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Analytical Series on Key Trends and Emerging Areas of Development

ISSUE 01

THERMAL GENERATION DURING THE WAR

How TPP/CHP Plant Needs Are Changing and the Cogeneration Segment Is Taking Shape

Executive Summary

“Markers of Sectoral Change” is a recurring analytical series examining how sectors of national importance are changing. Public procurement data are used as the source for the analysis. They show what state and municipal organisations procure, how their needs and priorities change, who creates demand, and how competitive procurement is.

The first issue of the series focuses on thermal generation during the war. It analyses procurement for the needs of large TPPs and CHP plants, as well as procurement of cogeneration solutions—units that generate heat and electricity simultaneously. The study covers 2019–2025, allowing comparison of the pre-war situation, the turning point in 2022, and subsequent changes during the full-scale war. The analysis points to two parallel processes.

PROCESS 1 · TPPS/CHP PLANTS

The first is a substantial increase in the financial scale of TPP and CHP plant procurement following the decline in 2022. In 2025, the value of their contracts exceeded **UAH 20.5 billion**—more than four times the 2022 level. At the same time, works became more prominent in the procurement structure, while a significant share of competitive procedures continued to involve only one or two bidders.

PROCESS 2 · COGENERATION

The second process is the emergence of notable demand for cogeneration solutions. Until 2023, this area remained financially insignificant. Its role increased substantially in 2024–2025: contracts for cogeneration needs accounted for more than **12%** of TPP/CHP plant procurement, while the value of contracts awarded by other procuring entities for such solutions reached **UAH 4.34 billion** in 2025.

Demand for cogeneration is not driven only by large power plants. Such solutions are also procured by heat supply companies, municipal infrastructure organisations, communities, and organisations providing critical services. This points to the emergence of a new area of procurement demand extending beyond traditional centralised generation.

The report’s findings are relevant for public authorities, communities, and international partners because they help identify where demand is growing, how procurement structures are changing, and which groups of procuring entities may require support. They also raise practical questions about procurement coordination, procuring entity capacity, the development of market supply, the level of competition, and whether procured capacity has actually been commissioned.

LIMITATIONS At the same time, procurement data do not provide a complete picture of the technical condition of energy facilities or confirm that procured equipment has already been installed and is operational. The report should therefore be read as an analysis of signals reflected in procuring entities’ decisions rather than as a technical audit of thermal generation.

NAVIGATION

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CONTEXT AND PURPOSE

Introduction

The full-scale war has significantly changed the operating conditions of Ukraine's energy sector. Thermal generation, including thermal power plants (hereinafter, TPPs) and combined heat and power plants (hereinafter, CHP plants), remains an important segment of the energy system. It is linked to the heating seasons, the generation of heat and electricity, and the operation of the relevant infrastructure.

This report is the first issue of “Markers of Sectoral Change”, a recurring analytical series examining the status and dynamics of priority sectors through public procurement data. Procurement is considered here not only in terms of financial and procedural indicators, but also as a source of information about the practical needs, priorities, and decisions of state and municipal procuring entities.

In this issue, changes in contract value and structure, the level of competition, and the composition of procuring entities are treated as markers of sectoral change. They help show how the practical needs of TPPs/CHP plants are changing during the war, how demand for cogeneration solutions is forming, and how the range of procuring entities is expanding. This approach does not replace technical analysis of energy facilities, but it makes it possible to record changes reflected in procuring entities’ decisions and behaviour.

This report examines changes in thermal generation in 2019–2025 as reflected in public procurement. The analysis focuses on two related but distinct areas: procurement for the needs of TPPs/CHP plants and procurement of cogeneration solutions. In this study, TPPs and CHP plants are considered large centralised thermal generation facilities. Cogeneration, in turn, is analysed not as a direct replacement for TPPs/CHP plants, but as a separate area that became more financially significant in 2024–2025 and became visible through growing procurement demand among different groups of procuring entities.

The initial research hypothesis is that, after the start of the full-scale war, not only the volume of procurement in thermal generation changed. The structure of demand, the behaviour of procuring entities, and the ratio between different types of procurement also changed. Before the war, the value of TPP/CHP plant contracts grew gradually, and procurement was almost entirely focused on these facilities' own needs. This trend was interrupted in 2022 by a decline in contract value. In 2023–2025, the financial scale of procurement increased significantly.

For sector-level interpretation, it is important to consider not only the increase or decrease in contract value. It is also important to understand which types of procurement drove this change, which groups of procuring entities created the demand, and how competitive the relevant procedures were. Therefore, the report separately analyses financial trends, the structure of contracts for goods, works and services, the level of competition, and the institutional composition of the different groups of procuring entities that create procurement demand.

In TPP/CHP plant procurement, these changes are seen in the growth of the total value of contracts after 2022, the changing ratio of goods, works and services, and the continued significant share of procedures with the minimum number of bidders.

At sector level, these indicators may be viewed as markers of changing procurement needs in centralised thermal generation during the war: an increase in the financial scale of procurement, a stronger role for works in the contract structure, and a continued significant share of competitive procedures with one or two bidders. At the same time, procurement data do not allow the causes of these changes to be determined unequivocally, the growing role of works to be equated with specific types of recovery or reconstruction, or the state of the supplier environment as a whole to be assessed.

