building refurbishment, thermal insulation and alternative energy sources.

Photo: PID / Votava

Target

Target group	Number	%
Owners	1779	70
Co-owners	344	13
Property managers	145	6
Planners	134	5
Others	157	6

Issues discussed

Issue discussed	How often addressed (absolute figures)	How often addressed (%)	Share in issues discussed, total (%)
Heating	1669	65	19,34
Subsidies	1553	61	17,99
Alternative energy sources	977	38	11,32
Building refurbishment, thermal insulation	922	36	10,68
Water heating	713	28	8,26
Heat pumps	687	27	7,26
Window replacement	466	18	5,40
Refurbishment concept funding	310	12	3,59
Maintenance, structural damage, mould	132	5	1,53
Barrier-free design, living comfort	91	4	1,05
Comfort during summer months, shading, cooling	94	4	1,09
Greening of buildings	40	2	0,46
Ventilation, air conditioning	21	1	0,24
Other	957	37	11,09
Total	**8632**		

Building types

Building type	Number	in %
No type selected	61	2
SFH – Single-family home/allotment garden house (maximum 2 flats)	1306	51
AB – Rental apartment building (minimum 2 flats)	386	15
ABC – Rental apartment building, co-operative (minimum 3 flats)	24	1
AB – Condominium (minimum 3 flats)	759	30
Others	31	1

Qualitätsplattform Sanierungspartner Wien

Qualitätsplattform Sanierungspartner Wien is a platform organised as an association that matches providers of refurbishment services with physical or legal persons interested in refurbishment projects.

Website
www.qualitätsplattform-sanierungspartner.wien

E-mail
office@qualitätsplattform-sanierungspartner.wien

Address
1060 Wien, Mariahilfer Straße 89/22

Qualitätsplattform Sanierungspartner Wien (Quality Platform of Refurbishment Partners Vienna) lists companies able to render high-quality refurbishment services or to reliably replace gas and oil heating systems.

Providers who have proven their qualifications by means of successful reference projects for e.g. wohnfonds_wien or in the context of competitions or national R&D programmes were identified and invited to participate. Members were also sought via industry associations.

The Quality Platform was developed in the context of the RenoBooster project and complements the information, counselling and funding range of Hauskunft.

The Quality Platform presents qualified craftspeople and planners for refurbishment projects and matches them with building owners. Moreover, it also serves the purpose of internal networking

Qualitätsplattform Sanierungspartner Wien pursues three key goals:

- → Providers working at a high standard present themselves and their products and in this way find clients.
- → Clients interested in refurbishment obtain an overview and find suitable providers for their project online.
- → Providers can exchange ideas also across different trades and crafts.

»With Hauskunft, we offer a free-of-charge contact point for everybody interested in housing refurbishment in Vienna. Soon, Hauskunft will deliver even more information: We are expanding this service point at a new location with more space and a larger team of experts.

An important contribution is also made by Qualitätsplattform Sanierungspartner Wien, which complements the service range of Hauskunft.«

Kathrin Gaál
Vice Mayor and Executive City Councillor for Housing, Housing Construction, Urban Renewal and Women's Issues

Structure and organisation

To be able to offer these services, it was decided to establish an association as the most effective model for this purpose. Four members of the RenoBooster project team – Johannes Fechner, Christian Meier, Anita Preisler and Ronald Setznagel – served as founding members.

In the first year, association membership was free of charge. By signing the charter, the members express their commitment to future-proof, high-quality refurbishment interventions. They present information about their company, their refurbishment services as well as descriptions of reference projects on the platform website.

The platform was set up in the context of the RenoBooster work package "Development of service modules and packages" under the aegis of the project partner 17&4 Organisationsberatung and complements the information, consultancy and assistance services of Hauskunft.

