Beyond the Building-by-Building approach

Unlocking the Neighbourhood and District-Level Integrated Renovations Potential

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Background

If you'd imagine the energy transition in the built environment, what is the first picture that pops up in your head?

Across the different images that one could think of, which could range from a home to a cluster of buildings being upgraded to a more energy efficient, comfortable and decarbonised status, the energy transition in our building stock can also reveal itself in an even wider project, that involves one's own home, their neighbours' and the surroundings. It is important to say that, while it is crucial to look into the best solutions for each building undergoing energy renovation to ensure that each project ultimately unleashes all its multiple benefits, we also need to face an important truth: **a building-by-building approach is not the only answer**. It needs to be progressively complemented and/or inserted within broader approaches, such as **integrated district or neighbourhood approaches,** which look into how each building and its improvements can positively communicate with its surroundings and communities.

Designing projects aiming at rolling out the energy transition at neighbourhood and district levels requires great coordination across different actors (with a leading role enacted by local authorities), clear objectives, right financing, proactive inclusion of all households especially the most vulnerable ones, and political will. In their planning process, it is crucial to ensure a good division of tasks that builds on the expertise of each actor involved (for example, engineers to develop smart systems, local authorities to draw up urban regeneration projects and/or heating & cooling plans, NGOs listening and acting on vulnerable families' need, and developers to put together affordable housing and energy offers), **although if all the offers on the table are not brought together in a single logic, each of these is likely going to fail, or in the worst cases, produce negative consequences**. Therefore, to avoid any implementation gap between the design and execution of these plans, new connections between different disciplines and actors need to be drawn, since their inception.

Because of the several positive examples of projects across the European Union embodying this approach, integrated district and neighbourhood renovation approaches have been progressively brought up at decision making level, especially at European level. Many of these examples stem from the Affordable Housing Initiative, with its flagship **New European Bauhaus**. Driven by its principles of **sustainability**, **aesthetics** and **inclusiveness**, the latter has been supporting projects that combine energy efficiency of buildings, sustainability, design, liveability, accessibility and affordability to ensure a fair green transition for all. The so-called "Lighthouse Districts"[1] and their learnings have also inspired the recent recast **Energy Performance of Buildings Directive** (EPBD 2024), currently in force and heading to national transposition by May next year. The legal text introduces different hooks to support Member States in gradually leveraging these approaches to unlock more widespread renovations.

For instance, integrated district or neighbourhood approaches are said[2] "*to help to increase the cost-effectiveness of the renovations required for buildings that are spatially related such as housing blocks. Such approaches to renovations offer a variety of solutions at a larger scale*". In the context of the **National Building Renovation Plans (NBRPs)**, amongst the policies and measures that Member States will need to roll out for the fulfilment of their 2030, 2040 and 2050 renovation roadmaps[3], the promotion of "*district and neighbourhood approaches and integrated renovation programmes at district level, which may address issues such as energy, mobility, green*

1 These are working models of affordable, decent homes that include one (or more) of the following features: 1) projects that use technologies (i.e. digital, smart energy efficient solutions, circular and modular renovation toolkits and eco-design, use of renewables as energy sources to improve energy efficiency, sustainability of the district), 2) people-centered business models (i.e. energy communities, common spaces, co-investment in renovation, frameworks to empower residents), 3) experiment co-creation and engagement practices (i.e. engaging several disciplines (creative, green, digital, mobility) as a link to the New European Bauhaus) (see here)

2 EPBD 2024 Recital 48

3 EPBD 2024 Article 3 paragraph 2) point b) requires Member States to include in their National Building Renovation Plans a roadmap with nationally established targets and measurable progress indicators, including the reduction of the number of people affected by energy poverty, with a view to achieving the 2050 climate neutrality goal, in order to ensure a highly energy-efficient and decarbonised national building stock and the transformation of existing buildings into zero-emission buildings by 2050.

Background

infrastructure, waste and water treatment and other aspects of urban planning and may take into account local and regional resources, circularity and sufficiency" is included. Also, the EPBD states that for its next review, the European Commission will have to examine in what manner Member States could apply these approaches, *while ensuring that each building meets the required Union standards, for example by means of integrated renovation programmes and overall renovation schemes applying to a number of buildings in a spatial context instead of a single building.*[4]

Rising utility costs, rents and house prices are increasingly putting pressure on households, particularly low-income families, young people and other disadvantaged groups. Access to affordable, energy efficient and decent housing is increasingly out of reach in many cities and regions, with negative consequences for social cohesion, prosperity and competitiveness, all the while many houses still remain empty throughout the EU. This reality highlights the urgent need to connect integrated renovation strategies, and the roll out of existing EU legislation, with broader housing needs of each Member State. The forthcoming **European Affordable Housing Plan (EAHP)** provides a unique opportunity to align climate and energy objectives with the delivery of more affordable and sustainable homes, ensuring that neighbourhood and district approaches contribute not only to the green transition but also to tackling housing affordability and accessibility across the Union.

