



EUROPEAN ALLIANCE TO
SAVE ENERGY

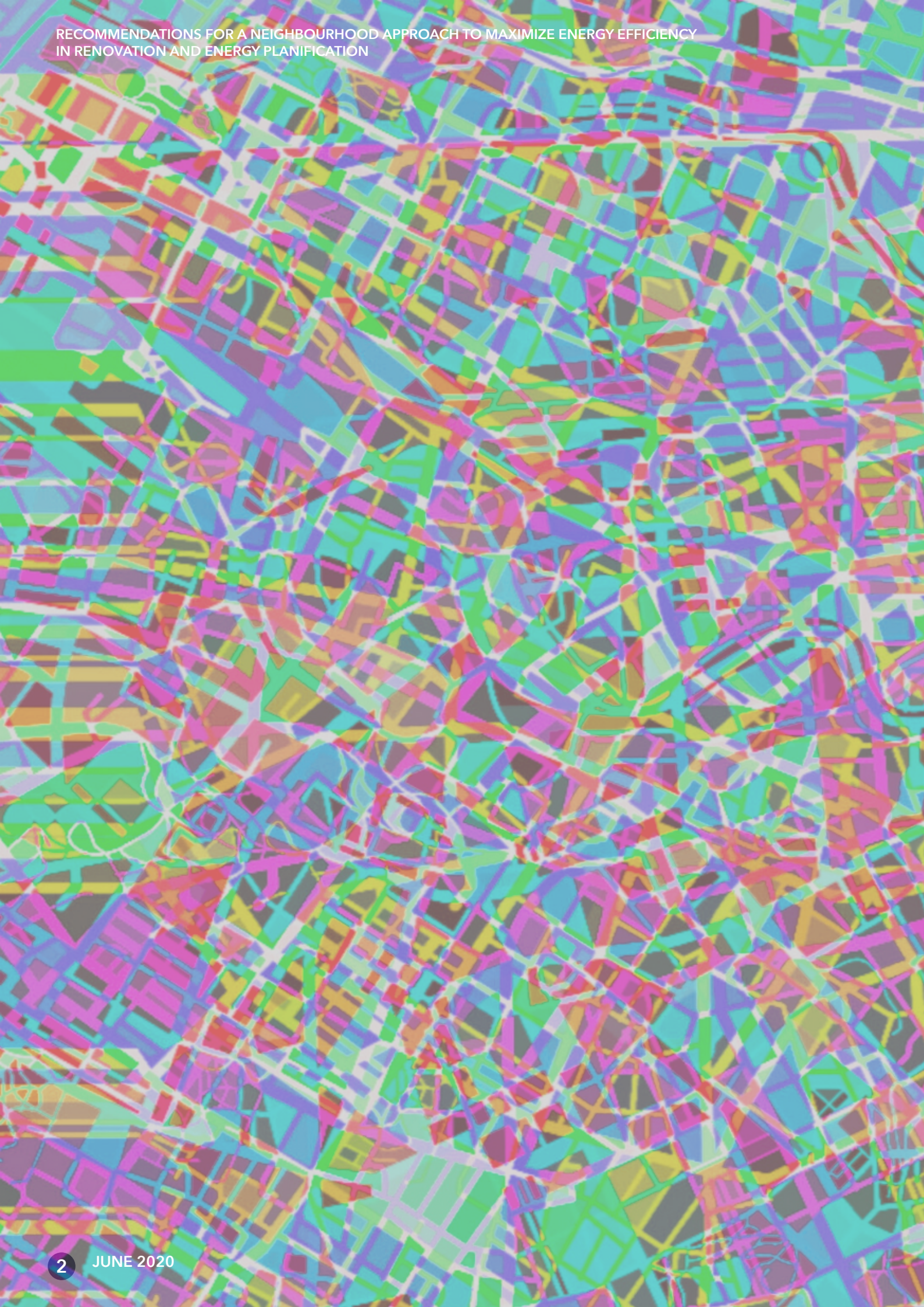
Creating an Energy-Efficient Europe

**RECOMMENDATIONS
FOR A NEIGHBOURHOOD
APPROACH TO MAXIMIZE
ENERGY EFFICIENCY IN
RENOVATION AND
ENERGY PLANIFICATION**



E3G





One of the centerpieces of the European Green Deal is the upcoming Renovation Wave initiative. This initiative is intended to scale up the renovation activities in Europe and promote the energy efficiency investments in buildings, while defining the precise role that the EU buildings stock plays in the energy transition and decarbonization trajectory of the EU.

