

Kharkiv District Heating Project

Invitation to participate in public marketing consultation (the “Early Market Engagement”) on procurement of gas-fired block-modular boiler houses with a flue gas exhaust and gas supply systems and containerized gas-fired cogeneration units for the City of Kharkiv and its municipal enterprise “Kharkivski Teplovi Merezhi”

In June 2026, the European Bank for Reconstruction and Development (the “Bank” or “EBRD”) and the City of Kharkiv, Ukraine (the “City” or the “Client”, or the “Purchaser”) signed Loan and Investment Grant Agreements to finance Kharkiv District Heating project (the “Project”).

The City of Kharkiv, located about 40 km to the Russian border, is Ukraine’s second largest city and the major administrative and economic centre in the north-eastern part of Ukraine. It has become a symbol of Ukrainian resistance against Russian full-fledge aggression since 2022. As of the end of 2025, Kharkiv was a home to estimated 1.3 million people (including ca. 200,000 of Internally Displaced Persons (“IDPs”)), reflecting return of the City’s population from a wartime low of around 300,000 people in 2022. Moreover, the City is one of the main evacuation routes from the occupied regions.

To support the resilience of the City’s district heating system and help restore heat supply, on the request of the City of Kharkiv, EBRD has arranged financial package, which includes a senior loan of up to EUR 15 million and an investment grant from the European Union of up to EUR 17 million. The loan and the investment grant proceeds will finance the acquisition of distributed and resilient heat and electricity generation assets.

Based on the above, the City of Kharkiv intends to procure gas-fired modular boiler houses with an aggregate thermal capacity of up to 304.5 MW along with auxiliary systems, as well as small gas-fired containerized cogeneration units with an aggregate electrical capacity of up to 5.33 MW. At this stage, the procurement is envisaged to be conducted as a multi-lot tender process under a single Procurement Document. Participants may submit Proposals for one, several, or all lots.

The Procurement Document is expected to include the following five lots:

- Lot #1 - Supply of ten (10) gas-fired block-modular boiler houses with a flue gas exhaust and gas supply systems, with an aggregate capacity of up to 122 MWth (thermal), including Related Services;
- Lot #2: Supply of five (5) gas-fired block-modular boiler houses with a flue gas exhaust and gas supply systems, with an aggregate capacity of up to 128 MWth (thermal), including Related Services;
- Lot #3: Supply of seven (7) gas-fired block-modular boiler houses with a flue gas exhaust and gas supply systems, with an aggregate capacity of up to 54.5 MWth (thermal), including Related Services;
- Lot #4: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 3.05 MWe (electrical), including Related Services; and
- Lot #5: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 2.28 MWe (electrical), including Related Services.

The indicative commencement of the procurement process is **Q3, 2026**.

In close cooperation with the Bank, the Client is carrying out market consultations with prospective manufacturers and suppliers of the required equipment to develop an optimal procurement and

implementation strategy for the Project. The main purpose of the event is to assess the immediate and prospective product availability and test the risk appetite of the market in the context of the current situation in Ukraine. The event will give the opportunity to interested companies to provide feedback and voice any concerns they may have.

All procurement for the Project shall be subject to the provisions of the EBRD Procurement Policies and Rules (Rev. May 2022, <https://www.ebrd.com/procurement/project-procurement/policies-guidelines.html>).

Please review the documents provided in Annex II-V and fill in and return the Questionary in Annex

VI. Also, you are invited to send us your questions or comments prior to the planned market consultation (if you wish to keep those questions and comments confidential) or please attend the event and share your thoughts on the upcoming call.

Also, be sure to indicate whether you consider any of the following conditions to be a barrier to your company's participation, or whether you require any changes to the terms of the tender to make it more attractive for your participation.

Questions may be submitted in writing to khtm.ebrd@gmail.com until **31 July 2026**. Interested parties are also invited to participate in the online Early Market Engagement meeting, which will be held on **05 August 2026 at 13:00 (Kyiv time)**. The meeting link will be provided to all potential participants who have expressed their interest in attending the Early Market Engagement meeting.

Representatives of the European Bank for Reconstruction and Development (EBRD) may also take part in the meeting as observers.

Annexes:

Annex I: Questionnaire

Annex II: Eligibility and Qualification Criteria (draft version)

Annex III: Scope of Supply (brief)

Annex IV: Delivery schedule of the Goods

Annex V: Technical Specifications

- (i) Technical Specifications for supply of gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, (Lots 1-3);
- (ii) Technical Specifications for supply of containerized gas-fired cogeneration units (Lots 4-5)

Annex VI: Key contractual terms and conditions

Annex I. Questionnaire

We will appreciate if you fill in and send the completed questionnaire to our e-mail: khtm.ebrd@gmail.com **by 31 July 2026**.

Project Name: Kharkiv District Heating Project

Procurement: "Supply of Goods and Related Services (5 Lots)".

No	Question	Answer
	Date of filling: Company name: The contact person: Tel: e-mail:	
1.	Does the information specified in the Eligibility and Qualification Criteria in "Financial Situation" correspond to your capabilities?	
2.	Does the information specified in the Eligibility and Qualification Criteria in "Experience" correspond to your capabilities?	
3.	Does the information specified in the Eligibility and Qualification Criteria in "Manufacturing Capacity" correspond to your capabilities?	
4.	Considering the proposed procurement structure: - Lot #1 - Supply of ten (10) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 122 MWth (thermal), including Related Services; - Lot #2: Supply of five (5) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 128 MWth (thermal), including Related Services;	

№	Question	Answer
	• Lot #3: Supply of seven (7) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 54.5 MWth (thermal), including Related Services; • Lot #4: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 3.05 MWe (electrical), including Related Services; and • Lot #5: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 2.28 MWe (electrical), including Related Services Could you please confirm whether your company would be interested in submitting a proposal for: • a single lot; or • multiple lots. If applicable, please specify the relevant lot number(s).	
5.	Considering the indicative procurement structure and scope of supply, please confirm whether your company would be able to manufacture and deliver: • a single Lot; • your preferred combination of Lots; and/or • all Lots, within five (5) months from the Commencement Date	
6.	If your company would not be able to deliver all Lots within five (5) months, please indicate: • the minimum realistic delivery timeframe required; • the preferred sequencing of deliveries; and • any recommended packaging or splitting of Lots that could facilitate accelerated delivery.	