From the above, it seems clear that this **EPBD transposition round, along the upcoming European Affordable Housing Plan, can become the perfect opportunity to leverage these approaches and experiment new innovative ways to address living spaces in their entirety and how they are organised** (as these ultimately impact on a wide range of issues including climate mitigation and adaptation, circular economy, biodiversity and sustainable mobility). Because of the great intersectional value these approaches provide, it is also important to highlight the great social potential that these projects could have, especially in view of the current impacts of climate change, as well as high cost of living, scarcity of housing and increasing levels of energy poverty. Renovation projects that are carried out as part of more integrated approaches, which are scaled up at district or neighbourhood level, can in fact be a trigger of positive externalities that can go way beyond energy savings, reduced CO2, such as for instance, more social inclusion and cohesion across communities and increased liveability in climate resilient and inclusive cities.

Clearly the **role of the public sector, especially the one of the local public authorities is crucial** for the successful roll-out of these approaches. Beyond the EPBD, **the recast Energy Efficiency Directive[5] (EED) also provides a promising framework to support the latter in strengthening their exemplary role** vis-a-vis the energy transition in the built environment (and the other sectors). For this objective, these new approaches can be used to achieve their energy savings goals[6][7], support the most optimal usage of the existing buildings and spaces which are publicly owned, while improving infrastructures and surroundings to multiply socio-economic benefits to their living communities.

4 EPBD 2024 Article 33

5 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOL_2023_231_R_0001&qid=1695186598766

6 Article 5 EED recast requires Member States to ensure that the total final energy consumption of all public bodies combined is reduced by at least 1,9 % each year, when compared to 2021. Actions to reduce energy consumption to deliver this requirement can stem from buildings, processes, mobility services and armed forces. See guidance note

7 Article 6 EED recast requires the renovation of 3 % of the total floor area of heated and/or cooled buildings owned by public bodies as defined by Article 2 of Directive (EU) 2023/179

Objective of the Briefing and Methodology

To ensure Member States do not miss this opportunity, this briefing wants to propose a series of key recommendations, or elements for replication, which are based upon the analysis of five examples of district or neighbourhood integrated programmes, which have already been carried out in different parts of EU Member States. The selection of the pilots is the result of internal desk research and analysis. Few of these examples stem from the **Build Better Lives Campaign's[8] repository of inspiring stories[9]**. The choice behind the projects has been driven by five main pillars:

Affordability

Refers to the ability of renovation initiatives to deliver improvements without creating excessive financial burdens, particularly for low-income or otherwise vulnerable groups. It entails reducing overall housing costs (especially utilities) at a level that remains reasonable , relative to households income, after renovation works are completed. It also includes the provision of financial mechanisms (which are more accessible for vulnerable groups) such as subsidies, low-interest loans, on-bill repayment schemes, or phased payment arrangements, alongside measures to limit rent increases in social and private rental sectors.

Social Cohesion and Inclusion

Refers to the extent to which renovation programmes actively reduce, or at least do not exacerbate, social/economic and spatial inequalities, in accessing their benefits. Inclusion is achieved when programmes explicitly target vulnerable households, upgrade social housing, and implement measures to prevent displacement or gentrification. Projects in this category can also include actions/initiatives that further support social cohesion.

Circularity

Refers to the adoption of resource-efficient approaches that maximise the lifespan and value of buildings and their materials, minimise waste generation, and maintain resources in circulation for as long as possible. A central component of circularity is the integration of Whole Life Carbon (WLC) assessment and reduction measures, as required in the EPBD recast, which accounts for embodied carbon, operational emissions, and end-of-life impacts. Embedding circularity into renovation programmes supports the systematic application of WLC principles, thus helping to mainstream carbon reduction across the building stock.

Integration

Refers to measures that combine energy demand reduction with the transition to renewable heating and cooling systems, while positioning buildings as active elements in balancing the wider energy system. By integrating demand-side flexibility measures, including smart controls, thermal storage, and building-to-grid interaction, renovated buildings contribute to peak-load management, grid stability, and optimal use of variable renewable energy sources. Beyond energy, integration can also refer to the ability of projects of combining different dimensions alongside energy renovation of buildings, such as improved mobility, lighting, upgrade of nearby infrastructures etc.

Participation

Refers to processes enabling early, transparent, and consequential involvement of local residents, SMEs, civil society and local authorities in planning, decision-making and monitoring (not token consultation)[10].

8 Build Better Lives is an initiative that seeks to unite social, climate and youth movements together to promote the need for more energy efficient buildings that can benefit millions of people's lives throughout Europe. Better buildings build better lives through creating safer, healthier and more comfortable environments where many of us work, play and live. More energy efficient buildings reduces our energy consumption, which lowers our energy bills along with greenhouse gas emissions.