During their lifetime, the EU existing building stock consumes 40% of total primary energy, emits more than 36% of EU energy-related CO₂ emissions¹, and utilises 50% of all mined resources². To mitigate such an impact on climate change, EU policies can deliver an ambitious Renovation Wave which aims to increase the energy efficiency of buildings by reducing their energy consumption and by fostering the greater quality, rate, and depth of comprehensive renovation efforts encompassing envelopes and technical building systems. Investments in energy efficiency can also stimulate the economy of the construction industry, which generates about 9% of Europe's GDP and directly accounts for 18 million direct jobs. To stay on track with the Energy Performance of Buildings Directive (EPBD) goal of decarbonizing the EU building stock by 2050, the Renovation Wave should be designed to reach a minimum of a 3% renovation rate per year combined with an average energy efficiency improvement of 75%^{3,4}.

This position paper calls on the Commission to integrate the notion of neighbourhood approach in the European Union building and energy efficiency policy framework, in the national programmes for buildings renovations and in the upcoming Renovation Wave strategy.

1. [Data from European Commission Website](#). Webpage consulted on 05.05.2020.

2. World Green Building Council Europe, [A sustainable built environment at the heart of Europe's future](#), 2019.

3. [Scaling up deep energy renovations](#), BPIE, November 2016.

4. [ClimACT](#), 2019.

CONTEXT

The current energy efficiency legislative framework in buildings already refers to the notion of a district or neighbourhood approach, in particular in Art.19, §2, of the Energy Performance of Buildings Directive (EPBD).

'As part of that review [by 1 January 2026], the Commission shall examine in what manner Member States could apply integrated district or neighbourhood approaches in Union building and energy efficiency policy, while ensuring that each building meets the minimum energy performance requirements, for example by means of overall renovation schemes applying to a number of buildings in a spatial context instead of a single building.'

While the article refers to 2026, given the multiple benefits of a neighbourhood approach and the need for accelerating our climate actions, the EU should prioritize the integration of this principle in its climate and energy framework and any new initiatives linked to renovation and decarbonization. This is all the more relevant, as the main challenge today is not so much the construction of new buildings as the renovation of the existing ones. We need to make sure that the renovation policies deliver fast and concrete results in terms of increased energy efficiency and overall system efficiency, reduced energy consumption and reduced GHG emissions. A neighbourhood approach could help us achieve these goals and the overall objective of a highly energy efficient and decarbonized building stock.

In Germany, North Rhine-Westphalia launched a new project called '**100 Climate Protection Housing Estates**', where the new construction and refurbishment projects are required to go beyond the energy saving regulations EnEV 2009. Planning guidelines covering districts have been developed.

Some achievements:

- **Düsseldorf-Garath - District Renovation:** a whole residential area was upgraded, reaching a heating demand of 29 kWh/m²a, covered by district heating.

- **Hattingen-Südstadt - District Renovation:** a large district in the southern part of the city has been renovated, heating demand was reduced by about 85 % (to 20 kWh/m²a from approximately 120-140 kWh/m²a).

Low Carbon Cities for Better Living Sinfonia project is a five-year initiative to deploy large-scale, integrated and scalable energy solutions in mid-sized European cities. At the heart of the initiative is a unique cooperation between the cities of Bolzano and Innsbruck, working hand in hand to achieve 40 to 50% primary energy savings and increase the share of renewables by 20% in two pioneer districts. This will be done through an integrated set of measures combining the retrofitting of more than 100,000m² of living surface, optimisation of the electricity grid, and solutions for district heating and cooling. The two pilot cities have been followed, since the beginning of the project in 2014 by five early adopters: Boras, Pafos, Seville, la Rochelle and Rosenheim.

CITYFIED is a pioneering smart city project in Sweden, which is based on a mix of demonstration, technologies and sound business models. It has developed a replicable, systemic and integrated strategy for sustainably renovating residential districts. The benefits include reduced thermal energy consumption, lower greenhouse gas emissions and greater use of renewable energy.