No	Question	Answer
7.	Will your company be able to deliver the gas-fired block-modular boiler house with a flue gas exhaust and gas supply system/ containerized gas-fired cogeneration units to Kharkiv, Ukraine?	
8.	Please confirm whether representatives of your company would be able to be physically present on Site to supervise the installation and commissioning of the supplied plants. If not, please indicate whether your company has experience in remote supervision and commissioning support	
9.	Please confirm whether your company has previous experience in the supply of similar equipment to Ukraine	
10.	Please indicate whether your company currently maintains: • an authorised service or warranty centre in Ukraine; and/or • an authorised service or warranty centre in neighbouring EU countries.	
11.	Please indicate whether your company intends to engage any local Ukrainian company(ies) for: • manufacturer's supervision during installation and commissioning; • training of the Purchaser's personnel; • warranty and after-sales services; • maintenance support; and/or • other technical or operational activities.	
12.	Please indicate whether your company has experience in providing: • remote technical assistance; • online diagnostics; • remote commissioning support; and/or • remote operational training for projects implemented in conflict-affected or high-risk environments	
13.	Please provide any recommendations regarding local support arrangements, spare parts strategy, or service organisation that, in your	

No	Question	Answer
	opinion, would improve operational reliability and responsiveness for the proposed supplies in Ukraine.	
14.	Does other information specified in the Scope of Delivery correspond to your capabilities?	
15.	Does other information specified in the Delivery schedule of the Goods correspond to your capabilities?	
16.	Does the information specified in the Technical specifications correspond to your capabilities?	
17.	Does the information specified in the Key Terms of the Contract correspond to your capabilities?	
18.	Is complete information on the subject of procurement given in the technical specification and are there any limiting factors?	
19.	Are there any questions about the quantitative and qualitative content of the documentation?	

Questions of the Participant (if available):

1.	
...	

Participant's comments and suggestions (if available):

1.	
...	

Annex II. Eligibility and Qualification Criteria (draft version)

Qualification of the Participants submitting Proposal for two or more Lots will be evaluated on a cumulative basis of the requirements specified in Tables below.

In order to demonstrate compliance with the qualification criteria, the Participant shall meet the below listed main qualification criteria:

Table 2. Financial Situation ¹						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
The information shall be provided for the period: fiscal years 2023-2025						
2.1. Historical Financial Performance	Financial soundness shall be demonstrated by annual financial statements: - confirmed by audit statements; or - by tax returns/acceptance by the tax authorities of the Participant’s country of incorporation or domicile.	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Form FIN-1; Balance sheets; Profit and loss accounts

¹ The monetary values shall be expressed in equivalent of EUR.

The values in other currencies should be recalculated into the above stated currency, based on the exchange rate as set by <https://www.xe.com/currencytables/> on the 1st of July of each year of substantial completion of respective contracts, or for the current year, on the date of the invitation to submit applications or proposals, as appropriate.

Table 2. Financial Situation ¹						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
2.2. Average Annual Revenues	A Participant’s minimum average annual revenues for the given period of time shall be equivalent to: • Lot 1 – not less than 1.5 times the Participant’s tender price for Lot 1; • Lot 2 – not less than 1.5 times the Participant’s tender price for Lot 2; • Lot 3 – not less than 1.5 times the Participant’s tender price for Lot 3; • Lot 4 – not less than 1.5 times the Participant’s tender price for Lot 4; and • Lot 5 – not less than 1.5 times the Participant’s tender price for Lot 5.	Must meet requirement	Must meet requirement	N/A	N/A	Form FIN-1; Income statement

Table 2. Financial Situation						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
2.3. Financial Solvency	A Participant shall not: • be bankrupt; • be insolvent or in liquidation proceedings; • have its assets administered by a liquidator or by the court of law; • have its commercial activity suspended by the court of law; or • have no outstanding tax obligations in the Participant's country of incorporation or domicile.	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Documents issued by the relevant authorities in the country, where of a Participant is incorporated or domiciled (charter and registration/incorporation documents); Balance sheets; Profit and loss accounts
2.4. Financial Resources ²	A Participant must demonstrate access to, or availability of financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet: (i) the overall cash flow requirements for this contract taking into account its current commitments and pending awards for the entire duration of the contract; and (ii) the estimated cash-flow requirements (in EUR equivalent): • Lot 1 – six million three hundred thousand euros (6.3 mEUR);	Must meet requirement	Must meet requirement	N/A	N/A	Form FIN-2; Form IRC-2; Bank letters; Balance sheets; Form FIN-3

² The monetary values shall be expressed in equivalent of EUR.

The values in other currencies should be recalculated into the above stated currency, based on the exchange rate as set by <https://www.xe.com/currencytables/> on the 1st of July of each year of substantial completion of respective contracts, or for the current year, on the date of the invitation to submit applications or proposals, as appropriate.

