

HOUSING TRANSFORMATION AND NEIGHBOURHOOD REGENERATION

Transforming Aging Housing into Resilient Neighbourhoods

Zhytomyr Municipality • Zhytomyr

CHALLENGE OWNER	CITY SCALE	PILOT STATUS
Zhytomyr Municipality	1,604 apartment buildings	To be selected by evidence

THE CHALLENGE QUESTION

How can Zhytomyr choose the right intervention for each housing type, select a realistic pilot and turn building-by-building repairs into long-term neighbourhood regeneration?

The municipal challenge

Zhytomyr's multi-apartment housing stock is physically diverse, energy-intensive and increasingly expensive to maintain. Buildings differ in age, structure, engineering systems, ownership and neighbourhood conditions, so one standard renovation package will not work across the city.

The municipality needs a transparent way to decide what should be repaired, thermally modernised, deeply renovated, redeveloped or—where no safe and viable alternative exists—replaced. The approach must improve safety and performance without making housing unaffordable or displacing residents.

WHEN THE WORK IS DEVELOPED

No drawings, analysis, budgets or other solution materials are required before the hackathon. Participants review the challenge and bring relevant expertise; teams develop every component described below during the hackathon with municipal and mentor input, then present one integrated proposal.

01 MUNICIPAL REQUEST

A citywide method, demonstrated through one pilot

The municipal request has two connected parts. First, create a decision framework for the full housing stock. Second, apply it to one representative building type, residential block or neighbourhood selected through clear criteria. The pilot should prove how the wider method works in practice.

MUNICIPAL BASELINE	WHAT IT MEANS FOR THE TASK
1,604 buildings	The city's multi-apartment residential stock and the scale of future prioritisation.
4.36 million m²	Total apartment area represented in the municipal housing baseline.
87,484 apartments	Homes whose safety, affordability, comfort and long-term value depend on better decisions.
Dominant pressure	Housing built between 1960 and 1990 represents the largest share of apartment area and growing physical, energy and engineering-system risk.

Housing types and intervention pathways

The stock includes historical and pre-war buildings, post-war reconstruction, stalinka and khrushchevka buildings, panel and brick housing from the 1970s–1980s, late-Soviet high-rises, post-Soviet housing and modern energy-efficient developments. Each type may require a different diagnosis and pathway.

PATHWAY	DECISION TO TEST
Repair and stabilise	Address urgent safety, elevator, common-system or maintenance failures while preserving a viable building.
Modernise or deeply renovate	Coordinate envelope, energy, utilities, accessibility and common-property improvements.
Reconstruct or redevelop	Reconfigure buildings, land or neighbourhood functions where deeper change is justified.
Replace	Use only where a safe, affordable and viable alternative cannot be demonstrated, with resident safeguards in place.

02 PILOT TO DEVELOP

The municipal pilot ambition

SELECT ONE REPRESENTATIVE AND REPLICABLE CASE

No pilot building, block or neighbourhood is preselected. Teams must recommend a case that is urgent enough to matter, feasible enough to advance and representative enough to test a repeatable city process.

Pilot selection criteria

Selection should combine technical and energy risk, resident and affordability needs, quality of available data, co-owner readiness, land and infrastructure conditions, implementation feasibility, financing potential and value as a model for similar housing elsewhere in Zhytomyr.

Open task for hackathon teams

During the hackathon, develop a citywide housing-transformation method and apply it to one justified pilot. Connect technical condition and energy use with accessibility, resident decisions, affordability, finance, land use, public space, utilities, social infrastructure and long-term management.

This is not a request to redesign all 1,604 buildings or to assume that renovation, demolition, densification or new construction is automatically correct. The selected intervention must follow from evidence and show how residents remain protected throughout delivery and operation.

Key decisions the proposal must resolve

- How should the city classify buildings by type, condition, energy performance, risk and social need?
- Which transparent criteria identify the most useful first pilot, and which case best meets them?
- For the selected case, what combination of repair, renovation, reconstruction, redevelopment or replacement is justified?
- How will technical works connect to accessibility, utilities, public space, mobility, social infrastructure and neighbourhood identity?
- How will residents and co-owners participate, consent and remain protected from displacement or unaffordable costs?
- Who will finance, govern, procure, operate and monitor the pilot, and how can the process be repeated citywide?

03 WORK DURING THE HACKATHON

What your team will develop

DEVELOPED DURING THE HACKATHON — NOT BEFOREHAND

The following six components form one integrated proposal. Teams develop them during the hackathon using municipal housing data, consultations and mentor support.