9 https://buildbetterlives.eu/inspiring-stories/

10 https://caneurope.org/renovation-wave-nbrps/

Photo: Gunnar Ridderstrom

A fair geographical spread of the chosen projects wants to ensure that adequate considerations on different climates, architectural features, and other peculiarities of each national and sub-national reality can be factored. It is also important to state that, because of the local nature of these projects, recommendations want to highlight general principles rather than exact actions or specific processes to follow.

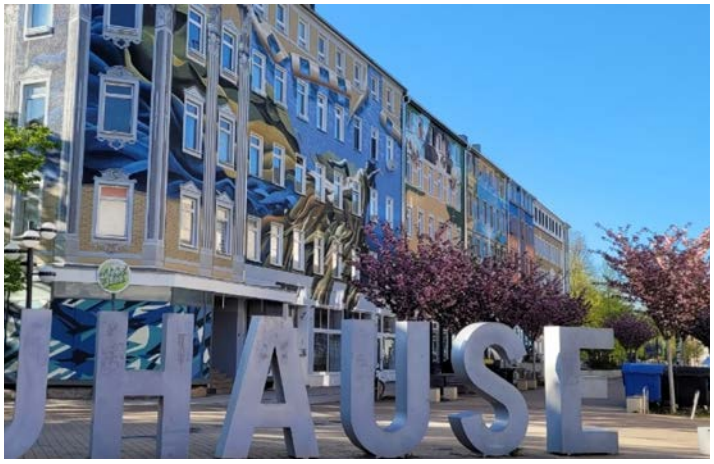
The overall objective of this work is primarily to support the Ministries in charge of the National Building Renovation Plans (whose drafts are expected by the end of this year, and their final version by the end of 2026) **to consider, include and develop these approaches the best possible way that can fit their national and sub-national realities**. As a parallel objective, this work wants to look into these approaches' potential in delivering sustainable and affordable housing for all within the framework of the **upcoming European Affordable Housing Plan**.

Case Studies

Chemnitz, Germany

Social Cohesion and Inclusion
Affordability Integration

Project Title	LowEx District Heating and Integrated Urban Renewal in Chemnitz-Brühl
Location	Brühl district, Chemnitz, Germany
Duration	2012–2022
Units Renovated	230 buildings connected to LowEx system (representing 90% of the building stock)



Project Overview

This integrated urban regeneration project in Chemnitz-Brühl demonstrates how targeted district-scale interventions can drive a socially inclusive energy transition. The initiative tackled extreme vacancy and energy inefficiency through deep renovation, social revitalization, and the deployment of a pioneering low-temperature district heating network (LowEx). Cultural and social components included relocating the university library and implementing heat price control mechanisms to protect affordability.

Financial Model

A hybrid public funding model supported by local utilities. Infrastructure costs were shared among federal, regional, and EU sources, while the utility co-financed heating infrastructure and subsidised user connections. This marked the first use of redevelopment funds for a solar-supported LowEx network in Saxony. The project benefited from the programme 432 from the German Investment and Development Bank KfW called 'Energy-efficient urban redevelopment – grants for integrated neighbourhood concepts and redevelopment managers'[12].

Quantitative Results

- Estimated of up to 44% of reduction of the heating demand
- Installation of a 1,800 m2 solar thermal field (this either feeds into the decoupled low-temperature district heating network or stored in a 1,000 cubic metre heat storage system)
- Powered by 10% solar photovoltaics and supported by thermal reservoirs, the LowEx system cuts fossil fuel dependence and advances the city's 2040 climate neutrality goal.
- The vacancy reduced from 90% to 10% over 10 years

Qualitative Impacts

- Social reactivation through cultural investments (e.g., university library)
- Stabilized energy costs for enhanced aff ordability of operational costs of housing
- Improved social cohesion via resident engagement and public space reuse
- Technical and academic partnerships fostered innovation and replication potential

11 https://www.kfw.de/inlandsfoerderung/Public-institutions/Kommunen/Quartiersversorgung/F%C3%B6rderprodukte/Energetische-Stadtsanierung-Zuschuss-Kommunen-(432)/

12 This grant was applicable from 2011 until 2024. In 2024 the German government decided to stop the grant programme.

Planning Process

- Implemented under Germany's KfW Programme 432[11] and the Active City and District Centers program, with financial support for concept development and multi-year refurbishment management.
- Urban diagnosis identified high vacancy rates, poor energy performance, and the need for integrated energy-efficient renewal. Subsequently, Brühl was formally prioritized as a redevelopment zone to align with municipal climate and energy goals.
- Technical feasibility studies and spatial planning led to the Energy District Concept Brühl, developed jointly by the City of Chemnitz, "One Energy in Saxony," and Chemnitz University of Technology.
- The concept established guidelines for energy-efficient renovation, climate protection, and mobility, including expansion of a low-temperature district heating network and increased use of renewable energies.
- A dedicated local office was established to coordinate planning and implementation, advise stakeholders, and monitor progress.
- Broad participation from residents, institutions, and utilities ensured local buy-in and integration of social, technical, and economic dimensions.