Table 2. Financial Situation						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
	- Lot 2 – six million five hundred thousand euros (6.5 mEUR); - Lot 3 – two million eight hundred thousand euros (2.8 mEUR); - Lot 4 – one million six hundred thousand euros (1.6 mEUR); and - Lot 5 – one million eight hundred thousand euros (1.8 mEUR) ALTERNATIVELY A Participant may demonstrate its agreement with the manufacturer (or importer) using post-payment arrangements (payment to the manufacturer (or importer) only after the Supplier receives the payment from the Purchaser). OR A Participant may demonstrate that the proposed equipment is already available in stock with indication of relevant serial numbers of the proposed equipment and evidencing that the proposed items are free from any contractual obligations. In such a case the amount of free financial resources shall amount to: - Lot 1 – one million five hundred thousand euros (1.5 mEUR); - Lot 2 – one million six hundred thousand euros (1.6 mEUR);					

Table 2. Financial Situation						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
	- Lot 3 – seven hundred thousand euros (0.7 mEUR); - Lot 4 – four hundred thousand euros (0.4 mEUR); and - Lot 5 – four hundred and fifty thousand euros (0.45 mEUR)					

Table 3. Experience						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
The information shall be provided for the period of 2023 to 2026 (until the date of the Proposals opening) if another period is not explicitly specified						
3.2. Specific Experience ³	A Participant shall demonstrate successful experience as a supplier or manufacturer, in contracts involving goods similar to those required under the Contract : <u>For Lot 1:</u> (i) Manufacturing and/or supply of gas-fired modular boiler houses with a cumulative installed heating capacity of not less than 85 MWth demonstrated through one or more completed contracts, irrespective of the number of contracts or the individual installed heating capacity of the boiler houses supplied; (ii) At least one (1) completed contract for manufacturing and/or supply of gas-fired modular boiler houses with a cumulative installed heating capacity of not less than 50 MWth, comprising boiler houses with an individual installed heating capacity at least 3 MWth. (iii) The duration the above-mentioned contract shall not exceed twelve (12) months from the date of contract commencement to the date of completion of supply. <u>For Lot 2:</u>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP-1; Documents, demonstrating substantial completion of contracts and services, as appropriate; Form IRC-1

³ Volume, number or key activities accomplishment may be demonstrated in one or more contracts combined, if implemented during the same time period.

Table 3. Experience

Table 3. Experience						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
	(i) Manufacturing and/or supply of gas-fired modular boiler houses with a cumulative installed heating capacity of not less than 85 MWth demonstrated through one or more completed contracts, irrespective of the number of contracts or the individual installed heating capacity of the boiler houses supplied; (ii) At least one (1) completed contract for manufacturing and/or supply of gas-fired modular boiler houses with a cumulative installed heating capacity of not less than 50 MWth, comprising boiler houses with an individual installed heating capacity at least 3 MWth. (iii) The duration of the above-mentioned contract shall not exceed twelve (12) months from the date of contract commencement to the date of completion of supply. <u>For Lot 3:</u> (i) Manufacturing and/or supply of gas-fired modular boiler houses with a cumulative installed heating capacity of not less than 38 MWth demonstrated through one or more completed contracts, irrespective of the number of contracts or the individual installed heating capacity of the boiler houses supplied; (ii) At least one (1) completed contract for manufacturing and/or supply of gas-fired					

Table 3. Experience						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
	modular boiler houses with a cumulative installed heating capacity of not less than 20 MWth, comprising boiler houses with an individual installed heating capacity of not less than 3 MWth. (iii) The duration of the above-mentioned contract shall not exceed twelve (12) months from the date of contract commencement to the date of completion of supply. <u>For Lot 4:</u> (i) Manufacturing and/or supply of gas-fired cogeneration units with a cumulative installed electrical capacity of not less than 30 MWe, demonstrated through one or more completed contracts; (ii) At least one (1) completed contract for the manufacturing and/or supply of gas-fired cogeneration units with a cumulative installed electrical capacity of not less than 2.5 MWe, comprising cogeneration units each having an individual installed electrical capacity not exceeding 0.7 MWe. <u>For Lot 5:</u> (iii) Manufacturing and/or supply of gas-fired cogeneration units with a cumulative installed electrical capacity of not less than 20 MWe,					

Table 3. Experience						
Criteria	Requirement	Participant				Documents Required
		Single Entity	Joint Venture, Consortium or Association			
			All members combined	Lead Partner	Each other member	
	demonstrated through one or more completed contracts; At least one (1) completed contract for the manufacturing and/or supply of gas-fired cogeneration units with a cumulative installed electrical capacity of not less than 2.0 MWe, comprising cogeneration units each having an individual installed electrical capacity not exceeding 0.7 MWe.					

Notes:

- a) The Participant shall provide detailed information on each of the supply contracts, including geographical location, number of supplied units, their main operational characteristics, and date of commissioning
- b) For contracts performed by the Participant as a member of a JVCA, or as a Subcontractor, only the portion of the contract corresponding to the Participant's actual scope of work, nature of responsibilities, and share of the contract value shall be considered for the purpose of demonstrating compliance with this requirement.
- c) In addition to the information provided in Form EXP-1, the Participant shall submit the following supporting documentation for each reference contract:
 - (i) Extracts from the signed contract;
 - (ii) Relevant extracts from the technical specifications or employer's requirements demonstrating the nature and complexity of the supplied Goods and/or performed services; and
 - (iii) an Acceptance Certificate, Taking-Over Certificate, Contract Completion Certificate, or other documentary evidence that at least eighty percent (80%) of the Goods under the reference contract have been successfully delivered to the Purchaser.

The submitted documentation shall contain sufficient information to verify the contract name, scope, value, completion date, and the Participant's role in the contract. Where the original documents are not in English, the Participant shall provide an accurate certified English translation thereof.

Table 7. Manufacturing Capacity

The Participant shall provide adequate information on the manufacturer/supplier's manufacturing capacity to produce the required Goods taking into account the interim deadlines for the delivery Shipments and taking into account their commitments in other contracts.

