

# ZHYTOMYR

## PROJECT ORGANIZERS:

- Housing Association of Estonia (Eesti Korterühistute Liit, EKÜL)

## SUPPORTED BY:

- Estonian Center for International Development (ESTDEV)

## IN COOPERATION WITH:

- Ukrainian non-governmental organization Housing Ukraine
- The UN European Economic Commission (UNECE)

Apartment building at 94 Kyivska St.

**ZHYTOMYR** 2023 - 2024

# Table of contents

1. EXTERIOR OF THE BUILDING (existing condition).....	3
2. LOCATION OF THE OBJECT .....	6
3. EXTERIOR OF THE BUILDING AFTER RENOVATION .....	7
4. GENERAL CHARACTERISTICS OF THE OBJECT .....	10
5. ANALYSIS OF NEEDS AND PROJECT OPPORTUNITIES .....	12
6. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL AFTER RENOVATION .....	13
7. DESCRIPTION OF THE FORM OF OWNERSHIP AND MANAGEMENT OF THE RESIDENTIAL BUILDING .....	18
8. LIST OF REPAIR WORKS .....	19
9. PRELIMINARY CALCULATION OF THE COST OF REPAIR WORKS .....	20
10. INFORMATION ABOUT THE CITY AND ITS REPRESENTATIVES .....	21

# 1. EXTERIOR OF THE BUILDING (existing condition)



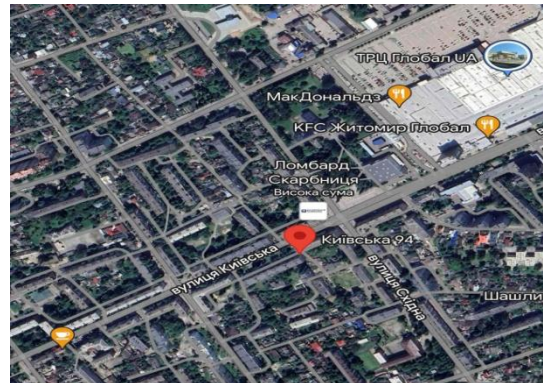
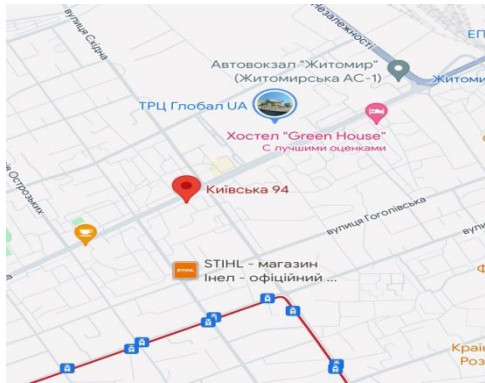
## 1. EXTERIOR OF THE BUILDING (existing condition)