Indeed, a proper design of building energy renovation projects at the level of a neighbourhood delivers numerous benefits, including:

- Matching the reduced energy needs of the buildings, following the implementation of energy efficiency measures, with residual future supply needs (reduced peak power demand and grid size);
- **Realizing economies of scale and generating new financing and business models** allowed by the possibility to bundle otherwise fragmented renovation projects;
- **Maximizing the potential for total saved primary and final energy** through an analysis of the potential of both demand and supply side energy efficiency measures;
- **Achieving synergies** among infrastructures, fuel sources, and different parts of energy systems enabling sector integration that can only happen at the level of a territory, including use of energy which would be otherwise wasted (i.e. waste heat from nearby industrial facilities, data centers and urban infrastructures delivered through district heating networks);
- Strengthening and consolidating of local communities, via the realization of wider and **socially inclusive urban regeneration programmes.**

The project **Sustainable Hökarängen** started in February 2011 by Stockholmshem. With simple means they wanted to get property owners, residents, and people operating in the area to work together to reduce both energy use and the use of other resources. Some of the issues the project worked with include local trade, a carpool, local production, collecting used clothing and furniture, food waste and workshops. Stockholmshem has also conducted extensive technical measures on the real estate portfolio. The goal was to reduce energy use by 15 percent and carbon dioxide emissions by 40-50 percent (2000-2500 tons) by June 2015.

EU-ASE RECOMMENDATIONS

For the reasons listed before, we support the use of a neighbourhood approach to reach a higher rate of more comprehensive and deeper renovations provided that the following four conditions are met:

1

A CLEAR DEFINITION OF A NEIGHBOURHOOD APPROACH IS ESTABLISHED

Following Art. 19 of EPBD, neighbourhood approaches could be translated into holistic renovation and energy plans applied to a number of buildings in a predefined spatial area (such as district or neighbourhood, or part of a city composed of several districts). When designing programmes or schemes for renovation using this perspective, it is crucial to consider a group of buildings closely located to each other based on the ratio of worst-performing buildings. By doing so, the neighbourhood approach ensures that all the buildings of a given area are renovated avoiding a 'pick and choose' approach which would imply that only buildings that are easier to renovate would be part of a defined district renovation strategy.

THE ENERGY EFFICIENCY FIRST PRINCIPLE IS SYSTEMATICALLY APPLIED

When a neighbourhood is to be renovated, all the potential energy efficiency measures (both on the supply and demand side) should be systematically assessed before devoting any public and private investment in residual energy generation capacities.

2

3

THE COMPLIANCE WITH MINIMUM ENERGY PERFORMANCE REQUIREMENTS IS ENSURED

As specified in the EPBD Art. 19, when an integrated neighbourhood approach is deployed, each building under renovation should comply with the minimum energy performance requirements. When public funds (European or national) are involved, higher support should incentivize going beyond the minimum energy performance requirements to ensure better results and to avoid lock-in effects.

NEIGHBOURHOOD-BASED RENOVATION PLANS FACTOR IN SOCIETAL BENEFITS, SUCH AS HEALTH AND WELL-BEING

The application of a neighbourhood-based approach can allow for the integration of both cost-efficiency and social considerations, such as those related to the health and well-being of the occupants, better safety and air quality, and eradication of energy poverty through, for example, the reduction of energy bills. Appropriate energy planning tools⁵ allow going beyond technical and economic criteria, integrating social considerations.

4

5. InSmart project: <https://smartcities-infosystem.eu/sites-projects/projects/insmart>



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European
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Creating an Energy-Efficient Europe

The European Alliance to Save Energy (EU-ASE) was established in December 2010 by some of Europe's leading multinational companies. The Alliance creates a platform from which our companies (Danfoss, Kingspan, Knauf Insulation, Saint-Gobain, Schneider Electric, Siemens, Signify, and Veolia) can join with politicians and thought leaders to ensure the voice of energy efficiency is heard from across the business and political community.

EU-ASE members have operations across the 27 Member States of the European Union, employ over 340.000 people in Europe and have an aggregated annual turnover of €115 billion.

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