The Participant shall have assured availability of the following manufacturing lines/equipment in full working order, and must demonstrate that they will be available for use in the Contract:

No	Manufacturing lines	Minimum capacity required
1.	Assembly and diagnostic site (production facility), where the assembly, adjustment and testing of gas-fired block-modular boiler houses with a flue gas exhaust and gas supply system is carried out	Gas-fired modular boiler houses with a total capacity of not less than: Lot #1 - 180 MWth per year Lot #2 - 150 MWth per year Lot #3 - 80 MWth per year
1.	Assembly and diagnostic site (production facility), where the assembly, adjustment and testing of containerized gas-fired cogeneration units is carried out	Gas-fired cogeneration units with a total capacity of not less than: Lot #4 - 30 MWe per year Lot #5 - 20 MWe per year

Documentation Required: Form MAN-2: Manufacturer's Capacity

If the Participant is not the Manufacturer of the Goods, the Participant shall demonstrate that it has been duly authorized by the Manufacturer to supply the Goods in the Purchaser's country.

The Participant shall provide documentary evidence demonstrating that the Manufacturer possesses sufficient production capacity, facilities, resources, and available workload capacity to manufacture, test, and deliver the Goods in accordance with the delivery schedule specified under the Contract.

As a minimum, the submitted documentary evidence shall include:

- (i) a description and layout of the manufacturing and assembly facilities proposed for the performance of the Contract;
- (ii) the annual production capacity of the relevant manufacturing and assembly lines (expressed in MWth or MWe/year and/or units/year, as applicable);
- (iii) details of the Manufacturer's current production workload, including ongoing commitments and a forecast of planned production activities for the next twelve (12) months;
- (iv) actual annual production volumes achieved during the last three (3) years (expressed in MWth or MWe /year and/or units/year, as applicable);
- (v) a description of the available storage and logistics facilities for raw materials, components, and finished products;
- (vi) a description of the testing and commissioning facilities, including factory acceptance testing (FAT) capabilities.

Annex III - Scope of Supply

- **Lot #1 - Supply of ten (10) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 122 MWth (thermal), including Related Services**

1.1. List of Goods:			
No	Name	Brief description of Goods	Quantity
1)	Supply of gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 122 MWth (thermal)	New gas-fired block-modular boiler house with a flue gas exhaust and gas supply system including spare parts and consumables, equipment and tools for maintenance, repair and related services in accordance with the technical specification	1 unit – 6 MWth 2 units – 8 MWth 5 units – 12 MWth 2 units – 20 MWth
2)	Spare parts and tools	In accordance with the Delivery Requirements	10 sets
3)	Documentation	In accordance with the Delivery Requirements	10 sets
1.2. List of Related Services:			
No	Name	Brief description of Goods	Quantity
1)	Training the Client's staff	In accordance with the Delivery Requirements	1 set
2)	Manufacturer's supervision for installation and commissioning of gas-fired block-modular boiler house with a flue gas exhaust and gas supply system	In accordance with the Delivery Requirements	10 sets

- Lot #2: Supply of five (5) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 128 MWth (thermal), including Related Services**

1.1. List of Goods:			
No	Name	Brief description of Goods	Quantity
1)	Supply of gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 128 MWth (thermal)	New gas-fired block-modular boiler house with a flue gas exhaust and gas supply system including spare parts and consumables, equipment and tools for maintenance, repair and related services in accordance with the technical specification	3 units – 24 MWth 2 units – 28 MWth

2)	Spare parts and tools	In accordance with the Delivery Requirements	5 sets
3)	Documentation	In accordance with the Delivery Requirements	5 sets
1.2. List of Related Services:			
No	Name	Brief description of Goods	Quantity
1)	Training the Client's staff	In accordance with the Delivery Requirements	1 set
2)	Manufacturer's supervision for installation and commissioning of gas-fired block-modular boiler	In accordance with the Delivery Requirements	5 sets

Lot #3: Supply of seven (7) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 54.5 MWth (thermal), including Related Services

1.1. List of Goods:			
No	Name	Brief description of Goods	Quantity
1)	Supply of gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 54.5 MWth (thermal)	New gas-fired block-modular boiler house with a flue gas exhaust and gas supply system including spare parts and consumables, equipment and tools for maintenance, repair and related services in accordance with the technical specification	2 units – 1 MWth 1 unit – 1,5 MWth 1 unit – 3 MWth 3 units – 16 MWth
2)	Spare parts and tools	In accordance with the Delivery Requirements	7 sets
3)	Documentation	In accordance with the Delivery Requirements	7 sets
1.2. List of Related Services:			
No	Name	Brief description of Goods	Quantity
1)	Training the Client's staff	In accordance with the Delivery Requirements	1 set
2)	Manufacturer's supervision for installation and commissioning of gas-fired block-modular boiler	In accordance with the Delivery Requirements	7 sets

Lot #4: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 3.05 MWe (electrical), including Related Services

1.1. List of Goods:			
№	Name	Brief description of Goods	Quantity
1)	Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 3.05 MWe (electrical)	New containerized gas-fired cogeneration units including spare parts and consumables, equipment and tools for maintenance, repair and related services in accordance with the technical specification	2 units – 0,3 MWe 7 units – 0,35 MWe
2)	Spare parts and tools	In accordance with the Delivery Requirements	9 sets
3)	Documentation	In accordance with the Delivery Requirements	9 sets
1.2. List of Related Services:			
№	Name	Brief description of Goods	Quantity
1)	Training the Client's staff	In accordance with the Delivery Requirements	1 set
2)	Manufacturer's supervision for installation and commissioning of containerized gas-fired	In accordance with the Delivery Requirements	9 sets

Lot #5: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 2.28 MWe (electrical), including Related Services