# 1. EXTERIOR OF THE BUILDING (existing condition)



## 2. LOCATION OF THE OBJECT



**3. EXTERIOR OF THE BUILDING AFTER RENOVATION**



### 3. EXTERIOR OF THE BUILDING AFTER RENOVATION





### 3. EXTERIOR OF THE BUILDING AFTER RENOVATION



## 4. GENERAL CHARACTERISTICS OF THE OBJECT

Technical characteristics of the object

Year of construction - 1964

---

Number of floors - 5

---

Building area - 870,9 m<sup>2</sup>

---

Volume of the building - 16,684 m<sup>3</sup>

---

Total area - 5958 m<sup>2</sup>

---

Total area of the apartments - 5145,9 m<sup>2</sup>

---

Living area - 3641,7 m<sup>2</sup>

---

Area of common areas - 812,5 m<sup>2</sup>

---

Number of apartments - 120

---

Number of 1-room apartments - 50

---

Number of 2-room apartments - 30

---

Number of 3-room apartments - 40

---

Total area of 1-room apartments - 1560,7 m<sup>2</sup>

---

Total area of 2-room apartments - 1273,6 m<sup>2</sup>

---

Total area of 3-room apartments - 2311,6 m<sup>2</sup>

---

Living area of 1-room apartments - 947,4 m<sup>2</sup>

---

Living area of 2-room apartments - 838,2 m<sup>2</sup>

---

Living area of 3-room apartments - 856,1 m<sup>2</sup>

---

Area of the basement - 915,1 m<sup>2</sup>

---

Current energy efficiency class -G

---

## 4. GENERAL CHARACTERISTICS OF THE OBJECT

Structural characteristics of the object

The foundation is prefabricated reinforced concrete blocks

---

The walls are prefabricated reinforced concrete blocks

---

Partitions - reinforced concrete

---

Flooring - reinforced concrete beams

---

The floor is a cement screed

---

The roof is a flat 2-pitched roofing material

---

Windows - metal plastic

---

Doors - metal, plastic

---

Stairs - reinforced concrete

---

Engineering characteristics of the facility

Plumbing

---

Sewerage

---

Heating

---

Electricity supply

---

Gasification

---

Phone connection

---

TV

---

## 5. ANALYSIS OF NEEDS AND PROJECT POSSIBILITIES

Existing technical problems

Water supply (engineering networks are partly in unsatisfactory condition, outdated)

- There is no facade insulation
- The roof is partially repaired, needs major repairs and insulation
- Large energy losses during heating
- Lack of improvement of the surrounding area
- Lack of a centralized air conditioning system
- The heat supply system is in an emergency state, the pipes need to be replaced and insulated

Technological solutions

- 🌞 Solar batteries as an alternative source of energy  
Ventilated facade
- 🌞 Internal centralized heating system in the form of an individual heat point with insulated pipes and balancing risers  
Internal centralized air conditioning system
- 🌞 Energy-saving means of internal and external lighting
- 🌞 Carry out harmonious landscaping and greening of the territory

## 6. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL



G

Current energy efficiency class

B

Desired energy efficiency class

The energy efficiency of a residential building is affected by the presence of energy-saving solutions, such as the decoration of the facade and window and door openings, the presence of individual communication systems and alternative energy sources, which ensure the separation of the house from centralized networks and allow the production of energy independently, not only supplying it to the house, but also giving a certain share in the centralized network.

The ultimate goal is to come close to creating a "passive" energy-efficient house.

## **6.1. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL**

In the multi-apartment residential building at the address: str. Kyivska 94, Zhytomyr:

- Heat carrier - water. Temperature graph 55 o C.
- B operation since 1964. Hot water temperature regulation. Accounting for consumed hot water is carried out using apartment meters for natural gas and cold water.
- Lighting system:
- The lighting system of common areas is represented by lamps with diode lamps in the amount of 42 pcs. with a power of 5 W each). Control of the lighting system in manual mode. Consumption accounting is performed according to the indicators of the commercial electrical energy accounting unit for lighting and other needs.
- • Specific energy consumption for heating, hot water supply, cooling of the building, 270 kW h/m<sup>2</sup>
- • Specific consumption of primary energy per year: 378 kW h/m<sup>2</sup>
- • Specific emissions of greenhouse gases per year: 75 kg/m<sup>2</sup>

## 6.1. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL

Consumption and cost of communal services in January 2024

**1-room apartment, area – 31,8 m<sup>2</sup>, number of residents - 1**

Name of service	Volume/Consumed per month	Tariff, UAH	To be paid, UAH..	To be paid, euros *
<b>Heat energy supply</b>			<b>1020,96</b>	<b>24,67</b>
Heat energy	0,471916 Gcal	1811,360	990,68	
General household heating needs	0,075010 Gcal.			
Subscription fee	-	30,28	30,28	
<b>Electricity supply</b>	110 kW/h	2,640	<b>290,4</b>	<b>7,02</b>
<b>Gas supply</b>	62 M3	7,95689	<b>493,33</b>	<b>11,91</b>
<b>Gas distribution</b>	30,92 M3	2,040	<b>63,07</b>	<b>1,5</b>
<b>Water supply and drainage</b>			<b>79,84</b>	<b>1,93</b>
from centralized water supply	1,5 M3	18,264	27,40	
with subscription to water supply service	-	12,72	12,72	
for centralised sewage disposal	1,5 M3	19,272	28,91	
for subscriber services for sewage disposal	-	10,810	10,81	
<b>Contributions and other payments</b>	31,8 M2	6,50	<b>206,7</b>	<b>4,99</b>
<b>Household waste management</b>			<b>38,77</b>	<b>0,94</b>
Waste disposal (collection and transportation)	1 person	31,8	31,8	
Subscription fee	-	6,96	6,96	
<b>IN TOTAL</b>			<b>2193,07</b>	<b>52,96</b>

\*Official NBU exchange rate on January 15, 2024: 1 euro – 41.3879 UAH.