Currently, the platform has **45 members** active in the following areas:

Refurbishment concept planning (32)
Heating, solar systems, air conditioning/ventilation (5)
Special planning projects (4)
Structural interventions (3)
Windows (1)

Moreover, the platform co-operates with 11 quality associations

The Quality Platform covers the following five sectors/areas of activity:

- Refurbishment concept and project planning
- Heating, solar systems, air conditioning / ventilation
- Structural interventions, insulation and roofing
- Special planning projects and project monitoring
- Window production and installation

The first meeting of the member companies of the Quality Platform took place on 22 June 2022. During the event, a board composed of experts with practical experience was elected: Helmut Schöberl (chair), Vera Korab (deputy chair), Johannes Dinhobl, Helga Noack, Werner Pink, Anita Preisler

Refurbishment concept template
https://www.qualitätsplattform-sanierungspartner.wien/mustervorlagesanierungskonzept

First focus: Refurbishment concept

Since May 2021, refurbishment concepts are eligible for subsidisation in Vienna. The development of comprehensive and future-oriented refurbishment concepts is an important aspect, as it enables decision-making and provides some orientation for further action. For this reason, providers of refurbishment concepts eligible for funding were the first to be sought for inclusion in the Quality Platform; so far, the list comprises 32 providers.

Based on discussions at relevant events and due to frequent demand, Qualitätsplattform Sanierungspartner Wien prepared a practice-oriented template for the development of comprehensive refurbishment concepts to make it easier for companies and their clients to take account of all planning aspects

.

Information events

In addition to the consultancy services of Hauskunft and Qualitätsplattform Sanierungspartner Wien, several events took place since October 2020 under the RenoBooster umbrella in order to communicate hands-on knowledge relating to building refurbishment. Building owners and property managers are thus offered an opportunity to learn about the services of Hauskunft, the state of the art in refurbishment, practical experiences, funding options and specific issues relating to building refurbishment, such as legal aspects of heating replacement, solar shading or refurbishment concepts, and to exchange ideas.

Online surveys were carried out to pinpoint the issues of greatest interest for the participants. Alternative heat supply, refurbishment and housing law as well as comfort during the summer months are aspects on top of this list.Termine und Themen bisheriger Veranstaltungen.

These events always take place in co-operation with external partners: ÖVI (Austrian Real Estate Association), klimaaktiv (Austrian climate protection initiative), Vienna Business Agency (VBA), wohnfonds_wien (Fund for Housing Construction and Urban Renewal), ecoplus – The Business Agency of Lower Austria.

- 07.10.2020 — ÖVI online business meeting for property managers
- 13.10.2020 — Expert webinar: Phasing out single-flat gas heating systems
- 27.01.2021 — Business meeting for solar technicians, VBA
- 10.02.2021 — Business meeting: Solar engineering for current housing stock
- 17.02.2021 — ÖVI business meeting: Solar shading
- 21.04.2021 — ÖVI Business Meeting zum Sonnenschutz
- 12.05.2021 — Refurbishment news, wohnfonds_wien
- 09.06.2021 — Decarbonising heating replacement, ÖVI business meeting
- 15.09.2021 — Business meeting: Phasing out oil and gas-fired systems
- 15.02.2022 — Business meeting: Phasing out oil and gas-fired systems with a focus on heat pumps
- 21.6.2022 — Climate-neutral energy supply for current housing stock – New business models for geothermal probe installation
- 19.5., 28.6., 7.9. 2022 — Learning event “Refurbishment concept”, BAUakademie (professional training institute)

27.09.2022 — Business meeting: Phasing out oil and gas-fired systems – Joint energy generation in existing urban quarters

The Quality Platform and its members have also been affected by the current situation, e.g. by way of supply bottlenecks or a general sense of uncertainty among service providers, planners and building owners interested in refurbishment.