1.1. List of Goods:			
№	Name	Brief description of Goods	Quantity
1)	Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 2.28 MWe (electrical)	New containerized gas-fired cogeneration units including spare parts and consumables, equipment and tools for maintenance, repair and related services in accordance with the technical specification	2 units – 0,02 MWe 1 unit – 0,03 MWe 1 units – 0,05 MWe 1 unit – 0,08 MWe 4 units – 0,12 MWe 5 units – 0,16 MWe 4 units – 0,2 MWe
2)	Spare parts and tools	In accordance with the Delivery Requirements	18 sets

3)	Documentation	In accordance with the Delivery Requirements	18 sets
1.2. List of Related Services:			
No	Name	Brief description of Goods	Quantity
1)	Training the Client's staff	In accordance with the Delivery Requirements	1 set
2)	Manufacturer's supervision for installation and commissioning of containerized gas-fired	In accordance with the Delivery Requirements	18 sets

Annex IV. Delivery schedule of the Goods

The Delivery Date in months indicates the date of delivery, which is the date of delivery of the Goods (including the provision of Related Services, if applicable) to the Project Site, in accordance with the terms of the Contract.

No	Brief description	Delivery schedule of the Goods from the Commencement Date (month)
1.	Lot #1 - Supply of ten (10) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 122 MWth (thermal), including Related Services;	5 months
2.	Lot #2: Supply of five (5) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 128 MWth (thermal), including Related Services;	5 months
3.	Lot #3: Supply of seven (7) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 54.5 MWth (thermal), including Related Services;	5 months
4.	Lot #4: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 3.05 MWe (electrical), including Related Services; and	5 months
5.	Lot #5: Supply of containerized gas-fired cogeneration units with an aggregate capacity of up to 2.28 MWe (electrical), including Related Services	5 months

The Goods shall be delivered during the periods specified above starting from the "Commencement Date", which is the date of receipt of the advance payment by the Supplier.

The goods will be delivered to Kharkiv, Ukraine on the terms of DDP Incoterms-2020.

Annex V - Technical Specifications (Preliminary)

Supply of gas-fired block-modular boiler houses with a flue gas exhaust and gas supply system (Lots 1, 2 and 3)

Operating conditions

The Purchaser intends to procure new complete gas-fired block-modular boiler houses with a flue gas exhaust and gas supply system (hereinafter - BMBH). A BMBH is a factory-built complex of heat-generating equipment assembled in one or more transportable modules and designed to produce thermal energy for heating, ventilation, hot water supply and other heat supply needs.

The boiler houses shall be container-type modular solutions suitable for fast delivery, unloading, module assembly, connection to external networks and commissioning. The equipment shall be designed for safe, reliable and efficient operation under the climatic, heat network, gas supply and site conditions applicable in Ukraine.

The scope of supply includes the boiler house modules, boilers, burners, gas supply and metering / pressure reduction equipment, flue gas exhaust system, water treatment system, pumps, valves and fittings, heat and water metering, electrical equipment, automation and dispatching system, fire / gas detection, ventilation, heating, lighting, software and service tools, documentation, training, Manufacturer's supervision, warranty obligations, spare parts, consumables and special tools required for operation and maintenance.

Scope by Lots and Thermal Capacities

The preliminary scope for gas-fired block-modular boiler houses with a flue gas exhaust and gas supply system is summarized below. The total thermal capacity of each boiler house shall correspond to the capacity indicated for the relevant Lot and unit. Detailed site-specific parameters, including the gas supply system, will be finalized in the tender documents.

Lot	Scope	Quantity and unit capacities	Aggregate thermal capacity
Lot 1	Lot #1 - Supply of ten (10) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 122 MWth (thermal), including Related Services	1 unit - 6 MWth 2 units - 8 MWth 5 units - 12 MWth 2 units - 20 MWth	up to 122 MWth
Lot 2	Lot #2: Supply of five (5) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 128 MWth (thermal), including Related Services	3 units - 24 MWth 2 units - 28 MWth	up to 128 MWth
Lot 3	Lot #3: Supply of seven (7) gas-fired block-modular boiler house with a flue gas exhaust and gas supply system, with an aggregate capacity of up to 54.5 MWth (thermal), including Related Services	2 units - 1 MWth 1 unit - 1.5 MWth 1 unit - 3 MWth 3 units - 16 MWth	up to 54.5 MWth

Standards and certificates

- The BMBH and all associated systems shall comply with applicable Ukrainian legislation, technical regulations, construction norms, safety requirements, gas-supply requirements and applicable European / international standards for this type of equipment.

- The BMBH shall be manufactured in accordance with valid Technical Conditions registered in the “Technical Conditions of Ukraine” database or equivalent requirements acceptable under the procurement documents.
- The Manufacturer shall hold a valid ISO 9001:2015 certificate covering design, manufacture and maintenance of modular / block-modular boiler houses or equivalent heat-generating equipment.
- Electrical equipment shall comply with DSTU EN 60204-1:2015 or EN 60204-1:2015, or equivalent applicable standard, and shall be accompanied by valid conformity documentation.
- All certificates, declarations, passports, manuals, factory test records and other documents required for import, acceptance, commissioning and operation in Ukraine shall be provided as part of the delivery.

Testing, acceptance and commissioning

- Factory Acceptance Tests / factory inspection of block-modular boiler houses shall be carried out at the Supplier's or Manufacturer's production facility prior to shipment in accordance with the approved FAT / inspection programme. The Purchaser shall have the right to attend intermediate and final tests.
- The FAT / inspection programme, certificates, factory quality documentation, factory test records and inspection reports shall be submitted to the Purchaser for review in advance or as otherwise agreed in the Contract.
- The Supplier shall provide Manufacturer-authorized supervision during unloading, module assembly, installation, connection to external networks, pre-commissioning, first start-up, functional testing and commissioning of each supplied BMBH.
- Any defects or deficiencies attributable to the supplied equipment, documentation, software, configuration or Manufacturer's instructions and identified during manufacturing inspection, FAT, installation, testing or commissioning shall be rectified by the Supplier at its own expense within a timeframe agreed with the Purchaser. Final acceptance is subject to correction of all remaining defects unless otherwise agreed with the Purchaser.

