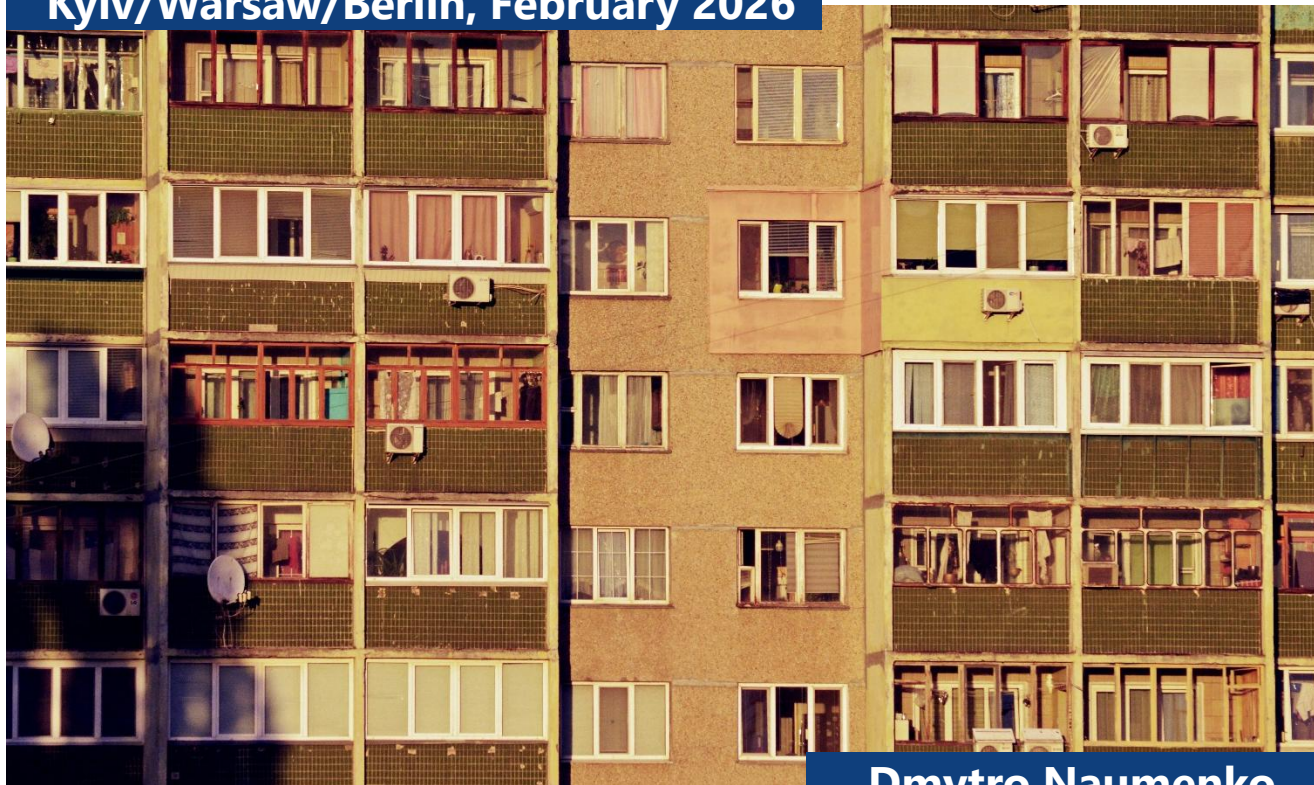


Scaling Multi-Family Houses Thermal Modernisation: “Municipal Quarter Approach”

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1 Introduction

Since 2019 there have been several attempts to launch thermal modernisation programmes for Multi-Family Houses (MFH) based on a more centralised, "top-down" approach. This was tried for two reasons: (a) retrofitting standardised Soviet apartment buildings in entire neighbourhoods is expected to substantially lower unit costs due to scale efficiencies; and (b) local municipalities are relatively close to affected homeowners and their associations; they play a central role in city planning and implementation, and they can synchronise thermal modernisation programmes with modernising and rescaling local district heating systems.

The 2023 Long-Term Strategy for the Thermal Modernisation of Buildings until 2050 (LTMB) highlights the role of buildings for Ukraine's energy security, decarbonisation and EU integration. It establishes a long-term framework for the systematic renovation of housing and public facilities. However, the LTMB can only be implemented in practice if MFH thermal modernisation moves from today's project-by-project niche to a genuine mass-scale process. This also requires addressing MFHs that have not established a home-owner association (HOA).