Implementation

- Renovation of 90% of buildings in the district by 2022
- Commissioning of the LowEx network (2016–2018), connecting 230 buildings
- Adaptive reuse of vacant structures for public amenities (e.g., library)
- After renovation, rents in the neighbourhood vary between 5 and 12€ per square metre, with heating prices frozen for several years to preserve affordability of operational costs of housing.
- Reorganised the public space, planted vegetation and made walkable and cycle lanes for increasing attractivity

Main Funding Sources

- Federal: KfW Programme 432 (pilot funding) and "Aktive Stadt- und Ortsteilzentren" ("Active City and District Centres")
- National: "Kooperationen im Quartier" city-owner cooperation scheme

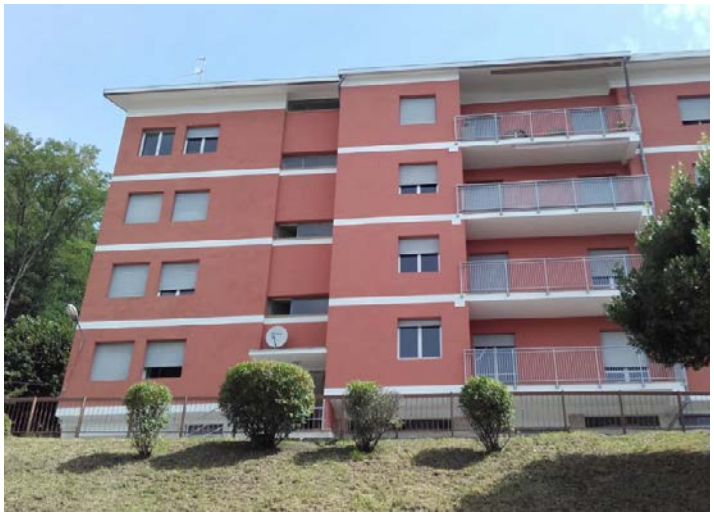
More information

- https://forumpourlavenir.eu/initiatives/chemnitz
- https://www.staedtebaufoerderung.info/DE/WeitereProgramme/AktiveStadtOrtsteilzentren/Praxis/Massnahmen/Chemnitz.html
- https://www.staedtebaufoerderung.info/DE/Praxis/ArbeitshilfenLeitfaeden/Praxisbox_Klimaquartiere/Klimaquartiere/Steckbriefe/Chemnitz/Chemnitz_node.html
- https://www.unendlich-viel-energie.de/projekte/energie-kommunen/chemnitz
- https://www.european-energy-award.de/fileadmin/images/kommunen-profile/PDB_KProfile/2019-05-28_Chemnitz_Energetische-Sanierung-im-Gebiet-Bruehl.pdf

Quartiere Sangallo, Italy

Social Cohesion and Inclusion
Affordability Integration

Project Title	Energy Renovation of Quartiere Sangallo Social Housing District
Location	Varese, Lombardy, Italy
Duration	2015–2017
Units Renovated	48 apartments across 3 buildings



Project Overview

This small-scale project is part of a wider revitalisation programme that addresses the whole social housing district of "Sangallo", and others close by like "Montello" district[13]. Even though a fraction of a wider plan, this particular project is of technical importance. It delivered deep energy retrofits along with integrating renewable energy deployment in a social housing district, targeting energy poverty and regulatory compliance.

Financial Model

The ESCO financed two-thirds of the upfront cost, repaid through approximately € 800,000 worth of energy savings. Tenants had no direct financial burden, and reduced energy bills off set repayment. Total project cost: €1.2M (€334/m²).

Quantitative Results

- Primary energy for space heating reduced by 77% (219 → 50 kWh/m²a)
- 49 kWp of PV solar panels installed

Qualitative Impacts

- Lower energy bills and improved comfort, reduced energy poverty
- Improved health and safety (new DHW systems control Legionella risk)
- Delays in PV grid connection due to regulatory issues*

Planning Process

- Lombardia Region issued a call for energy efficiency projects aiming at Class B-oriented upgrades
- ALER-Varese (as owner of the built area) invested in the project along with CNP (ESCO)
- Politecnico di Milano led early design and audits
- The Sunia tenant association participated in planning alignment
- CNP was also in charge of the final stages of the realisation

Iplementation

- The ESCO CNP took over through a Project Financing scheme with a 20-year contract
- Adaptations were made to meet budget constraints (e.g., excluded shutter box insulation)
- Comprehensive thermal insulation (walls, floors, roofs, terraces), replacement of windows with double glazing, and correction of thermal bridges to improve overall energy efficiency.
- Replacement of electric boilers with central DHW tanks, installation of heat pumps and rooftop PV systems, plus efficiency improvements in heating distribution (thermostatic valves, hydraulic separators, and advanced climatic control).