Functional specification of gas-fired block-modular boiler houses

Purchaser's preliminary requirements for market consultation purposes are summarized below. The detailed technical requirements will be finalized in the tender documents after market consultation.

Note: This short specification is prepared for market consultation only. Final quantities, site-specific gas supply parameters, scope of supply, delivery terms and contractual conditions will be defined in the procurement documents.

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
	Description	Value	Answer / comments
1	Type of equipment	Gas-fired block-modular boiler house with a flue gas exhaust and gas supply system.	
2	Application	Production of thermal energy for heating, ventilation, domestic hot water supply and/or other heat supply needs of the Purchaser.	
3	Lot 1 scope and capacities	10 units: 1 x 6 MWth; 2 x 8 MWth; 5 x 12 MWth; 2 x 20 MWth. Aggregate capacity up to 122 MWth.	
4	Lot 2 scope and capacities	5 units: 3 x 24 MWth; 2 x 28 MWth. Aggregate capacity up to 128 MWth.	
5	Lot 3 scope and capacities	7 units: 2 x 1 MWth; 1 x 1.5 MWth; 1 x 3 MWth; 3 x 16 MWth. Aggregate capacity up to 54.5 MWth.	
6	Manufacturing year and condition	The equipment shall be new, undamaged and manufactured not earlier than 2025.	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
	Description	Value	Answer / comments
7	Design and execution	Factory-built container-type block-modular boiler house assembled in one or more transportable modules suitable for truck transportation and rapid on-site assembly.	
8	Technical Conditions and compliance	The block-modular boiler houses shall be manufactured in accordance with valid Technical Conditions registered in Ukraine or equivalent requirements acceptable under the procurement documents.	
9	Quality management	The Manufacturer shall hold a valid ISO 9001:2015 (or equivalent) certificate covering design, manufacture and maintenance of modular / block-modular boiler houses or equivalent heat-generating equipment.	
10	Electrical equipment standard	Electrical equipment shall comply with DSTU EN 60204-1:2015 or EN 60204-1:2015, or equivalent applicable standard.	
11	Thermal capacity of each boiler house	As specified for each Lot and unit in rows 3-5 of this table. Capacity-specific requirements will be finalized for each boiler house in the tender documents.	
12	Heating network temperature profile	Design temperature profile of the heating network: 110/60 °C, unless otherwise specified in the final site-specific requirements.	
13	Hydraulic and operating parameters	Hydraulic parameters, operating pressure and heat carrier pressure shall be suitable for the relevant heat network and the boiler house capacity. The operating pressure shall be not less than 10 bar.	
14	Connection scheme	Dependent connection (directly or via hydraulic balancer) or independent connection, to be determined and justified by the Supplier	
15	Boilers	Two-pass or three-pass fire-tube water-heating boilers. Number and capacity of boilers shall be determined by the Supplier to meet the required total thermal capacity of each boiler house.	
16	Burners	Modulating gas burners with smooth heat output control across the operating load range. Burner gas pressure and electrical power shall be suitable for the proposed boiler configuration.	
17	Water treatment system	Complete water treatment system with capacity and configuration suitable for each boiler house, including filtration, softening / chemical treatment, sampling points and treated-water storage as applicable.	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
	Description	Value	Answer / comments
18	Heat and water metering	Heat meter(s), cold water meter(s) and required measuring devices shall be included, with remote data transmission via standard interfaces, including Modbus TCP where applicable.	
19	Pumps and drives	Boiler circulation, network, make-up and other required pumps shall be included. Pump units and burner fans shall use frequency converters where applicable.	
20	Hydraulic equipment and fittings	Mixing valve(s), expansion tank(s), microbubble separator, sludge separator, drainage / blowdown lines, valves, fittings, piping and other auxiliary equipment shall be included.	
21	Access and maintainability	The layout shall provide safe access to boilers, burners, pumps, water treatment equipment, valves, filters, measuring devices, control cabinets and other equipment for operation, maintenance and repair.	
22	Flue gas exhaust system	Complete flue gas exhaust system including internal boiler flue ducts and external chimney / chimneys. Separate chimney pipes shall be provided for each boiler unless otherwise justified.	
23	Flue gas safety devices	Dampers, explosion relief devices, condensate / drainage arrangements, insulation and safe access for inspection shall be provided in accordance with applicable safety requirements and manufacturer's design.	
24	Emissions	Flue gas emissions / stack emissions shall comply with Medium Combustion Plants Directive (EU) 2015/2193	
25	Gas supply system	A complete gas supply system shall be mandatory for each boiler house, including gas inlet, gas cabinet or equivalent metering and pressure reduction unit, filters, shut-off and safety valves, pressure regulator(s), gas meter/corrector, data transmission equipment, purge / vent lines, instrumentation and sealing provisions.	
26	Gas supply system - site-specific design	Gas inlet/outlet pressures, pipe diameters, metering capacity, pressure reduction equipment and gas utility interface requirements will be determined individually for each boiler house based on technical conditions and final design. These details are not specified separately in this preliminary market consultation document.	
27	Container / module requirements	Containers shall be designed for applicable wind/snow loads, fire-safe insulation and corrosion resistance, and equipped with ventilation, heating, lighting, power supply, security and fire alarm systems.	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
	Description	Value	Answer / comments
28	Windows and doors	Windows, where provided, shall be glazed using materials suitable for boiler-room operation. Entrance doors shall be metal, mechanically strong and corrosion-protected.	
29	Power supply	The boiler house shall be designed for 0.4 kV, 50 Hz electrical supply, with two inputs, ATS, voltage stabilizers and UPS for automation, control, protection and dispatching systems as required.	
30	Emergency control	Emergency control panels and local shutdown arrangements shall be provided to ensure safe transition to emergency mode and rapid shutdown in case of automation or safety system failure.	
31	Automation and dispatching	Automatic unattended operation with parameter monitoring, energy data archiving, alarms/event logs, remote adjustment and upper-level SCADA integration via Ethernet / Modbus TCP or equivalent.	
32	Control and communication interfaces	Interfaces shall be provided for electricity, heat, cold water and gas meters and other required devices via RS-485, RS-232, Ethernet, Modbus TCP or equivalent protocols.	
33	Software and service tools	The Supplier shall provide software, project archives, configuration files, server/license keys, controller access tools and communication cables required for maintenance, diagnostics and reprogramming.	
34	Packaging and labelling	Packaging shall protect the goods against mechanical damage, vibration, shock, moisture, corrosion, dust and other hazards during transportation, storage and unloading. Labelling shall include order number, brand, manufacturer, gross weight and date of manufacture.	
35	Service life	Not less than 15 years.	
36	Documentation	Complete technical, quality, design, installation, operation, maintenance, commissioning and warranty documentation shall be provided in English and Ukrainian for each boiler house.	
37	Training the Client's staff	Training shall be provided for operating, maintenance, dispatching and technical personnel in Ukrainian or with professional interpretation into Ukrainian.	
38	Manufacturer's supervision	Manufacturer or manufacturer-authorized specialists shall supervise installation, assembly, connection, pre-commissioning and commissioning of each supplied boiler house.	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
	Description	Value	Answer / comments
39	Warranty obligations	Warranty period shall be not less than three (3) years from delivery date or two (2) years from putting into operation, whichever occurs first, unless a longer period is specified in the Contract or offered by the Supplier.	
40	Warranty service response	In the event of a warranty case, the Supplier shall ensure arrival of manufacturer's representatives or manufacturer-authorized service personnel at the installation site within ten (10) working days from the official request, unless otherwise agreed.	
41	Spare parts, consumables and tools	Mandatory spare parts, consumables, wear parts and special tools for operation, maintenance and repair shall be included in accordance with the manufacturer's recommendations and the Contract.	
42	Installation supervision in Kharkiv	The Supplier shall ensure readiness to provide supervision and commissioning support at the installation sites in Kharkiv in accordance with the Contract, applicable safety requirements and site access arrangements.	