Ukraine established the legal form of home-owner associations and developed a legal framework for complex thermal modernisation of MFHs, including energy certification schemes and state grant support of HOA-led projects via the (national) Energy Efficiency Fund (EEF). However, HOAs never went mainstream, covering only approx. 20% of MFHs – meaning that roughly 80% of the MFH stock remains outside the main HOA-based grant mechanism and is not covered by state-supported thermal modernisation programmes.

At the same time, the ecosystem of complex projects via the EEF has developed very slowly: By the end of November 2025, the cumulative number of completed projects was 432 and 324 projects were in the pipeline – still a tiny share of the country's huge MFH stock (approx. 180,000 buildings) (Energodim, 2026). The full-scale Russian invasion further stalled new HOAs, shifted EEF efforts towards quick refurbishment and backup-energy support, and reduced predictability of public funding (reallocated to defence), leaving funding largely to Western donors.

Beyond that, large-scale MFH renovation is essential for Ukraine's climate policy and EU integration agenda. The LTMB and the updated National Energy and Climate Plan (NECP) set targets for reducing final energy consumption in buildings and introduce nearly zero-energy building (NZEB) requirements for new construction from 2025. Yet these standards will have limited impact if the legacy stock of Soviet-era MFHs continues to waste energy for decades. A credible EU accession path therefore requires not only legislative alignment, but also a visible and sustained MFH modernisation programme at scale.

The war has further reshaped the context for housing reconstruction. Large parts of the MFH stock – particularly in frontline and de-occupied regions – have been damaged or destroyed. At the same time, Ukraine's reconstruction frameworks emphasise the principle of "build back better", implying that both new and reconstructed buildings must be significantly more energy-efficient and climate-resilient than the pre-war stock. MFH thermal modernisation is thus a structural component of a resilient, low-carbon housing sector, not an optional add-on.

Without a shift from isolated pilot projects to mass-scale, district-type approaches, Ukraine risks locking in another generation of inefficient buildings and missing its energy, climate and EU integration targets. The international context is generally favourable for achieving such a shift. The EU's Renovation Wave, Just Transition mechanisms and dedicated facilities for Ukraine offer opportunities to mobilise substantial grants and concessional finance — provided that Ukraine presents credible programmes, capable institutions and a pipeline of well-prepared projects.

Against this background, large-scale rehabilitation of the national housing stock is likely to be financed primarily in the post-war period, with substantial donor contributions and a stronger role for municipalities. For such investments to succeed, new approaches to MFH rehabilitation are needed that address existing administrative and institutional obstacle. The next chapter highlights key barriers and then presents a proposal for a "Municipal quarter approach".

2 Key structural obstacles for MFH thermal modernisation in Ukraine

2.1 Overreliance on HOAs

As already explained, the focus on HOAs in supporting thermal modernisation has had no measurable effect, as there are simply too few of these institutions.

2.2 Insufficient project-management capacity

Most HOAs/housing cooperatives and municipalities lack sufficient expertise to implement complex thermal modernisation projects, as numerous legal, technical, and financial provisions must be fulfilled (and individual homeowners lack this capacity as well). In HOAs, project management tasks fall on the HOA chairman, who is usually already overloaded with daily building maintenance. With rare exceptions, neither the state nor municipalities provide adequate support to HOAs – especially new ones – on the way to complex projects. As a result, HOAs often limit themselves to the simplest energy efficiency measures or refuse participation altogether.

2.3 Burdensome procedures for contractors

EEF and donor-led projects require complicated and lengthy procedures, often based on extra-detailed FIDIC-type contracts and bank guarantees for contractors. In practice, this leads to delays in grant repayments (forcing contractors to pre-finance works), exposes them to price volatility and currency risks, and creates burdens related to ToR development, procurement procedures, and weakly coordinated design solutions. This frequently demotivates contractors to participate, especially at local level where companies have limited capacity. An additional issue is Ukrainian construction cost-estimate regulation ("AVK route"), which requires numerous approvals and recalculations after externalities change (exchange rate, prices), unlike the "UPV route" where entries are fixed at current market prices.

2.4 Immature market infrastructure

The thermal modernisation market remains immature and cannot consistently provide high-quality services for MFH retrofitting projects, despite positive development in recent years. Key gaps include

a deficit of qualified energy auditors, engineers, and project managers; restrictive and/or burdensome state architecture expertise procedures; lack of financial instruments for HOAs and construction companies to cover working-capital needs; and lack of systemic PR campaigns at national and municipal levels to motivate homeowners.