Main Funding Sources

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More information

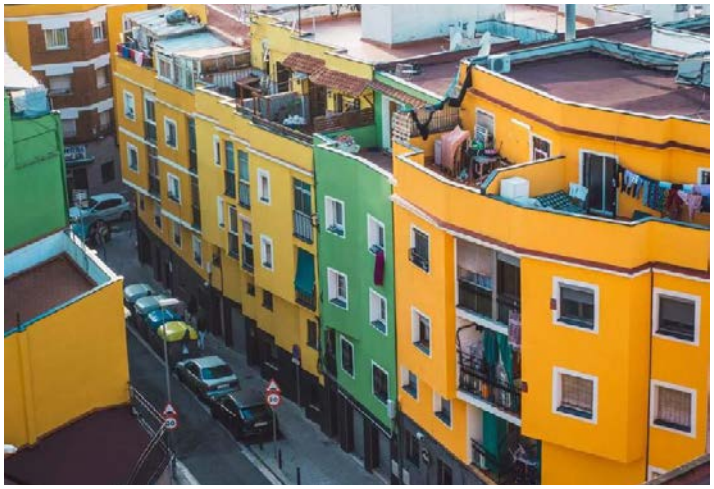
- https://annex75.iea-ebc.org/Data/publications/Annex75_STC_WPC1_Varese_Italy.pdf

13 https://www.alervarese.com/home/news/news_10042025.html

Santa Coloma de Gramenet, Spain

Social Cohesion and Inclusion
Affordability Participation

Project Title	ACR Carrer Pirineus
Location	Santa Coloma de Gramenet, Barcelona, Spain
Duration	2014–2017
Units Renovated	360 housing units and 26 commercial spaces



Project Overview

A comprehensive upgrade of a mid-20th century housing complex near Besós River Park. Combined thermal renovations with landscape renewal and identity preservation. Achieved high levels of resident involvement and consensus through extensive dialogue structures.

Financial Model

The financing scheme was carefully adapted to the socio-economic categories of the community, many of whom were elderly or low-income. Three tailored payment tiers were offered: a standard 50/50 split for legal entities or those opting out of special terms; a five-year installment plan for individual homeowners via direct debit; and a registry-integrated mechanism for resident owners earning under €20,000/year. Under this program, residents can request financial aid in the form of a full advance from the municipality to cover the cost of the work. The amount is then recorded and settled upon the transfer of the property. These flexible, income-sensitive options enabled broad participation without imposing prohibitive costs, while technical and legal assistance was provided through a dedicated local technical office.

Quantitative Results

- Energy demand cut by 36.5% (93.24 → 59.23 kWh/m²a)
- CO_2 emissions reduced by 20% (2,220 → 1,770 kg CO_2)
- Property values increased by ~15–20%

Qualitative Impacts

- Energy poverty alleviated for low-income and elderly residents
- Social cohesion rebuilt through transparent governance and design participation
- Avoided displacement through affordability safeguards

Planning Process

- Multi-level resident engagement (individual, community, general)
  - At **general level**: Monitoring committee created.
  - At **community level**: Group meetings to explain the project and gather feedback.
  - At **individual level**: Personalized meetings to address specific concerns.
- Public tenders and transparent legal notifications ensured inclusivity and legitimacy

Implementation

- Creation of the on-site Local Technical Office, staffed by an 18-member multidisciplinary team, which facilitated resident support and streamlined project implementation on the ground
- Rehabilitation of degraded buildings, mainly through improving envelopes and roofs, and in most cases applying SATE (external thermal insulation composite system) on façades to increase thermal and energy efficiency.
- Resident liaison managed daily communication
- Public space redesign led by a resident design competition

Main Funding Sources

- Regional: €679,331 (30%)
- Municipal: €73,955 (3.3%)
- Private (residents): €1.51M (66.7%)
- Hidden administrative costs absorbed by the municipality

More information

- https://www.gramenet.cat/ajuntament/arees-municipals/renovem-els-barris/acr-i/
- https://www.gramenet.cat/ajuntament/arees-municipals/planejament-urbanistic-informacio-urbanistica/gestio-urbanistica/expedients-de-gestio/gu-045ac-declaracio-dun-area-de-conservacio-i-rehabilitacio-al-carrer-dels-pirineus-entre-el-carrer-del-bruc-i-olot-acr-1/
- https://www.construction21.org/maroc/data/exports/pdf/city/3329_en.pdf

Vivalla, Sweden

Social Cohesion and Inclusion
Integration

Project Title	Vivalla Revitalization Project
Location	Örebro, Sweden
Duration	2010–2024
Units Renovated	Approximately 400 apartments

Project Overview

A transformative project aimed at reversing decline in a Miljonprogrammet-era neighborhood, which was an area of high unemployment and other social problems. Vivalla's regeneration involved housing renovation, demolition, new builds, and extensive social programming. Emphasis was placed on safety, energy efficiency, and economic integration.

Financial Model

Renovation costs covered through a mix of rent-backed investment and private development (notably through loans at market rate).