Event videos

www.hauskunft-wien.at/filme

Foto: RenoBooster

Experiences and sustainable outcomes

RenoBooster is a contribution of Vienna to the European Green Deal and, among other things, focuses on refurbished, energy-efficient buildings. For this reason, the City of Vienna has joined forces with key actors of the private sector and the field of research to address this challenge and implemented measures specifically tailored to Vienna's needs and potentials.

First refurbishment of a Viennese municipal housing estate to attain passive-house standards
(Hütteldorfer Strasse 252)
Photo: Treberspurg & Partner Architekten ZT GmbH

RenoBooster as a driver of innovation

The City of Vienna and its project partners used the RenoBooster project in various ways as a valuable driver of innovation:

- Right from the beginning, RenoBooster was embedded in the structures of the City of Vienna. Strong political will to use the EU funds in favour of innovative processes was essential for attaining sustainable project outcomes and, hence, for decarbonising the housing sector.
- Through the dynamism thus generated, it was possible to launch the operation of Hauskunft and Qualitätsplattform Sanierungspartner Wien already some time before the end of the project and definitely much earlier than planned.
- Part of this dynamic drive was also due to the Sounding Board composed of supportive stakeholders, which permitted us to safeguard that RenoBooster would meet the spirit of the times, help to take the right strategic decisions and be firmly anchored in the economic and social realities of Vienna.
- RenoBooster has created a viable network of actors and know-how that unites a great variety of parties working in concert towards a shared goal. This network will far outlast the project itself; further co-operation ventures are already emerging.
- RenoBooster initiated and enabled a number of important co-operative research projects, market studies, focus group surveys, feedback loops as well as analyses of potentials, legal opinions and international comparative studies. These served not only as a basis for decision-making in the establishment of Hauskunft and the setting-up of Qualitätsplattform Sanierungspartner Wien but also provided valuable input regarding ongoing changes in housing law at the federal level, whose effects extend far beyond Vienna and RenoBooster.
- The findings and outcomes of RenoBooster also resulted in innovative modifications of key Viennese instruments, have already been incorporated in Vienna's urban policy at various levels and/or are being implemented. Two examples:
  - The funding disbursed for the development of comprehensive refurbishment concepts is an outcome of the RenoBooster project and is supported and implemented by Hauskunft and Qualitätsplattform Sanierungspartner Wien.
  - Hauskunft and Qualitätsplattform Sanierungspartner Wien are part and parcel of Vienna's refurbishment campaign "Wir SAN Wien". Moreover, the Smart Climate City Strategy Vienna defines Hauskunft as an important element of the efforts to phase out gas consumption.

The impulses and findings of the RenoBooster project **extend far beyond Vienna.**

Comprehensive refurbishment of existing building stock

The comprehensive refurbishment of the existing building stock constitutes a central challenge for any future-proof, climate-friendly city. The decarbonisation of the building sector is an important issue for all target groups of private building owners and property managers and stands to further increase in importance in coming years. In addition to purely technical solutions, counselling and networking play a key role in this context.

By establishing Hauskunft, the City of Vienna has not only created a new contact point but also broken new ground in its subsidy and funding policy:

- With Hauskunft, a free-of-charge and independent counselling centre has been created to provide advice irrespective of whether a client has applied for an (investment) subsidy of the City of Vienna. Consultancy services of this kind will become increasingly important in the future.
- **»Support through counselling«**: Until now, only investments were eligible for assistance and funding (with counselling included). Thus, independent, low-threshold counselling constitutes a new form of assistance. Orientation and information will remain of fundamental importance also in the future, since comprehensive and future-oriented concepts must be given attention especially at the outset of a planning project. In this way, Hauskunft provides a key service for private building or flat owners interested in refurbishment.
- **»Support through networking«**: The establishment of Qualitätsplattform Sanierungspartner Wien created substantial supply-side value added. Moreover, networking proves of great benefit for service providers as well.
- As a result, networked providers of different but mutually co-ordinated renovation services can deliver a range of sustainable offerings to building or flat owners interested in refurbishment
- Support of Hauskunft by specialists and experts in certain areas has proved useful (e.g. energy consultants of DIE UMWELTBERATUNG or energy provider Wien Energie)
- A reliable evidence base is another aspect of importance for the industry, in particular with regard to the following questions:
  - What should we expect in coming years? What are the priorities for advancing the decarbonisation process (“Wiener Wärme und Kälte 2040” concept and implementation of the phase-out programme for gas-fired systems of the City of Vienna)?
  - Which capacities regarding personnel, production, etc. will be required?
- The planned statutory innovations (legislative package in connection with the Renewable Heat Act, etc.) will increase the demand for consultancy and advice.
- In the context of current developments triggered by the Russian invasion of Ukraine, rising energy prices not only constitute an incentive but also a social challenge. In view of mushrooming energy prices, building and flat owners often focus their efforts solely on the replacement of heating systems. The Quality Platform, detailed counselling by Hauskunft and trainings – e.g. of plumbers – contribute to ensuring that the long-term goals of comprehensive refurbishment will not be neglected in the process.

Inauguration of new Hauskunft premises in Stadiongasse 10
Left to right: Gregor Puscher, Managing Director of wohnfonds_wien; Jürgen Czernohorszky, City Councillor for Climate and Environment; Kathrin Gaál, Deputy Mayor and City Councillor for Housing; Nicole Büchl, Director of Hauskunft; her deputy Alexandra Bauer; Dieter Groschopf, Deputy Director of wohnfonds_wien

Knowledge management as a key asset in a dynamic environment

The RenoBooster project not only created organisations but also yielded, evaluated and disseminated a wealth of knowledge. Hauskunft and Qualitätsplattform Sanierungspartner Wien will further extend and deepen this body of know-how through direct contact with the market and with target groups. This knowledge will be further safeguarded, skilfully edited and disseminated to reach the intended target groups even after conclusion of the project.

- The partnership-based co-operation between representatives of the City of Vienna and the Vienna City Administration (Municipal Departments 20, 25 and 50, wohnfonds_wien, UIV) with private-sector institutions (ÖVI, e7, 17&4) and such bodies as DIE UMWELTBERATUNG or the opinion research institute SORA has proven especially valuable. This combination of diverse expert knowledge and perspectives was particularly beneficial in formulating new solutions.

- In the course of the project, it was possible to consolidate the exchange among project partners on the one hand and with the members of the Sounding Board on the other hand; this has already proven highly valuable for all parties involved.

- The effective interlinking of Hauskunft with the competent bodies of the City of Vienna and the Vienna Public Utilities has shown its worth over the course of the project, as this facilitates conveying topical issues and questions in both directions. This exchange platform with the working title “Direkter Draht” (Direct Wire) will be continued.

- During the project run, the Sounding Board commented positively on the varied specialist events where expert speakers of the City of Vienna and other sectors covered topical issues such as heat pumps and answered queries. It is planned to use a similar format to support the work of Hauskunft. An advisory body composed of project partners, Sounding Board and co-operation partners is to handle the following tasks: Input on the further development of the service point, definition of (medium-term) strategies and objectives, support in co-operation ventures and feedback on ongoing work.

Photo: wohnfonds_wien

The RenoBooster team with members of the Sounding Board and Vice Mayor Kathrin Gaál

A look into the future of Hauskunft

The developments of 2022 have massively increased the speed of all efforts and specifically heightened pressure in the field of heating replacement. For the consultancy team of Hauskunft, a major challenge lies in assuring the quality of decarbonisation projects in order to bring about comprehensive refurbishment wherever possible. The Renewable Heat Act (Erneuerbare-Wärme-Gesetz, EWG) and the related statutory provisions at the provincial level will create further prerequisites in order to achieve climate neutrality by 2040. This will also have marked consequences for the work of Hauskunft, the foundations for which are being currently laid.