The report gives separate attention to cogeneration procurement. In 2019–2023, this area remained relatively small in financial terms. In 2024–2025, the value of contracts increased significantly. This indicates not only an increase in procurement volumes, but also the formation of a notable new segment of procurement demand in thermal generation. In this sense, cogeneration is considered one of the visible areas of sector transformation. It is reflected in changes in financial scale, procurement structure, and the institutional composition of procuring entities.

Importantly, demand for cogeneration solutions comes not only from TPPs/CHP plants. In 2024–2025, other groups of procuring entities also played a notable role in this procurement. They included heat generation and heat supply companies, municipal infrastructure organisations, local self-government bodies, and sector-specific critical organisations. This points to an expansion in the range of procuring entities and allows cogeneration to be viewed as a separate area of demand in thermal generation and local energy resilience.

The purpose of the report is to show which changes in thermal generation in 2019–2025 can be identified through public procurement. To this end, it analyses contract value and structure, the level of competition, and the composition of procuring entities. Special attention is given to how, alongside procurement for the needs of TPPs/CHP plants, a notable segment of cogeneration procurement emerged in 2024–2025.

The report does not aim to prove that TPPs/CHP plants and cogeneration are technologically or economically interchangeable. Instead, it analyses how these areas coexist in procurement practice during the war, which groups of procuring entities create demand for cogeneration, how the structure of the subject matter of procurement changes, what level of competition is observed in the relevant segments, and which sectoral changes can be identified from the available procurement data.

HOW WE ANALYSED

Research methodology

The study is based on an analysis of public procurement data in thermal generation for 2019–2025. This period makes it possible to compare procurement trends before the war, the first year of the full-scale war, and subsequent changes in procurement value, the structure of contracts for TPP/CHP plants' own needs and for cogeneration needs, the ratio of goods, works and services, the level of competition, and the institutional composition of procuring entities.

In this report, public procurement is considered not only as a set of financial and procedural indicators, but also as a source of data on changes in the sector's practical needs, priorities, and composition of sector participants. Procurement data do not provide a complete picture of the state of the sector, but they show what procuring entities purchase, who creates demand, how the ratio of goods, works and services changes, what level of competition is observed in completed procedures, and which areas gain financial significance.

In this report, markers of sectoral change are defined as changes in procurement indicators that may point to broader processes in thermal generation. These markers include increases or decreases in contract value, changes in the ratio of goods, works and services, the emergence of new areas of demand, changes in the level of competition, and changes in the composition of procuring entities.

The report analyses two main groups of procurement. The first group covers procurement for the needs of TPPs and CHP plants as large centralised thermal generation facilities. The second group covers procurement of cogeneration solutions. In this report, these solutions are considered a separate segment of procurement demand and one of the notable areas of thermal generation transformation during the war.

In this study, TPPs/CHP plants and cogeneration are not treated as interchangeable alternatives. They are not compared to assess the technological, economic, or operational advantage of one area over the other. The purpose of the comparison is to determine how procurement value, the structure of the subject matter of procurement, the level of competition, and the range of procuring entities changed in each segment in 2019–2025. It also aims to identify which sector changes can be seen through these indicators.

The key indicators in the analysis are the value and number of contracts, the structure of procurement by type of subject matter, the shares of individual areas in total procurement, the level of competition, and the structure of procuring entities. Contract value is used to assess the financial scale of procurement and changes in the weight of individual areas over time. The number of contracts makes it possible to assess the intensity of procurement activity. Structural shares show which procurement categories or groups of procuring entities accounted for the main volume of public demand in different years.

TPP/CHP plant procurement was analysed in three dimensions. First, the study examined changes in contract value in 2019–2025. Second, it analysed the procurement structure by type of subject matter: goods, works, and services. Third, it assessed the level of competition through the distribution of procedures by number of bidders. Together, these indicators show not only changes in the procurement activity of TPPs/CHP plants, but also broader structural changes in centralised thermal generation during the war.

Cogeneration procurement was analysed separately for procurement related to TPPs/CHP plants and procurement conducted by other procuring entities. This approach made it possible to separate the cogeneration component within TPP/CHP plant procurement from broader demand by other groups of procuring entities. This is important for assessing whether demand for cogeneration is concentrated mainly within traditional thermal generation facilities or covers a wider range of institutional participants.

The structure of cogeneration procurement by type of subject matter—goods, works, and services—was also analysed separately. This distribution shows which types of contracts accounted for the value of the cogeneration segment in different years. At sector level, a change in the ratio of goods, works, and services may indicate a change in the nature of procurement demand. It may reflect a shift from separate purchases of equipment or services to more comprehensive contracts in which works play a greater role. At the same time, the division into goods, works, and services alone is not enough to determine the specific functional purpose of the purchased solutions without further analysis of the subject matter of the contracts. Nevertheless, it provides a reliable assessment of how the nature of procurement demand is changing and which expenditure categories are becoming decisive in the procurement model of the relevant segment.