Supply of containerized gas-fired cogeneration units (Lots 4 and 5)

Operating conditions

The Purchaser intends to procure new complete containerized gas-fired cogeneration units (hereinafter - CGU) designed for the generation of electrical energy from natural gas by gas-piston engine technology and for recovery of useful heat from the engine cooling and exhaust gas circuits. The CGU shall be factory-built, containerized, suitable for rapid delivery and installation, and capable of safe and reliable operation under the climatic, grid and site conditions applicable in Ukraine.

The units are foreseen to operate in combined heat and power mode, in parallel with the grid, and in island / standalone mode. The CGU shall support automatic start-up, synchronization, load sharing and safe transition between operating modes. Reliability, availability, ease of maintenance, remote monitoring and compatibility with the Purchaser's dispatching arrangements are essential requirements.

The scope of supply includes the CGU, associated auxiliary equipment, gas, cooling, heat recovery, exhaust, electrical, control, protection and communication systems, software and diagnostic tools, documentation, training, Manufacturer's supervision for installation and commissioning, warranty obligations, spare parts, consumables and tools required for operation and maintenance.

Standards and certificates

- The CGU and all associated equipment shall comply with applicable European and Ukrainian standards, technical regulations and statutory requirements for this type of equipment.
- The equipment shall be accompanied by valid conformity documentation, certificates, test protocols, passports, operation and maintenance manuals and other documents required by Ukrainian legislation and by the Contract.
- The controller and electrical / electronic equipment shall comply with applicable EMC and CE requirements, including EN IEC 61000-6-2:2019 and EN IEC 61000-6-4:2019, or equivalent applicable standards.
- The manufacturer of the controller and the manufacturer / supplier of the CGU shall operate under an ISO 9001:2015 quality management system, or equivalent.

Testing, acceptance and commissioning

- Factory inspection and testing shall be carried out in accordance with the manufacturer's standard procedures and the Contract. The Purchaser shall have the right to attend Factory Acceptance Tests (FAT), where applicable.
- The FAT / inspection programme, certificates, factory test records and quality documentation shall be submitted to the Purchaser in advance of delivery or as otherwise agreed in the Contract.
- The Supplier shall provide Manufacturer-authorized supervision during installation, connection, pre-commissioning, first start-up, synchronization, functional testing and commissioning of each supplied CGU.
- Defects or deficiencies attributable to the supplied equipment, documentation, software, configuration or Manufacturer's instructions shall be eliminated by the Supplier at its own expense within a timeframe agreed with the Purchaser.

Functional specification of containerized gas-fired cogeneration units

Purchaser's preliminary requirements for market consultation purposes are summarized below. The detailed technical requirements will be finalized in the tender documents after the completion of the Early Market Engagement.