A look into the future of Qualitätsplattform Sanierungspartner

Qualitätsplattform Sanierungspartner Wien complements the counselling and funding programme of the City of Vienna and has already proven the most effective way of meeting the demand for a one-stop shop as a central contact point. The Quality Platform will offer its clients a growing range of already implemented, high-quality refurbishment projects and services to ensure high-quality planning and realisation of renovation undertakings. For this reason, future core tasks of the Quality Platform will include the delivery of supportive measures (training, communication, networking, etc.). The objective lies in promoting high-quality building refurbishment by planning studios and specialised contractors.

Photo: PID / David Bohmann

»The EU RenoBooster project was the right decision at the right time. With RenoBooster, Vienna pursued the objective of boosting the refurbishment rate in the private housing sector by means of a new contact point, hence endowing this sector with heightened dynamism and contributing to the climate targets.

With RenoBooster, Vienna – a city that may look back on a long tradition of comprehensive refurbishment support – was able to move this agenda ahead very successfully due to the co-operation of many partners from highly diverse fields. These partnerships and the willingness to think and act out of the box lead us to expect sustainable results also in the future.«

Stephan Hartmann, Project Co-ordinator

Photo: Technical Urban Renewal

Project partners

Stadt Wien

Under the aegis of Municipal Department 25 – Technical Urban Renewal of the City of Vienna, numerous other municipal departments participated in the project (Municipal Department 20 – Energy Planning, Municipal Department 50 – Housing Promotion and Arbitration Board for Legal Housing Matters, Municipal Department 64 – Construction, Energy, Railway and Aviation Law, Chief Executive Office – Executive Group for Construction and Technology; Construction Research, Building Code, Technology, Standards).

In the context of RenoBooster, the City of Vienna was in charge of project co-ordination and project management; moreover, it acted as co-ordinator of the H2020 processes as well as between the various stakeholders in Vienna, including the political and decision-making levels.

wohnfonds_wien | Für die Stadt Wien
fonds für wohnbau und stadterneuerung

wohnfonds_wien (wfw) is the central institution of the City of Vienna for safeguarding strategic land procurement to guarantee efficient project development and quality assurance in subsidised housing construction on the one hand while on the other hand handling subsidised housing refurbishment as well as the rehabilitation of entire blocks to foster urban renewal.
wohnfonds_wien co-ordinates project developers, flat owners, municipal departments and service centres of the City of Vienna. To ensure high quality in social housing construction, wohnfonds_wien is in charge of organising developers' competitions. Under the RenoBooster project, wohnfonds_wien developed the concept of a one-stop shop and implemented the pilot stage. In addition, wohnfonds_wien operates Hauskunft.

urban innovation vienna
Klima- & Innovationsagentur Wien

Urban Innovation Vienna (UIV) is the city's competence centre and impulse generator for urban issues of the future. The UIV Climate and Energy Department supports the City of Vienna and its enterprises in attaining their ambitious goals regarding energy and climate protection. Moreover, it serves the function of a regional energy agency and as a platform for networking with external stakeholders. It supports the City of Vienna in developing and implementing local energy policies and is an impulse generator for innovative flagship projects.

For the purposes of the RenoBooster project, UIV supported the City of Vienna in a co-ordinating function; it was moreover tasked with steering the process for establishing a suitable hub structure, helped in adapting the framework conditions, supported the co-operation and communication with stakeholders and assisted in the first steps of the Quality Platform.

DIE UMWELT BERATUNG

DIE UMWELTBERATUNG is a specialised institution of Wiener Volkshochschulen GmbH (an important provider of second-chance education). It offers independent and individual counselling on ecological questions and boasts 34 years of consultancy experience. Experts give concrete recommendations for action to further ecological and healthy lifestyles and sustainable management techniques.

DIE UMWELTBERATUNG contributed its long-standing experience with awareness raising, information and counselling to the RenoBooster project, both during the pilot stage of Hauskunft and in the field of communication and dissemination.