1. **Housing typology and decision framework.** Create a practical classification using age, structure, condition, energy, engineering systems, ownership, social need and neighbourhood context. Link each profile to evidence requirements and intervention options.
2. **Pilot selection and baseline.** Define transparent criteria, assess candidate types or areas and recommend one case. State the available evidence, assumptions, risks and technical or social information still required.
3. **Pilot intervention concept.** Develop a justified technical, energy, elevator, utility, accessibility and maintenance pathway, with representative diagrams showing the scale and sequence of proposed works.
4. **Neighbourhood and resident pathway.** Set principles for land use, density, public space, mobility, utilities and social infrastructure. Define communication, participation, consent, affordability, relocation and anti-displacement safeguards.
5. **Finance, governance and management model.** Allocate responsibilities among the municipality, co-owners, housing managers, utilities and partners. Compare grants, loans, household contributions, private investment and mixed finance across the lifecycle.
6. **Data and phased delivery plan.** Define digital building records, audits, approvals, procurement, costs, phases, risks and indicators. Show how the pilot can move into consortium building, external funding and replication across similar housing.

Expected level of development

LEVEL	WHAT THIS MEANS
Expected	A coherent citywide method and decision-ready pilot package with classification and selection criteria, a justified case, representative technical and neighbourhood concepts, resident safeguards, governance, lifecycle finance, indicative costs and a phased implementation pathway.
Not required	Pre-hackathon solution work, full audits of the citywide stock, final structural or energy certification, completed resident consent, detailed working drawings, final bills of quantities, permits, tender documents or designs for all 1,604 buildings.

Submission format follows the official Rebuild Green Hackathon 2026 Rules; this brief defines the Zhytomyr challenge-specific work.

04 CONSIDERATIONS AND SUCCESS

People and partners

GROUP	CHALLENGE-SPECIFIC ROLE
People the model must protect and serve	Current residents and apartment co-owners; vulnerable households; internally displaced people; and households needing affordable, municipal rental or transitional housing. Different ages, incomes, household structures and accessibility needs must be considered.
Actors needed to deliver and operate it	Zhytomyr Municipality; associations of apartment co-owners; housing managers; utility providers; architects and engineers; energy, accessibility and social specialists; financiers, developers and investors; and public, private and international partners.

Practical constraints and questions to verify

- No pilot building, block or neighbourhood has yet been selected; candidates and municipal priorities require validation.
- Technical documentation and condition data are incomplete for parts of the housing stock.
- Structures, internal networks, elevators and common systems have different risk levels.
- Municipal budgets and residents' financial capacity are limited, but costs cannot simply be shifted to households.
- Fragmented apartment ownership and collective decisions may slow or block implementation.
- Land, planning, heritage, utility capacity and neighbourhood conditions vary between potential pilot areas.
- Additional density must not overload utilities, remove needed public space or undermine neighbourhood character.
- Redevelopment or replacement must avoid forced displacement, exclusion and unaffordable post-project housing costs.
- Energy savings alone do not prove affordability; capital, financing, maintenance and long-term service charges must be tested together.
- Full implementation requires consortium building and external finance.

05 EXPECTED OUTCOME

Starting material and support during the hackathon

- Municipal housing-stock data covering building numbers, apartment area, apartments and construction periods.
- An initial classification of major building typologies and age groups.
- Municipal and stakeholder interest in systematic housing modernisation and coordinated land and housing policy.
- Existing experience of apartment co-owner associations and housing-management reform.
- Identified demand for municipal rental, transitional and affordable housing.
- Potential brownfield and redevelopment areas and an opportunity to combine public, private and international finance.
- Municipal and mentor input during the hackathon. Teams should record assumptions and identify the evidence, audit or decision required next.

What a strong hackathon result will provide

A DECISION-READY HOUSING-TRANSFORMATION PILOT

Zhytomyr should receive one coherent proposal showing how to classify and prioritise its housing stock, why one pilot is selected, what intervention is justified, how residents and the neighbourhood are protected, who delivers and manages it, what it may cost and what must be verified before investment.

Pilot potential

Within one to three years, a pilot case should be formally selected and have a completed technical and spatial diagnosis, an agreed intervention scenario, a resident-participation process, financing plan and municipal implementation roadmap. First works should be launched or ready for procurement, with responsibilities for delivery, operation and monitoring assigned.

The city should then have a repeatable method for prioritising other buildings and neighbourhoods as funding becomes available. If the pilot demonstrates safety, affordability, energy performance and workable governance, the method can be adapted by other Ukrainian cities with similar aging housing and infrastructure pressures.

Municipal challenge source: Zhytomyr Municipality materials provided for Rebuild Green Hackathon 2026.