Quantitative Results

- Energy demand was cut by **64% (210 → 75 kWh/m²/year**), and consequently reduced energy bills for inhabitants.
- Crime reduction: incidents dropped from 720 to 6 in one area (approximately 10% less crimes than before the renovation works).
- Temporary Employment for 80+ locals trained through on-site programs

Qualitative Impacts

- Greater safety and improved aesthetics of the neighbourhood
- A large number of people who were employed by Skanska found a job or started their studies, encouraged by the positive references provided by the company or new learned skills
- Rent increases have been detected (from 90€/m2/year to 125€/m2/year) which calls for rent support mechanisms to ensure maximum protection for the inhabitants and avoid any misplacement*

Planning Process

- Led by ÖrebroBostäder and Skanska, with White Arkitekter
- Resident dialogue shaped design choices under a holistic master plan.
- The latter includes the roll out of three sub-projects called "My Green Quarter" "The Conservation Project" and the "Future Quarter".
  - "My Green Quarter"project received grants from the Sustainable Cities Delegation. Production started in June 2013 and a large number of energy efficiency measures were performed.
  - "The conservation project" refers to a newly constructed block where energy efficiency was crucial to guide activities, also smart solutions used in the previous project were used.
  - The "Future Quarter" is similar to the previous project. This project includes six stages which end in 2024, counting the renovation of around 400 apartments (2023).

Implementation

- Long-term, phased execution integrating training and employment initiatives (e.g., Residents Builder program)
- Urban renewal included demolition for wider green passageways, redesigned entrances for neighbor interaction, façade and insulation upgrades, new windows, solar panels, heat pumps, green roofs, and modern ventilation systems.
- Engagement of residents of the housing complex in the planning (collaboration of the Swedish Tenants Organisation was crucial) and with other community organisations to counteract segregation (religious organisations). Workshops to incorporate needs and preferences were organised along the implementation process.
- A phased-in approach of different sub-projects using learnings, technologies from previous phases to ensure the best results for the inhabitants, neighbourhood and surrounding environment.
- Thanks to a novel bid specification in the procurement, Skanska could temporarily hire 80 jobless residents to carry out the renovation and construction works. In addition to that, the project included an education centre to spur economic integration of citizens.

Funding Sources

- Public housing provider (ÖrebroBostäder)
- Private sector (Skanska)
- Potential additional public funds for social/energy aspects (Municipality of Örebro)

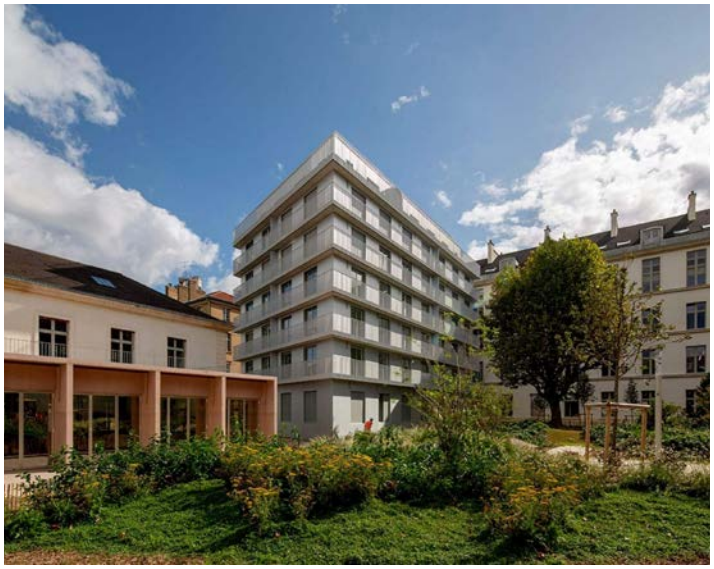
More information

- https://www.skanska.se/en-us/our-off er/our-projects/57906/Vivalla%2C-Orebro
- https://whitearkitekter.com/project/vivalla-orebro/
- https://www.housingeurope.eu/project/vivalla/

Caserne de Reuilly, France

Social Cohesion and Inclusion
Affordability Integration
Circularity

Project Title	Caserne de Reuilly Urban Regenerationt
Location	Paris, France
Duration	2013–2020
Units Renovated	Social, student, and aff ordable housing units; mixed-use facilities



Project Overview

A high-profile transformation of a former vacant military site (dating back from the 17th century) into a vibrant, mixed-income neighborhood. The project emphasized circular construction, architectural heritage preservation, and social inclusion. Caserne de Reuilly now hosts affordable housing, green spaces, and services in central Paris.

Financial Model

Public-private partnership. Regulated private rentals and diversified dwelling types ensured financial viability and affordability.