Established in 1996, SORA is one of Europe's leading private institutes for socio-scientific research. SORA stands for excellent methodological know-how both in the quantitative-statistical and qualitative fields and employs a full range of sociological research methods. By means of general seminars on issues such as climate protection and energy as well as by researching attitudes vis-à-vis environmental and energy policy projects and planning ventures, SORA has continuously deepened and widened its research and consultancy focus on energy over recent years.

In the context of RenoBooster, SORA played a decisive role in data provision and evaluation during the analysis stage. SORA designed professional and evidence-based communication activities together with flat owners and project developers. This was accompanied by a communication strategy formulated by SORA in co-operation with the partners.

IDEEN KONZEPTE LÖSUNGEN

17&4 Organisationsberatung GmbH is a private and independent consultancy company for sustainable development. Its core activities focus on sustainable construction and energy, participation and applied ecology. 17&4 boasts long-standing experience in the fields of counselling, professional training, transdisciplinary research and project management at both the national and international levels. 17&4 was responsible for setting up Qualitätsplattform Sanierungspartner Wien in the context of the task "Development of service modules and packages" and also delivered technical input for other work packages.

ENERGY INNOVATION ENGINEERING

e7 is a private research and consultancy company active in the fields of energy-efficient construction and refurbishment, energy efficiency services and energy management. The focus of e7 is on specific aspects and challenges related to energy efficiency, the use of renewables and climate protection.

e7 played a key role for the RenoBooster project by establishing facts, furnishing information about various (international) best practices and furthering the exchange on business models and financing. Moreover, e7 contributed its long-standing experience in the areas of renovation and energy efficiency.

Österreichischer Verband der Immobilienwirtschaft

With its 500 corporate members, the Österreichischer Verband der Immobilienwirtschaft (ÖVI) is the biggest voluntary and independent association of project developers, real estate agents, property managers and qualified experts.

The activities of the association and its affiliated enterprises comprise training programmes, editorial work and a unique certification body for real estate experts. Moreover, the association offers its members direct support in their day-to-day business and organises networking and information activities that connect its members with many other stakeholders.

In the context of RenoBooster, ÖVI assumed an important part by involving stakeholders during the analysis stage. Moreover, the contribution by ÖVI and the support provided by its network proved of relevance for various work packages, such as the evaluation of existing services or communication with building owners.

Legal basis (German)

BO für Wien
Building Code for Vienna (Vienna Urban Development, Urban Planning and Construction Code), Bauordnung für Wien – BO für Wien, original version: Provincial Law Gazette No. 11/1930:
www.jusline.at/gesetz/bo_fuer_wien

EAG
Renewable Energy Expansion Act (Federal Act on the expansion of energy generation from renewable sources), RIS – Erneuerbaren-Ausbau-Gesetz – Federal law, consolidated version, version of 24 May 2022, (bka.gv.at)

EStG
Income Tax Act (Federal Law of 7 July 1988 on the taxation of the income of natural persons), Einkommensteuergesetz 1988 – EStG, original version: Federal Law Gazette No. 400/1988 (National Council: GP XVII RV 621 AB 673 p. 70. Federal Council: 3534 AB 3547 p. 505),
www.jusline.at/gesetz/estg

EEffG
Energy Efficiency Act (the new "Energieeffizienzgesetz-Neu" is currently in process of being drafted),
https://www.bmk.gv.at/themen/energie/effizienz/recht/effizienzgesetz.html

EWG
Renewable Heat Act (Erneuerbare-Wärme-Gesetz, currently in process of being drafted)

KSG
Climate Change Act (Federal Law on compliance with maximum thresholds of greenhouse gas emissions and on the development of effective measures for climate protection), Klima-schutzgesetz – KSG, RIS – Klimaschutzgesetz – Federal Law, consolidated version, version of 24 May 2022
(bka.gv.at)