2.5 Weak coordination with municipalities and DH companies

Despite a few positive examples, most HOA-led thermal modernisation projects are not supported by local authorities and are not coordinated with settlement development plans. Conflicts can arise between HOAs and municipal housing companies over utility repairs or access to building documentation needed for project preparation. In addition, district heating companies often do not reflect modernised buildings' new heat consumption profiles, which makes tuning of individual thermal points (ITPs) problematic.

3 Proposal for a "municipal quarter thermal modernisation approach"

This proposal is largely based on previous attempts to enable mass-scale thermal retrofitting of Multi-Family Houses, based on the idea that implementing such projects for "typical" Soviet-style MFHs and the district heating infrastructure that serves them would deliver maximum economies of scale and energy savings along the heat supply and consumption chain.

We propose that a new approach to "**municipal quarter thermal modernisation**" or hereinafter "municipal quarter approach" should be considered (depicted at Figure 1 below). It can potentially become the basis for the corresponding state programme and the key element of the post-war country's reconstruction plan for modernisation of the outdated Multi-Family Houses stock.

Its core differences from previous attempts to unlock the mass-scale Multi-Family Houses renovation may be outlined as the follows:

Focus on Non-HOA Houses

The programme is targeted precisely at the non-HOA segment of the housing market; therefore, it will not be competing with existing programmes for Multi-Family Houses thermal modernisation (e.g. by the Energy Efficiency Fund (EEF) and municipal initiatives) that are focused on HOAs / housing cooperatives.

Local Authorities Lead Delivery

The key planning and implementation role should be provided to local authorities, i.e. selection of districts and engaging non-HOA homeowners to participate, planning of district heating systems modernisation, and thermal modernisation project management and oversight.

State Provides Framework Support

The state's main function would be to provide the enabling framework and long-term support for the programme. In particular, it would:

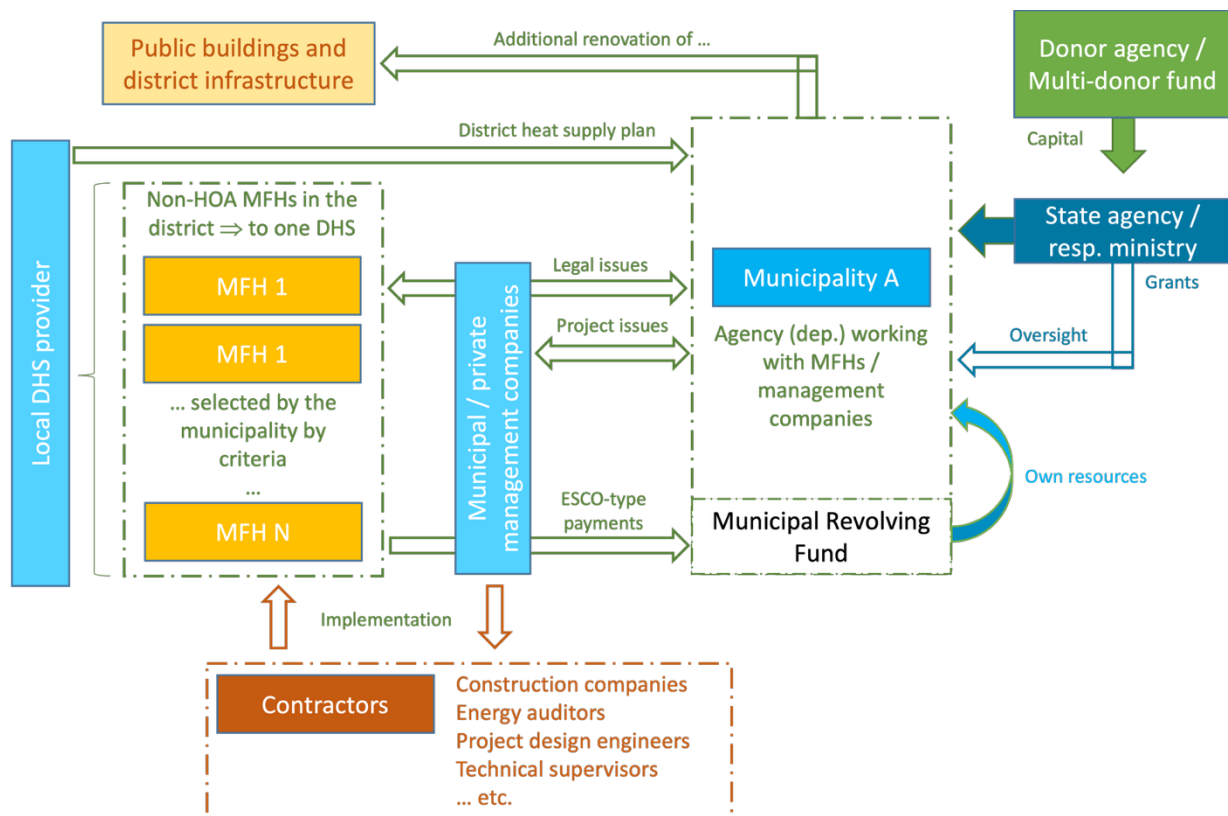
Establish the regulatory framework: create the necessary framework regulations and conditions that allow non-organised homeowners to engage in thermal modernisation projects.

