

DOI 10.36074/logos-04.04.2025.078

MODERNIZATION OF MULTI-APARTMENT BUILDINGS. WHAT'S WRONG?

Sergii Derkach¹

1. PhD student, department of theory, history of architecture and synthesis of arts
"National Academy of Fine Arts and Architecture", Kyiv, UKRAINE

ORCID ID: 0009-0006-4380-4924

Mass social panel residential buildings makes up a significant part of the housing stock in Ukraine. Predominantly, these are houses built according to projects of the 60s-80s of the 20th century. A similar situation is in other post-Soviet countries and others with the heritage of Soviet construction. Mass social housing has also been encountered in other countries of the world. Therefore, the renovation of old residential buildings is extremely important for every country. The issue modernization, with adopting a sustainable development agenda, has become particularly acute. This has identified the need to achieve sustainable urban development and energy efficiency, to reduce carbon emissions and preserve the environment. However, the renovation of old residential buildings and the creation of inclusive living conditions is an equally important topic.

Today, energy efficiency programs are mostly covered by 70% by funds and state support, and require co-financing by homeowners. Restoration of technical condition remains a separate topic and is mainly carried out as needed.

There is a need to review the approach to the modernization of old residential buildings, which would be able to cover the entire complex of necessary repair works to restore the level of the building in accordance with the modern requirements of the technical condition of the structure and engineering and communication nodes, taking into account energy efficiency and inclusiveness. When developing such projects, it is necessary to pay attention, including to the surround area, because it is an integral part of the city's residential environment. This approach has been introduced in the USA. Using the example of New York City, a transition to comprehensive renovation of the old housing stock is being developed [1]. A similar program exists in Israel [2] and has been introduced in Singapore [3]. The programs require temporary relocation and provision of housing. This is the responsibility of the construction sector. Therefore, States create

SECTION 29.

ARCHITECTURE ET CONSTRUCTION

conditions for encouraging the private sector and provide them with benefits and create conditions for profit. As a result, modern houses are attractive for living and cities prosper, due to the increase in housing prices and the attractiveness of the living environment as a whole. The need for regeneration is also highlighted in a report commissioned by the European Union [4]. The relevance of the need to restore the old housing stock is not questioned. But one of the most important issues is financing.

Today, existing energy efficiency funds cover part of the costs of co-owners. But scientists from many countries note low attractiveness: researchers from Germany note high own costs of owners compared to future benefits [5]; researchers from Lithuania note low rates and obstacles [6]; the example of Ukraine proves low capacity and significant costs compared to benefits [7].

It is necessary, with the support of the State, to create a foundation for the interest of the private construction sector of Ukraine in the comprehensive modernization of old residential neighbourhoods as opposed to new construction.

The basis for interest in financing and investing in sustainable modernization can be global experience with the following criteria:

- transfer of land ownership (example of Singapore);
- transfer of ownership of completed square meters and the right to buy out old housing at a lower cost compared to future sale after modernization (example of Israel);
- transfer of the house to the management of the developer (example of the USA);
- other financial mechanisms that will provide the opportunity to make a profit after modernization.

It is necessary to take into account the social factor and the interests of co-owners of housing, and to provide organizational conditions to protect the interests of residents.

The result is the avoidance of degradation of old residential areas, heterogeneity of the residential environment in terms of economic and social indicators and the level of living conditions, prosperity and economic attractiveness of cities and the country for investment, economic development and tourism. Increasing the level of economic and social indicators of the city and their attractiveness for living. In turn, this increases the welfare of the country.

REFERENCES:

- [1] Comprehensive Modernization Consultation White Paper (2022). New York City Housing Authority. The Official Website of the City of New York. Retrieved from: https://www.nyc.gov/assets/nycha/downloads/pdf/comp-mod/NYCHA_Comp_Mod_Consultation_White_Paper.pdf

- [2] Planning Administration. Official web-portal of Israel. Retrieved from: <https://www.gov.il/he/departments/iplan/govil-landing-page>
- [3] Urban Redevelopment Authority. A Singapore Government Agency Website. Retrieved from: <https://www.ura.gov.sg/Corporate/Resources/Ideas-and-Trends/Redevelopment-Conservation-Zero-Sum-Game>
- [4] Aernouts, N., Marranghi, E., & Ryckewaert, M. (Eds.). (2020). The Regeneration of Large-Scale Social Housing Estates. Spatial, Territorial, Institutional and Planning Dimensions. *Soholab*. Brussels, Belgium, 191 p. Retrieved from: https://jpi-urbaneurope.eu/wp-content/uploads/2017/06/soholab_report1.pdf
- [5] Groh, A., Kuhlwein, H., & Bienert, S. (2022). Does Retrofitting Pay Off? An Analysis of German Multifamily Building Data. *Journal of Sustainable Real Estate*, 12(1), 95-112. DOI: <https://doi.org/10.1080/19498276.2022.2135188>
- [6] Streimikiene, D., & Balezentis, T. (2020). Willingness to Pay for Renovation of Multi-Flat Buildings and to Share the Costs of Renovation. *Energies*, 13(11), 2721. DOI: <https://doi.org/10.3390/en13112721>
- [7] Derkach, S.I. (2024). Analysis of the Current situation of energy modernization of multi-apartment residential buildings as achievement of sustainable development goals. *New Technologies in Construction*, (44), 14-20. DOI: <https://doi.org/10.32782/2664-0406.2024.44.3>

