

**Projects on energy efficiency improvement and CO2 emission reduction**

| № | Project name   | Project development date | № of expert report | Date of issue of expert report | The need to review the estimated cost | Implementation period in accordance with the project documentation | Brief description of the work and justification of the need                                   |
|---|--|--------------------------|--------------------|--------------------------------|---------------------------------------|--|---|
| 1 | Overhaul of the emergency section of heating networks (HN) -3 of district boiler house (DBH) "Vynogradar" from Heating Room 310/1 to Heating Room (HR) 310/10 on Pravda Avenue in Kyiv | 2019                     | 984/e/19           | 05.06.2019                     | Necessary                             | 9 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 2 | Reconstruction of HN №1 from DBH "Nyvky" on the section from HR 109/2 to HR109 / 2-6a on Salyutna street   | 2017                     | 594/e/17           | 12.05.2017                     | Necessary                             | 4 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 3 | Reconstruction of HN № 1 Heating Station-1 from HR 120 to HR 120/3 and from HR 120/3 to HR 120/4 on Kurska street, in Solomyanskyi district of Kyiv                                    | 2019                     | 00-0363-19/I3      | 27.06.2019                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 4 | Reconstruction of HN-7, CHP-5 from 727/7A to 727/10A on Yamska street  | 2019                     | 1626/e/19          | 05.07.2019                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 5 | Reconstruction of HN № 1, 5 Heating Station-2 from HR 145 to HR 148 on Borisoglebska street in Podilskyi district of Kyiv  | 2019                     | 00-0369-19/I3      | 27.06.2019                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 6 | Reconstruction of HN № 1 ST - 1 from HR 112/2A to HR 602A on Railway Station Sq.   | 2019                     | №1589              | 27.06.2019                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 7 | Reconstruction of HN-8 from CHP-5 on the section from HR-813/14 to HR-813/16 on Suvorov street   | 2019                     | 1762/e/19          | 05.08.2019                     | Necessary                             | 4 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 8 | Reconstruction of heating networks from Centre of Heat Supply on the Bykova str., to the houses on Zakrevskoho str., on Bykova Street, on Dankevych street                             | 2019                     | 3060/e/19          | 06.12.2019                     | Necessary                             | 4 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 9 | Reconstruction of HN № 1 Heating Station - 1 from HR 130/4 on Yerevanska str. to the Heating Point (HP) on Antonova str.,  | 2019                     | 3061/e/19          | 06.12.2019                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |

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| 10 | Reconstruction of hot water boiler type ПТБМ-30М №2 DBH "Minska" with replacement of burners onto modern and low-toxic ones   | 2020                     | 21/666-12/20/A     | 21.12.2020                     | Necessary                             | 9 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 11 | Reconstruction of the boiler house of the first stage of DBH "Tsentralna" to accommodate the personnel of the emergency and recovery service of SU "KHN" on Vernadsky Boulevard,                              | 2020                     | 1097-4241-20/УЕГ/В | 15.12.2020                     | Necessary                             | 12 Months  | Reduction of heat consumption during the heating period by 12.4%.                             |
| 12 | Reconstruction of the section of the HN-1 DBH "Vidradny" from HR 143 to HR 143/10A on Dashavska str.  | 2020                     | V-0335-2/ППОЕКСП   | 15.12.2020                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 13 | Reconstruction of the premises on the second floor of the building on Dobrokhotova str., to accommodate the staff of the laboratory for production control of the chemical service of SU "Kyiv Heat Networks" | 2020                     | 00-1163-20/КД      | 15.12.2020                     | Necessary                             | 2 Months   | Reduction of heat consumption during the heating period by 12.4%.                             |
| 14 | Reconstruction of deaerators of water treatment plant of atmospheric type on vacuum type  | 2020                     |                    | 20.12.2021                     | Necessary                             | 6 Months   | Reduction the use of water  |
| 15 | Reconstruction of hot water boiler type ПТБМ-50 №1 DBH "Vynogradar" with replacement of burners onto modern and low-toxic   | 2021                     | 16/0921-02/22      | 16.02.2022                     | Necessary                             | 9 Months   | Reduction of gas use for heat and hot water production  |
| 16 | Reconstruction of water heating boiler type ПТБМ-50 №4 DBH "M. Borshchahivka" with replacement of burners onto modern and low-toxic   | 2021                     | 16/0922-02/22      | 16.02.2022                     | Necessary                             | 9 Months   | Reduction of gas use for heat and hot water production  |
| 17 | Reconstruction of hot water boiler type ПТБМ-50 №3 DBH "Vidradny" with replacement of burners onto modern and low-toxic   | 2021                     | 16/1179-02/22      | 16.02.2022                     | Necessary                             | 9 Months   | Reduction of gas use for heat and hot water production  |
| 18 | Reconstruction of hot water boiler type ТП-170 (reconstructed) № 10 Heating Station-2   | 2020                     | 31/738-12/20/A     | 31.12.2020                     | Necessary                             | 9 Months   | Reduction of gas use for heat and hot water production  |
| 19 | Reconstruction of sections of heating networks HN-1 DBH "Vidradny" from HR 136 to HR 139 on Vadym Hetman str.   | 2020                     | V-0334-2/ППОЕКСП   | 15.12.2020                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 20 | Reconstruction of sections of the heating network HN-3 CHP-5 from HR 339 to HR 340 on Dilova str.   | 2020                     | 2451/е/20          | 24.12.2020                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |

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| 21 | Reconstruction of the section of the heating network HN-3 CHP-5 from HR 342 to HR 404 on Saksahanskoho str. (2nd stage)  | 2020                     | 2450/e/20          | 24.12.2020                     | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 22 | Reconstruction of HN № 1 DBH "Molod" from HR 122 to HR 620A/25 on Manuilskoho str.   | 2017                     | 595/e/17           | 30.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 23 | Reconstruction of HN № 3 CHP-5 on the site HR-337 - to N.O. between HR-339A and HR-340 on Barbussa Street (3 line)   | 2013                     | 601/e/17           | 03.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 24 | Reconstruction of HN-3 CHP-5 from HR 339B /14a to TK339B/20 on Hospitalna str.   | 2012                     | 609/e/17           | 05.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 25 | Reconstruction of HN-2 Heating Station-2 from HR 222/6 to Pump Station -14 and from HR 222/6 to HP on the street Kirillovskaya   | 2012                     | 610/e/17           | 10.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 26 | Reconstruction of HN №1 (4) Heating Station-1 on the section from HR-120/9a to HR-120/16 on Povitroflotsky Avenue (stage 2)  | 2011                     | 00-1701-14/I3      | 27.01.2015                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 27 | Reconstruction of the heating network of the district boiler house "Bortnychi"   | 2013                     | 606/e/17           | 03.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 28 | Reconstruction of heating networks from HP "Dniprovodska, 10" to HR-16 and to residential buildings on March 8 street with the reconstruction of HP "Dniprovodska, " (DBH"Dniprovodska") | 2011                     | 611/e/17           | 23.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 29 | Reconstruction of heating networks to residential buildings within the heat supply of Centre of Heat Supply at the addresses of Tymoshenko str., and on Obolonsky avenue,                | 2016                     | 00-1605-15/I3      | 15.02.2016                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 30 | Reconstruction of HN №5 Heating Station -1 on the section from HR 516A to HP on Bulvarno-Kudryavska str. (Vorovskoho),   | 2016                     | 04-0200/17         | 21.03.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |

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| 31 | Reconstruction of HN №1 DBH "Vidradnyy" from HR 143/11a to HR 143/18a and from HR 143/24 to HR 143/24-2a on Metalistiv Str.                                  | 2012                     | 00-1700-14/13      | 22.01.2015                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 32 | Reconstruction of HN on the section from HR 501 DBH "Syrets" to HR-110 DBH "Syrets-2" (bridge)   | 2011                     | 607/e/17           | 19.05.2017                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 33 | Reconstruction of the main HN DBH Moskovska str., from the boiler room to HR-201, from HR-201 to HR-105, from HR-303 to HR-306                               | 2011                     | 00-2002-12/КД      | 30.07.2013                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 34 | Reconstruction of HN DVH "Baggovutovska, " from HR-102 to HR-107 and from HR-106 to on O. Schmidt str.   | 2011                     | 00-2237-13/КД      | 13.03.2014                     | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 35 | Reconstruction of HN №1 (4) Heating Station-1 from HR 120/11-10B to TC 120/11-10B -5 on Smilyanska Street and from HR 120/18 to HR 120/18-8 on Vuzivska Str. | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 36 | Reconstruction of NH-8 on the section from HR 807/2 to TC 807/4-B on L.Ukrainka Boulevard in Pecherskyi district of Kyiv                                     | 2011                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 37 | Reconstruction of HN №6 Heating Station-1 from HR 508/5-4A to HR 508/5-3A on Peremohy Avenue   | 2011                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 38 | Reconstruction of HN №1 (4) Heating Station-1 from HR 452 to HP of the building on Chokolivskyi Blvd., 10 and from HR 453 to HR 130/18 on Chokolivsky Blvd.  | 2011                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 39 | Reconstruction of PT №4 Dniprovska CHP from HR-403 to HP on Novatoriv str.,  | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 40 | Reconstruction of HN №2 Heating Station-2 from HR 222/3 to Hr 222/6 on Terekhin str.   | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |

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| 41 | Reconstruction of HN №8 CHP-5 in the area from HR 813-БН on Kutuzova str.,  | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 42 | Reconstruction of HN №3 Heating Station-1 from HR 306/1 to HR 306/1-2 on Saksahanskoho str. and from HR 306/8 to HP on the Zhylyanska str.,   | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 43 | Reconstruction of THN №2 DBH "Nyvky" from HR 214 to HR 218 and from HR 216 to HR 216/1 on Blukhera str.   | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 44 | Reconstruction of HN-2 from Heating Station-1 from HR-221 on Franka Street to HR-221/5 on Leontovycha Street and from HR-221/5-1 to HR-208/11 on Shevchenka Blvd., Volodymyrska St. | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 45 | Reconstruction of HN DBH "Vitryani Hort" from HP "Zapadinska, on Zapadinska Street, from HP "Chervonopilska, "  | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 46 | Reconstruction of HN DBH "Holosievo" on Heroyiv Oborony Street from HR-205 to HR-206/2  | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 47 | Reconstruction of HN DBH "Nauky," with increasing diameter from the boiler room to HR-215, and on Nauky Avenue  | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 48 | Reconstruction of HN DBH "Tsentralna" from HP "Dobrokhotova," to the residential buildings on Dobrokhotova str. and to the residential building on Irpinska Str.                    | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 49 | Reconstruction of HN DBH "Naberezhno-Korchuvatska, " from HR-105 to HR-205, from HR-301 to HR-201   | 2012                     | Unavailable        |                                | Necessary                             | 5 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 50 | Reconstruction of HN DBH "Naberezhno-Korchuvatska," from HR-301 to HR-305   | 2012                     | Unavailable        |                                | Necessary                             | 4 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |

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| 51 | Reconstruction of HN DBH "Minske shose" from HR-122-1/1 to on Vyshgorodska str., from HR-122-1/4 to residential building on Vyshgorodska str.   | 2012                     | Unavailable                    |                                | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 52 | Reconstruction of HN DBH "Moskovska, 3" from HR-303 to HR "Demievska, "   | 2012                     | Unavailable                    |                                | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 53 | Reconstruction of HN DBH "Tsentralna" from HR-508 to HP "Naumova, " and from HP "Naumova"   | 2012                     | Unavailable                    |                                | Necessary                             | 3 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 54 | Connection to DBH "Moskovska, " consumers of roof boilers Trutenko Onufriya, and Trutenko Onufriya, Kyiv  | 2020                     | №28/120-12/20/A                | 20.12.2020                     | Necessary                             | 6 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 55 | Connection to the heating network HN-1 DBH "Molod" consumers of boiler houses on Manuilskoho str., and the boiler house on Belorusska str., Kyiv  | 2020                     | №28/121-12/20/A                | 20.12.2020                     | Necessary                             | 6 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 56 | Connection of boiler-house consumers to the heating networks of the Bilychi heat supply station: Odpochnyka, Sviatoshynska, Kotelnikova, Kramskoho to "Kramskoho ", to HR "Verkhovyna". | 2020                     | №28/119-12/20/A                | 28.12.2020                     | Necessary                             | 6 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 57 | Reconnection of consumers of the boiler room on Chistyakivska str., at the Verkon boiler house, Kyiv  | 2020                     |                                | №2463/e/20                     | Necessary                             | 7 Months   | Replacement of pipelines. Reduction of heat loss and water loss, which in turn will save gas. |
| 58 | Overhaul of the facade and roof of the building of SU "AUTOTRANSPORT" at the address: Sviatoslava Khorobroho str. (Narodnoho Opolchennya)   | 2021                     | №0009-4301-21/УЕГ/А            | 26.03.2021                     | Necessary                             | 2 Months   | Reduction of heat consumption during the heating period by 12.4%.                             |
| 59 | Technical re-equipment of the EFM-96A boiler of Heating Station №1 with replacement of burner equipment to reduce CHP-5 emissions   | 2019                     | №25985                         | 26.12.2019                     | Necessary                             | 24 Months  | Emission reductions and gas savings   |
| 60 | Reconstruction of 330 kV GRP at CHP-6 with installation of AT-3 with a capacity of 200 MVA  | 2017                     | №00-0182-18/ІЗ (00-1115-17/ІЗ) | 05.03.2018                     | Necessary                             | 23 Months  | Reliability of electricity supply to consumers in Kyiv  |

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| 61 | Reconstruction of the automatic control system for the T-250 / 300-240 turbine unit №1, including the autonomous control system of the boiler and turbine кцщць of CHP-6 | 2021                     | 801/KE/2021        | 23.12.2021                     | Necessary                             | 8,4 Months   | Reliability of electricity supply to consumers in Kyiv      |
| 62 | Reconstruction of the automatic control system for the T-250 / 300-240 turbine unit №2 including the autonomous control system of the boiler and turbine кцщць of CHP-6  | 2021                     | 802/KE/2021        | 24.12.2021                     | Necessary                             | 8,3 Months   | Reliability of electricity supply to consumers in Kyiv      |
| 63 | Reconstruction of the open switchgear 110 kV CHP-5 with the construction of a complete switchgear installation for 110 kV at the address: Kyiv, Industrialna str.,       | 2014                     | 00-0269-14/ТЗ      | 08.08.2014                     | Necessary                             | 24 Months  | Reliability of electricity supply to consumers in Kyiv      |
| 64 | Construction of the main primary Telecommunication Network (MPN) of KYIVTEPLOENERGO  | 2019                     | №191023-1/В        | 29.10.2019                     | Necessary                             | 24 Months  | Reliability of communication                                |
| 65 | Construction of digital departmental radio communication system of ME "KYIVTEPLOENERGO"  | 2019                     | № 01-0678-19-КД    | 08.11.2019                     | Necessary                             | 24 Months  | Reliability of communication                                |
| 66 | Technical re-equipment of SU "Energiya Insinerator" on Kolektoriv str., in Darnytskyi district of Kyiv in terms of flue gas cleaning system                              | 2021                     | 01-0384-21/ЦБ      | 19.11.2021                     | yes                                   | 12 Months  |   |
| 67 | Technical re-equipment of SU "Energiya Incinerator" on Kolektoriv str, in Darnytskyi district of Kyiv in terms of flue gas cleaning system (Additional works)            | 2021                     | 01-0384-21/ЦБ      | 19.11.2021                     |                                       | 12 Months  |   |