Provide the financing vehicle: set up and fund a grant mechanism for participating municipalities, drawing on own resources and donor contributions under reconstruction programmes.

Ensure oversight and safeguards: exercise general oversight to prevent corruption at the local level and to protect non-HOA homeowner's rights.

Build municipal capacity: invest in long-term technical capacity building for municipalities in thermal modernisation project management, enabling them to provide high-quality technical support to both local non-HOA projects and EEF-led HOA projects.

Figure 1: Conceptual design of the "municipal quarter approach" proposal



Source: Own representation

A local non-HOA programme aggregates multiple multi-family houses and links building retrofits to the modernisation of the district heating system and public buildings. Municipality A acts as the central coordinator, preparing the district heat supply plan, launching procurement, and overseeing delivery through contractors. Financing is channelled via a municipal revolving fund, combining grants from a state agency/line ministry with capital from a donor or multi-donor fund, complemented by monitoring and capacity support to ensure compliance and reduce corruption risks.

The cornerstone mechanism of this approach is attributed to the existence (or developing) of capacity in a participating municipality, given the complexity of tasks of "district"-type issues. It could exist in a form of special agency or department that would be capable of planning, control and implementation of the district modernisation, incl. rehabilitation of Multi-Family Houses, modernisation of the district heating system that serves the selected district (if in place), and renovation of adjacent public buildings and infrastructure.

Another crucial difference of a proposed approach – focus on the Multi-Family Houses districts without or single HOAs in the area that, however, require substantial amendments to acting housing markets laws. Currently, such Multi-Family Houses (of the "non-organised" segment) are not authorized to participate into existing support programmes due to a legal framework designed exclusively for organised homeowners. "Municipal quarter approach" would require involvement of non-HOA Multi-Family Houses at mass-scale and proper legal settings should be developed for this purpose. For example, acting housing regulation has to be amended to enable service-type contracts between (i) homeowners and municipality (municipal agency) and/or (ii) homeowners, municipal/private managing companies and municipality (municipal agency).

Other important amendments to laws should be made to enable implementation of the "municipal quarter approach", namely allowing both municipal and private managing companies to carry out Multi-Family Houses thermal modernisation projects. In many cases, such companies have greater implementation capacity, but they may also pose higher corruption and misconduct risks compared with HOAs. A possible safeguard is to introduce strict pre-selection procedures conducted jointly by the municipality and the relevant state agency, alongside post-project audits for retrofitted Multi-Family Houses.

Also, an important legal provision should be developed to enable the financial arrangement for homeowners of "ESCO-type" payments, allowing them to repay their own contributions to the funding agency (in this case the financial entity of the municipality / state agency). The reasonable proposal here may be to use and expand the positive experience of municipal revolving funds (i.e. in Kyiv) when the homeowners' contributions derived from energy savings are channelled back to the city's revolving fund and reinvested into new MFH renovation projects as a grant support. Technically, the cash flow for such types of payments begins after a thermal modernisation project is completed, when the difference between pre-project and post-project payments for core utilities payments appears (as a Multi-Family House starts to consume a smaller amount of energy). Indeed, introduction of such an approach would require sufficient energy metering (on in-house / flat levels) and detailed methodology to define optimal periods and monthly sizes of such reimbursements. The key advantage of this approach is avoiding taking out bank loans for homeowners for advance repayment of their own contributions to the thermal modernisation projects as it poses quite a heavy financial and psychological barrier for households to contribute to complex and costly renovation projects even for HOAs.

However, the key financial role for the "municipal quarter approach" is reserved to the state, which will provide the main portion of grant support to projects of "municipal renovation" and oversee municipalities. Technically, it could be one of the post-war reconstruction tracks financed by

international donors' contributions and implemented by the selected state agency / ministry (e.g. the Agency of Restoration of Ukraine). Such a financial mechanism of "district" thermal modernisation project support would channel money from the state budget to municipal entities/agencies and then distribute it as financial compensation to homeowners. Obviously, it raises questions about (i) the operational structure and legal setting needed to give municipalities the right to provide loans/grants, (ii) conditions and provisions for state oversight of the whole financial turnover, etc. In general, this mechanism has to provide: (i) reasonable payback periods for participating non-HOA homeowners and (ii) additional motivation for non-HOA homeowners to establish HOAs by applying a slightly lower grant amount to them (without significantly hampering payback periods).