-  
-

## 6.1. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL

Consumption and cost of communal services in January 2024

**2-room apartment, area – 42,6 m<sup>2</sup>, number of residents - 2**

Name of the service	Volume/Consumed per month	Tariff, UAH	To be paid, UAH..	To be paid, euros
<b>Supply of thermal energy</b>			<b>1413,43</b>	<b>34,15</b>
Heat energy	0,608421 Gcal	1811,360	1477,05	
General household heating needs	0,207018 Gcal.			
Subscription fee	-	30,28	30,28	
<b>Electricity supply</b>	38,00 kW/h	2,640	<b>134,64</b>	<b>3,25</b>
<b>Gas supply</b>	3 m <sup>3</sup>	7,95689	<b>23,87</b>	<b>0,58</b>
<b>Gas distribution</b>	10,5 m <sup>3</sup>	2,040	<b>21,42</b>	<b>0,52</b>
<b>Water supply and drainage</b>			<b>171,66</b>	<b>4,15</b>
from centralized water supply	1 m <sup>3</sup>	18,264	18,264	
with subscription to water supply service	-	12,72	12,72	
for centralised sewage disposal	1 m <sup>3</sup>	19,272	19,272	
for subscriber services for sewage disposal	-	10,810	10,81	
<b>Contributions and other payments</b>	42,6 m <sup>2</sup>	6,50	<b>276,9</b>	<b>6,70</b>
<b>Household waste management</b>			<b>71,62</b>	<b>1,73</b>
Waste disposal (collection and transportation)	2 person	32,33	64,66	
Subscription fee	-	6,96	6,96	
<b>IN TOTAL</b>			<b>2129,75</b>	<b>51,46</b>

\*Official NBU exchange rate on January 15, 2024: 1 euro – 41.3879 UAH.



## 6.1. DESCRIPTION OF ENERGY EFFICIENCY POTENTIAL

Consumption and cost of communal services in January 2024

**3-room apartment, area – 57,9 m<sup>2</sup>, number of residents - 4**

Name of service	Volume/Consumed per month	Tariff, UAH	To be paid, UAH..	To be paid, euros
<b>Heat energy</b>			<b>1004.41</b>	<b>24,27</b>
General household	0,326061 Gcal	1811,360	974.41	
Subscription fee	0,281370 Gcal			
<b>Electricity supply</b>	-	30,28	30,28	
<b>Gas supply</b>	134 kW/h	2,640	<b>353,76</b>	<b>8,54</b>
<b>Gas distribution</b>	21 m <sup>3</sup>	7,95689	<b>167,09</b>	<b>4,04</b>
<b>Water supply and</b>	17,25 m <sup>3</sup>	2,040	<b>35,19</b>	<b>0,85</b>
from centralized water supply			<b>211.21</b>	<b>5,10</b>
with subscription to water supply service	5.0 m <sup>3</sup>	18,264	91.32	
for centralised sewage disposal	-	12,72	12,72	
for subscriber services for sewage	5.0 m <sup>3</sup>	19,272	96.36	
<b>Contributions and other payments (condominium)</b>	-	10,810	10,81	
Heat energy	57,9 m <sup>2</sup>	6.50	<b>376,35</b>	<b>9,09</b>
<b>Household waste management</b>			<b>136.28</b>	<b>3,29</b>
Waste disposal (collection and transportation)	4 person	32,33	129.32	
Subscription fee	-	6,96	6,96	
<b>IN TOTAL</b>			<b>2284,29</b>	<b>55,19</b>

\*Official NBU exchange rate on January 15, 2024: 1 euro – 41.3879 UAH.

## 7. DESCRIPTION OF THE FORM OF OWNERSHIP AND MANAGEMENT

A condominium (apartmen building co-owners association) – is a legal entity established by the created by the owners of apartments and/or non-residential premises in an apartment building to facilitate the management, maintenance and use of common property and common areas (in accordance with the Law of Ukraine "On Apartment Building Co-Owners Associations").