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
No.	Description	Value	Answer / comments
1	Type of equipment	Containerized gas-fired cogeneration unit based on gas-piston engine technology	
2	Lot 4 scope	Item 11: 350 kW - 7 pcs.; Item 12: 300 kW - 2 pcs.; aggregate capacity up to 3.05 MWe	
3	Lot 5 scope	Item 13: 200 kW - 4 pcs.; Item 14: 160 kW - 5 pcs.; Item 15: 120 kW - 4 pcs.; Item 16: 80 kW - 1 pc.; Item 17: 50 kW - 1 pc.; Item 18: 30 kW - 1 pc.; Item 19: 20 kW - 2 pcs.; aggregate capacity up to 2.28 MWe	
4	Equipment condition	New, undamaged, manufactured not earlier than 2025	
5	Main equipment composition	Gas-piston engine with all necessary systems, generator on a common frame, complete heat recovery module, synchronization panel, auxiliary systems and power/control cables	
6	Execution method	Containerized type	
7	Fuel	Natural gas	
8	Output voltage level	0.4 kV	
9	Frequency	50 Hz	
10	Permitted increase in electrical power	Up to 20%	
11	Electrical efficiency	At least 43%	
12	Overall efficiency	At least 87% (electrical efficiency + thermal efficiency)	
13	Gas inlet pressure	No more than 2.0 atm.	
14	NOx emission level	Not more than NOx 190 mg/Nm3 at O2=15%, or NOx 500 mg/Nm3 at O2=5%	
15	Grid-parallel operation	The CGU shall be compatible with grid connection, synchronization and load sharing as required	
16	Island / standalone operation	The CGU shall be capable of autonomous operation in the event of network failure, including automatic start-up and load management where applicable	
17	Transition between operating modes	Smooth / seamless transition between grid-parallel and island modes	
18	Starting batteries	Mandatory components, with capacity sufficient for reliable engine start-up, including during network outages	
19	Power factor	Maintain cos phi in the range of 1.0-0.90 at the balance boundary when operating in parallel with the grid	
20	Automatic voltage regulation	Automatic voltage regulation at a set level, including smooth voltage regulation in the range from -10% to +5%	
21	Power flow control	Control of power flows to and from the grid	
22	Mandatory technological systems	Engine lubrication system, electric starting system, cooling and emergency cooling systems, pumping equipment for cooling circuits, exhaust gas silencer, generator switchgear control system and circuit breakers	
23	Alternator requirements	0.4 kV, 50 Hz, insulation class H, pre-load heating class F, maximum ambient temperature 40 deg.C, winding temperature detectors	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
No.	Description	Value	Answer / comments
24	Automatic control functions	Automatic control of engine speed, cooling and lubrication temperatures, generator voltage, battery charging, engine start/stop, ignition system and gas valves	
25	Emergency stop and protection	Automatic emergency stop / disconnection for overload, reverse power, ignition malfunction, maximum/minimum generator voltage, low gas pressure, gas detection, water pressure, oil pressure and temperature-related protection parameters	
26	Control cabinet and software	Display of engine-generator parameters, external emergency stop, automatic connection via synchronoscope, warning/alarm signals and recording of warnings and alarms in the data storage system	
27	Controller requirements	Integrated protection, monitoring and shutdown logic; CE / EMC conformity; alarm handling; automatic shutdown sequences; compliance with applicable protection requirements; safety level equivalent to SIL1	
28	Communication interfaces	Ethernet, Modbus RTU/TCP including Modbus Master functionality, RS485 / RS232, GSM/GPRS	
29	Remote monitoring and data	Remote diagnostics and condition monitoring, event log with time-stamped entries, historical data archive and coordination of multiple units / station-level control	
30	Container requirements	Doors with locks, 220 V AC lighting and sockets, internal gas supply pipeline, cooling and exhaust systems, gas contamination monitoring, fire alarm system, common grounding bus, external cable connection ports and compliance with noise standards	
31	Packaging and labelling	Packaging shall protect against mechanical damage; labelling shall include order number, brand name, manufacturer, gross weight and date of manufacture	
32	Service life	Not less than 15 years	
33	Software / diagnostic tools	All proprietary hardware or software keys, diagnostic tools, passwords or access credentials required for commissioning, parameter adjustment, diagnostics or control system configuration shall be supplied as part of delivery	
34	Documentation with proposal	Complete Set Data Sheet, conformity certificate, test report, ISO 9001:2015 certificate, passport / technical passport, Ukrainian O&M instructions, drawings, single-line electrical diagram and P&ID	
35	Post-award documentation	Foundation/load data, dimensional drawings, lifting/unloading requirements, interface data, installation manuals, commissioning procedures, as-built documentation, O&M manuals, maintenance schedule and warranty documentation	
36	Training the Client's staff	Training for operating, maintenance and dispatch personnel; to be conducted in Ukrainian or with professional interpretation into Ukrainian; initial course not shorter than one working day	

No.	Purchaser's requirements		Answer: YES / NO If YES: specify manufacturer, brand and supporting document If NO: indicate reasons
No.	Description	Value	Answer / comments
37	Manufacturer's supervision	Manufacturer or authorized specialists to supervise installation, connection, pre-commissioning, commissioning, first start-up, synchronization, functional tests and reporting for each unit	
38	Warranty period	Not less than 36 months from delivery date or 24 months from putting into operation, unless a longer period applies	
39	Warranty response	Arrival of Manufacturer or authorized service personnel at site within ten (10) working days from official request, unless otherwise agreed	
40	Spare parts and tools	Recommended spare parts, lubricants, wear and tear parts, consumables and special tools for one year of operation; final list to be agreed based on manufacturer recommendations	

Annex VI - Key contractual terms and conditions

1. Terms of payment:

(i) Goods:

- 30% advance payment;
- 70% after acceptance of the Goods by the Purchaser (Place of Delivery)

(ii) Related Services:

- 100% after acceptance of the Related Services by the Purchaser.

2. Terms of delivery: DDP (Delivery Duty Paid) Incoterms-2020. The site is located in Kharkiv, Ukraine.

3. Bank guarantees:

- 3.1. Advance payment security in the amount of the advance payment to be provided in the form of unconditional bank guarantee;
- 3.2. Performance security in the amount of 10% of the Contract Price to be provided in the form of unconditional bank guarantee;

4. Insurance: Goods shall be insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in accordance with DDP Incoterms-2020. The war risks are excluded.

5. Warranties: 36 months from the delivery or 24 months from the commissioning