It will be also crucial to build the proper institutional capacity inside such an agency for efficient reimbursement and control over the grant's distribution and deep understanding of the specifics of the Multi-Family Houses thermal modernisation projects.

4 Additional measures to boost the MFH thermal Modernisation market

Even if the proposed "municipal quarter approach" resolves current limitations of the MFH thermal modernisation process (which is strictly limited to HOAs), it would not be successful without lifting the existing "horizontal" barriers that also prevent scaling up the mass replication of the few hundred successful projects implemented by HOAs with support from the EEF and municipal funds.

4.1 "Municipal quarter approach" as motivation for non-organised MFHs to create HOAs

This can be achieved by different means, but the "quarter approach" should not cannibalise existing MFH thermal modernisation programmes. Municipalities should propose more favourable financial conditions for participating HOAs (e.g. additional top-up grants) and provide the necessary technical and PR support for acting HOAs and homeowners who consider creating HOAs in their buildings. A prerequisite is the closest possible alignment of technical procedures for MFH renovation projects across programmes, making participation equally feasible for all actors in the market.

Additional measures could include introducing conditionality under which the creation of HOAs in the majority of MFHs becomes obligatory, following a reasonable schedule. After that, all non-HOA MFHs would be automatically subject to the "quarter approach" model. In our opinion, the "quarter" model may serve as a powerful demonstration tool for non-organised homeowners that thermal modernisation projects are feasible and can lead not only to substantial energy and monetary savings but also to wider modernisation of districts.

An alternative (and reverse) approach would be to extend already developed EEF and municipal EE programmes to MFHs without organised homeowners by creating parallel or transitional legal patterns that allow private and municipal housing management companies—selected under strict criteria—to market and manage MFH thermal modernisation. Ideally, this would create healthy competition and enable knowledge exchange and cooperation between the EEF and municipalities within selected districts.

4.2 Close the gap of "bridge finance" for MFH thermal modernisation participants

This problem exists (and will continue to play a crucial role) regardless of HOA status for homeowners who would like to participate in MFH thermal modernisation projects. Despite substantial grant contributions (up to 70%), funding the own contribution has always been difficult for an average homeowner without bridge finance. Prior to the war, the almost only option was bank loans with interest rates around 15% p.a. After 2022, interest rates increased to around 25% p.a., and banks terminated issuance of loans to HOAs in principle (considering them a segment with particularly high NPL risk). Possible solutions include:

- Develop and test special banking products via state banks (Oschadbank, Ukreximbank) to provide loans at acceptable interest rates for homeowners participating in thermal modernisation programmes.
- Upgrade municipal revolving funds under an "ESCO-type" principle for own-contribution payments and expand their legal setting to provide bridge finance for homeowners (a blended bridge-loan / main-grant product).

4.3 Increase capacity of municipal agencies and HO to manage thermal modernisation projects

With rare exceptions, both HOAs and municipalities lack expertise to implement MFH thermal modernisation projects, due to numerous and complex technical provisions (set by the state or grantors) that must be fulfilled during implementation. Possible solutions include:

- Both the HOA and non-organised segments of the MFH thermal modernisation market need a cadre of professional managers with the necessary technical and financial skills who can focus on implementing thermal modernisation projects and work in the interest of homeowners. Some specialists may be trained under the EEF umbrella to support HOA projects, but a specific state policy to develop such capacity at municipal level would be crucial for the success of the "district approach".
- Some professional managers may also emerge in private management companies if they are allowed to participate in the MFH thermal modernisation market to a full extent.

4.4 Build the necessary infrastructure of the MFH thermal modernisation market

Beyond the framework issues, additional barriers should be addressed, including: (i) lack of working-capital finance for construction companies and other contractors, (ii) restrictive and/or burdensome state architecture expertise procedures, and (iii) a deficit of qualified energy auditors and engineers, as well as thermal modernisation project managers. Possible interventions include:

- Deep revision and alignment with EU best practices of state architecture regulations related to old MFH thermal modernisation and renovation (this process is already ongoing), energy certification of retrofitted buildings, and qualification requirements for related professionals.
- Investments in, and promotion of, educational programmes for energy-efficiency specialists (at both national and municipal levels).
- Development of special financial products by state banks to support contractors involved in MFH thermal modernisation projects.

5 References

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