Quantitative Results

- EPC A-rated (50 kWhep/m²/year)
- 640 tonnes of construction material reused
- Renewable energy integrated via Paris Urban Heating Company and on-site systems

Qualitative Impacts

- Social mix and daily life improved via public gardens, services, and mobility
- Affordability focus with a mix of social, student, and below-market housing
- All units accessible for people with reduced mobility
- Extensive citizen engagement shaped project decisions

Planning Process

- The City of Paris acquired the site for €40M, entrusted Paris Habitat as developer.
- As a publicly funded operator, Paris Habitat had to comply with public procurement rules that embedded circularity and environmental obligations
- Six architecture teams coordinated by H2O Architects, with the "Architectes des Bâtiments de France" specifically in charge of preserving the historical heritage
- Rotor supported material reuse and circularity planning

Implementation

- Safeguarding heritage elements and reusing large volumes of construction materials.
- Upgraded buildings reaching the highest energy performance standard (Class A).
- Connection to the Parisian urban heating network with growing shares of recovered renewable energy (aerothermal and photovoltaic).
- Creating shared gardens and urban farming areas on rooftops.
- Citizen participation was ensured through co-design workshops, consultations, and awareness campaigns involving residents, experts, and city actors.

Funding Sources

- Total cost: €149M (including land)
- Public subsidies: €16M; Loans: €37.75M
- Multiple backers: City of Paris, European Investment Bank, CDC, Action Logement, Paris Habitat

More information

- https://www.parishabitat.fr/nos-programmes/caserne-de-reuilly/
- https://www.paris.fr/pages/caserne-reuilly-12eme-2818
- https://www.housingeurope.eu/project/caserne-de-reuilly/

Conclusions

Neighbourhood and district approaches succeed when they combine four essential dimensions: **robust funding** and **institutional support**; meaningful and layered **citizen engagement**; **integrated planning** across energy, housing, and urban development; and **strong social safeguards** to protect vulnerable groups.

The case studies reviewed demonstrate that **dedicated funding** and **strong institutional support** are decisive in enabling neighbourhood and district-level approaches. The Chemnitz example is part of a targeted programme which subsidised over 1,500 district renovation concepts and 450 refurbishment management offices between 2011 and 2021. This illustrates how funding not only facilitates the creation of integrated neighbourhood plans but also ensures the presence of **specialised staff capable of coordinating implementation**. Such personnel are crucial for streamlining processes, channelling resources effectively, and engaging with residents continuously. However, this model also highlights a structural limitation: while public funding supports planning and management, it does not guarantee the availability of finance for the actual refurbishment works. This gap underscores the importance of combining different financial instruments, as illustrated by the approaches in Santa Coloma de Gramenet and Sangallo, where innovative partnerships and **flexible and adequate financing schemes** (such as income-sensitive payment tiers) are designed to ensure that all households, including and especially the most vulnerable, can access funding to unlock renovation opportunities. To strengthen these approaches, **public funding and private financing must be made complementary**, with dedicated and long-term streams secured for low-income and energy-poor households, particularly tenants in unregulated markets. Such funding must prioritise vulnerable groups through gender-responsive budgeting and guarantee full coverage of renovation costs, including boiler replacement, for those most at risk such as the elderly, people with disabilities, single-parent families and ethnic minorities.

A second major insight from the cases is **the central role of citizen engagement**. Santa Coloma de Gramenet shows how local administrations can move beyond consultation by combining multi-tier approaches: general monitoring committees to set direction, community-level group meetings to exchange ideas, and personalised one-to-one sessions to support households individually. This layered model strengthens trust, empowers citizens to play an active role in the energy transition, creates buy-in and adapts to different levels of capacity and need. Yet, citizen empowerment also requires safeguards. The Chemnitz experience demonstrates that without protection measures such as the freezing of heat prices, energy renovations risk imposing social burdens on lower-income tenants. **Embedding such social safeguards (such as rent caps or rent freezes) within the conditions for funding can ensure that transition policies contribute to affordability and social equity** more structurally rather than exacerbating inequalities.

The integration of **technical, social, environmental, and urban planning** aspects further defines the success of neighbourhood approaches. The Chemnitz and Sangallo examples illustrate the importance of addressing **heating and cooling decarbonisation in parallel with efficiency measures**, while also promoting energy storage systems to stabilise prices and strengthen resilience against external shocks. Beyond the technical dimension, several cases show the value of **embedding energy renovation within broader urban programmes**. In Caserne de Reuilly and Santa Coloma de Gramenet, renovation was combined with mobility improvements, accessibility upgrades, and climate adaptation measures, demonstrating that **integrated planning can maximise co-benefits**. Vivalla goes a step further by using the neighbourhood framework not only for technical retrofitting but also as a lever for tackling structural challenges such as unemployment and social exclusion.

Finally, the case of Caserne de Reuilly highlights the need for **a life-cycle perspective**. Assessing the whole-life carbon impact of both renovations and new construction helps avoid rebound eff ects and ensures alignment with long-term climate neutrality targets. Here, the use of **green public procurement criteria** plays a double role: it raises the environmental ambition of projects while also maximising their social value by prioritising aff ordable and below-market rent housing. This focus on accessibility for lower-income groups ensures that the benefi ts of the energy transition are shared fairly across society.