Condominium "OUR HOUSE-94"

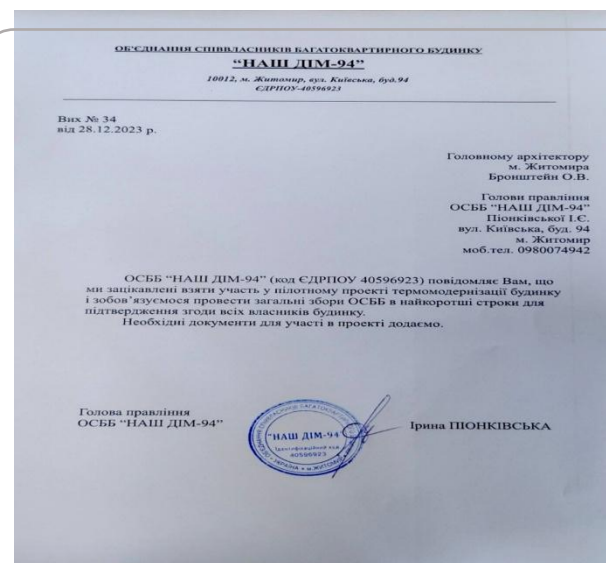
EDRPOU - 40596923,

Manager – Pionkivska Iryna Yevgenivna

Association of co-owners of an apartment building at the address: Kyivska, 94.

The decision shall be made by roll -call vote and shall be deemed adopted if the co-owners whose total number of votes exceeds 50% of the total votes of all co-owners vote in favor or it.

During the vote, each co-owner (or their representative) has a number of votes proportional to the share of the area of the apartment or non-residential premises they own relative to the total area of all apartments and non-residential premises in the building.



## **8. RENOVATION COMPONENTS**

Repair work on the building

Dismantling works

- Dismantling of old floors and installation of new floors in common areas
- Dismantling and installation of new windows and doors
- Dismantling balcony decoration and balcony glazing, the same appearance
- Dismantling of damaged and installation of new water supply communications
- Preparatory work and installation of a ventilated facade
- Installation of an internal air conditioning system
- Dismantling of the old and installation of a new rainwater drainage system from the roof of the building
- Preparatory work and installation of interior wall decoration in common areas
- Preparatory work and installation of an individual heating point, its connection
- Installation of roof covering
- Dismantling and installation of new energy-saving lamps in the common areas of the building
- Dismantling of old and installation of new balcony equipment
- Installation of elements of the new input group together with means of inclusiveness

Repair works related to the improvement of the surrounding area

- Earthworks
- Dismantling of old and installation of new landscaping covers
- Arrangement of parking, zones: recreation, sports, children's
- New landscaping of the territory
- Dismantling the old and installing new energy-efficient street lighting

## 9. PRELIMINARY CALCULATION OF THE COST OF REPAIR WORKS

Estimated preliminary calculation is given in Euro currencies.

Description of repair works	Price in euros
1. Development of project documentation	360 000
2. Development of heating systems	306 000
3. Development of air conditioning systems	275 000
4. Development of the insulation system	690 000
5. Works to reduce energy losses	685 000
6. Landscaping of the surrounding area	120 000
<b>TOTAL:</b>	<b>2 436 000</b>

## 10. INFORMATION ABOUT THE CITY AND ITS REPRESENTATIVES

Zhytomyr is a city in northern of Ukraine, located on the Teteriv River. It is one of the oldest historical and cultural cities in Ukraine and serves as the administrative center of the Zhytomyr region. The housing stock of the city includes more than 1,500 apartment buildings, of which: 505 buildings are managed by associations of co-owners of apartment buildings, 835 buildings are managed by apartment buildings managers, and 237 houses are managed by co-owners individually (without creating a legal entity). Despite the war and challenging conditions, the residents of our community continue to unite to create new condominiums, taking the initiative and responsibility for the management of their own homes.





### TEAM



OLGA BRONSTEIN

Chief architect of the city, deputy director of the Department of Urban Planning and Land Relations of the Zhytomyr City Council. With experience in designing and implementing significant urban planning projects. Specializes in sustainable development, innovative architectural solutions and preservation of cultural heritage. Manages projects for the creation of modern urban spaces and integrated, harmonious urban planning.

[bronshteinolha@gmail.com](mailto:bronshteinolha@gmail.com)


  +38 (067) 412 35 32



IRYNA KRUCHKO

Architect, chief specialist of the Department of Planning and Development of the Department of Urban Planning and Land Relations of the Zhytomyr City Council. Has experience in the development and evaluation of urban planning projects, the development and monitoring of urban planning documentation at the local level, and the implementation of innovative solutions to improve the urban environment.

[irinakruchko8@gmail.com](mailto:irinakruchko8@gmail.com)

  +38 (067) 606 85 97

---

---