MRG
Tenancy Act (Federal Act of 12 November 1981 on tenancy), Mietrechtsgesetz – MRG, original version: Federal Law Gazette No. 520/1981 (National Council: GP XV RV 425 AB 880 p. 90. Federal Council: p. 415),
www.jusline.at/gesetz/mrg

OIB
OIB Guideline 6, Energy Saving and Heat Insulation,
www.oib.or.at/de/oib-richtlinien/richtlinien/2019/oib-richtlinie-6

RichtWG
Reference Value Act (Federal Law on the stipulation of the reference value for standard dwellings under tenancy law), Richtwertgesetz – RichtWG, original version: Federal Law Gazette No. 800/1993 (National Council: GP XVIII IA 579/A AB 1268 p. 134. Federal Council: 4644 AB 4653 p. 575),
www.jusline.at/gesetz/richtwg

UStG
Value Added Tax Act (Federal Law on the taxation of turnover), Umsatzsteuergesetz 1994 – UStG, original version: Federal Law Gazette No. 663/1994, amended by Federal Law Gazette No. 819/1994 (National Council: GP XVIII RV 1715 AB 1823 p. 172. Federal Council: AB 4861 p. 589),
www.jusline.at/gesetz/ustg

WEG
Freehold Property Act 2002 (Federal Law on freehold property), Wohnungseigentumsgesetz 2002 – WEG, original version: Federal Law Gazette I No. 70/2002, amended by Federal Law Gazette I No. 114/2002 (National Council: GP XXI RV 989 AB 1050 p. 97. Federal Council: 6613 AB 6616 p. 686),
www.jusline.at/gesetz/weg

WWFSG
Vienna Housing Promotion and Rehabilitation Act 1989 (Law on the promotion of new housing construction and housing rehabilitation and the granting of housing benefits), Wiener Wohnbauförderungs- und Wohnhaussanierungsgesetz 1989 – WWFSG, original version: Provincial Law Gazette No. 18/1989),
www.jusline.at/gesetz/wwfsg_1989

RS OGH 2017/11/20 5Ob74/17v
Source: Supreme Court of Justice (and Higher Regional Court, Regional Court, District Court), www.ogh.gv.at, www.jusline.at/entscheidung/548556
www.jusline.at/entscheidung/548556

Other laws and ordinances
www.wohnfonds.wien.at/website/article/nav/105

Abbreviations

AB Apartment building

GBV **Österreichischer Verband gemeinnütziger Bauvereinigungen**
(Austrian Federation of Limited-Profit Housing Associations)

MRB Multi-storey residential building

OSS One-stop shop

PC Public corporation

SFH Single-family home

TFH Two-family home

Further information sources and links (mostly German)

Government Agreement 2020–2024
www.wien.gv.at/regierungsabkommen2020

Smart Climate City Strategy Vienna
(Smart City Wien Framework Strategy 2019–2050) (SCWRS)
smartcity.wien.gv.at/strategie
smartcity.wien.gv.at/wp-content/uploads/sites/3/2022/03/scwr_klima_2022_web-neu.pdf

www.wien.gv.at/wohnen/wohnbautechnik/foerdern/projekt-renobooster
www.hauskunft-wien.at
www.qualitaetsplattform-sanierungspartner.wien

Link – Interactive refurbished building
www.hauskunft-wien.at/sanierungsmassnahmen

Link – Funding portal
www.hauskunft-wien.at/foerderportal

Refurbishment concept template
https://www.qualitätsplattform-sanierungspartner.wien/mustervorlagesanierungskonzept

wirsan.wien.gv.at
wieneuplus.wien.gv.at
www.wohnfonds.wien.at
www.gbstern.at
www.urbaninnovation.at
www.e-sieben.at/de
www.17und4.at
www.sora.at

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www.wien.gv.at/wohnen/wohnbautechnik/foerdern/projekt-renobooster

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