Taken together, these cases show that **neighbourhood and district approaches succeed when they combine four essential dimensions: robust funding and institutional support; meaningful and layered citizen engagement; integrated planning across energy, housing, and urban development; and strong social safeguards to protect vulnerable groups**. When designed in this way, neighbourhood-level interventions become more than just energy renovation strategies, they become vehicles for wider social and environmental transformation, anchoring the energy transition within the daily realities of communities.

Policy Recommendations

General

- **Include and support integrated district/neighbourhood integrated approaches in NBRPs**: Leverage each NBRP to set quantitative targets and selection criteria for integrated district or neighbourhood renovation approaches.
- **Prioritise "neighbourhoods/districts of action"**: Use NBRPs to map national buildings stocks to be able to spot critical areas where worst-performing buildings, energy poverty, rent burden/housing affordability, climate risk (heat/flood), network readiness (heat/cooling), long-term vacancies, and potential for renewable energy communities are particularly present and need to be addressed.
- **Integrate different existing plans and ensure coherence and consistency between them**: Require alignment with Local Heating & Cooling Plans and Social Climate Plans (SCF), NBRPs and with local urban regeneration documents.
- **Fund district/neighbourhood refurbishment management teams**: Create dedicated budget lines for on-the-ground management of these projects (project managers, community liaisons, technical designers).
- **Scale One-Stop Shops (OSS) to district level**: Expand OSS mandates to coordinate multi-building projects; encourage OSS to run "multi-tier" engagement: (i) district monitoring committee, (ii) group sessions per block/community, (iii) tailored household surgeries.

Inclusion & Affordability

- **Establish social safeguards in programme rules**: Make rent-stabilisation during works, no-eviction clauses tied to publicly backed renovations, where appropriate, introduce price cap or rent control mechanisms (i.e.heat-price caps in the case of connected heating). In case of temporary displacement, guarantee that temporary occupations are offering minimum decency standards.
- **Design income-sensitive financial offers**: Design offers with at least three fi nancing tiers, including grant-heavy offers for the lowest-income/energy-poor households, guaranteeing 100% funding for the most vulnerable households and addressing upfront costs, and capped co-financing for median-income ones, mirroring Santa Coloma's tiered payments.
- **Blend EU and national sources**: Combine SCF, Cohesion Policy, InvestEU, Modernisation Fund, national green budgets, utility schemes. Allow ESCO/third-party performance models, energy-as-a-service, and on-bill/on-tax financing with consumer protections.

Participation

- **Early and structured co-design**: Legally require a stakeholder map and proactive engagement plan at inception (ministries, energy/network operators, housing owners, tenants/home owners, NGOs, SMEs, social services). Make deliberation minutes and design choices public by default. For district and neighbourhood projects, consultations must be early, fair, transparent and informed: awareness-raising should proactively precede the process; capacity-building activities should be offered; draft plans must be published with sufficient time for review.
- **Agreements for local benefits**: In large district projects, require agreements that secure local hiring, apprenticeships, green public spaces, and that proposes benefit sharing schemes for renewable energy projects[14].
- **Citizen empowerment tools**: Provide free renovation coaching and simplified consent kits for complex ownership (e.g., multi-owner blocks); fund and collaborate with trusted intermediaries (NGOs/tenants' unions) to increase acceptance.

System Integration & Circularity

- **Allow for synergies with heating and cooling decarbonisation**: Require each district/neighbourhood plan to include renewable heat/cold roadmaps, socially just decommissioning plans for existing infrastructure and prioritise load reduction first to right-size systems.
- **Target density and climate resilience**: Support deep renovation strategies in dense urban areas that integrate passive cooling, link with green infrastructure and spatial planning to reduce the urban heat island effect, and strengthen climate-resilient design across all building typologies.
- **Aggregate through neighbourhood and district approaches**: Cluster projects to enable cost-effective shared infrastructure such as large-scale heat pumps or district heating and cooling, while integrating strategies to reduce the heat island effect. In rural or less dense areas, support renewable energy communities and decentralised solutions tailored to local building types and energy needs.
- **Include flexibility and storage**: Incentivise thermal/electrical storage and demand response to stabilise bills and support the balancing of the grid.
- **Enable energy sharing and community energy**: Ensure national rules for renewable energy communities and collective self-consumption integrate with districts'/neighbourhoods' upgrades (single-point metering options, fair network charges).
- **Whole-life carbon and circularity**: Make districts'/neighbourhoods' plans run whole-life carbon assessments; require circular procurement if possible (reuse, recycled content, design for disassembly) and apply EU Green Public Procurement criteria.
- **Public realm and co-benefits**: Pair building works with mobility (safe cycling/walking, EV-ready), urban cooling/green infrastructure, universal accessibility, and climate-risk adaptation.

14 https://caneurope.org/content/uploads/2025/04/CANE-April-2025_Community-Engagement-and-Benefit-Sharing.pdf

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