Competition in procurement was analysed through the number of bidders in competitive procurement procedures. This indicator is used to assess the level of competition in completed procurement procedures. In the report, competition is considered not only as a procedural characteristic, but also as an indicator of the supplier environment around the relevant segment. The number of bidders cannot clearly explain all reasons for low or high competition. These may include the technical complexity of the subject matter of procurement, the availability of suppliers, regulatory conditions, or other market factors. However, this indicator objectively records differences in the competitiveness of procurement and helps identify segments where the supplier environment is more or less developed. This is an important characteristic of how the sector operates.

For the analysis of demand for cogeneration, procuring entities were grouped by functional role and area of activity. The following groups were identified separately: 1) TPPs/CHP plants as thermal generation facilities; 2) “teploenergo” utilities and large heat-generation companies; 3) district heating utilities, heating network operators, and heat supply companies; 4) municipal infrastructure; 5) local self-government bodies; 6) sector-specific critical organisations; and 7) other or ambiguous cases. This clustering made it possible to assess which groups of procuring entities accounted for the largest shares of contract value and how the institutional structure of demand changed in 2019–2025.

The largest procuring entities in cogeneration were also analysed by two criteria: their share of the total value of contracts and their share of the total number of contracts. Combining these indicators identifies not only procuring entities with the largest financial volume of contracts, but also organisations with significant procedural weight by number of procurements. At sector level, this makes it possible to identify the group of procuring entities that accounts for the bulk of the new segment by contract value and number of contracts.

The results were interpreted using a consistent periodisation framework. The first stage, 2019–2021, is considered the pre-war period. The second stage, 2022, is considered the first year of the full-scale war, when procurement trends changed. The third stage, 2023–2025, is considered the period of further growth in procurement value, changes in its structure, and expansion of individual demand segments.

A methodological limitation of the study is that procurement data do not always directly show the technical purpose of each procurement, the actual condition of a facility, the source of funding, the extent of infrastructure damage, the link between a specific contract and the consequences of attacks, or the actual result of contract performance. The study's conclusions are therefore based on an analysis of procurement trends, contract structure, types of procuring entities, the subject matter of procurement, and the level of competition, rather than on a technical audit of specific energy facilities.

This limitation does not reduce the analytical value of procurement data. Their systematic nature and comparability over time allow procurement to be used as a lens for analysing changes in the sector. They help identify areas that gain greater financial weight, track changes in the structure of practical needs, record the expansion of the range of procuring entities, and detect the formation of new demand segments.

Accordingly, the study's results should be viewed as an analysis of changes reflected in procurement. They provide a basis for discussing changes in the financial scale of procurement, procurement structure, the level of competition, and the composition of procuring entities in thermal generation in 2019–2025. Without replacing technical analysis, procurement data reliably record practical changes in the behaviour of procuring entities, the structure of public demand, and sector priorities during the full-scale war.

METHODOLOGY AT A GLANCE

What is measured and how

01
Value
Financial scale of procurement and the changing weight of areas over time

02
Structure
Ratio of goods, works, and services

03
Competition
Number of bidders in competitive procedures

04
Procuring entities
Groups, clusters, and the largest procuring entities

CLUSTERS OF PROCURING ENTITIES IN COGENERATION

Cluster 1
TPPs/CHP plants
as thermal generation facilities

Cluster 2
“Teploenergo” utilities
and large heat-generation companies

Cluster 3
District heating utilities
heating networks, heat supply companies

Cluster 4
Municipal
infrastructure

Cluster 5
Local self-government
bodies

Cluster 6
Sector-specific critical
organisations

Cluster 7
Other
or ambiguous cases

SECTION 1

01 Centralised thermal generation during the war: what TPP and CHP plant procurement shows

TPPs and CHP plants remain a key segment of centralised thermal generation. The heating seasons, support for the energy system, and the supply of heat and electricity to consumers depend on their stable operation. During the full-scale war, these facilities operate under increased security risks, physical damage to energy infrastructure, more difficult repairs and logistics, and the need to keep critical capacities operational.

This section considers TPP/CHP plant procurement not only in terms of financial and procedural indicators, but also as a source of procurement signals of the transformation of centralised thermal generation during the war. Changes in contract value, the ratio of goods, works, and services, and the level of competition show how the procurement behaviour of large thermal generation facilities changed after 2022.

For sector-level interpretation, it is important to consider not only how much procurement increased or decreased. It is also important to understand which types of contracts drove this level of expenditure and under what competitive conditions the procurement took place. These indicators show how centralised thermal generation adapted to the war through changes in volumes, procurement structure, and the procedural environment.

SECTION 1 · TPPS/CHP PLANTS

1.1 TPP/CHP plant procurement trends in 2019–2025

To understand how the full-scale war affected the procurement behaviour of thermal generation companies, it is useful to begin with an analysis of changes in the value of TPP/CHP plant contracts in 2019–2025. This indicator shows whether the pre-war model of procurement activity continued, how significant the decline was in the first year of the full-scale war, and how the financial scale of procurement changed during the subsequent period of adaptation and recovery.

FIGURE 1.1

Changes in the value of contracts resulting from TPP and CHP plant procurement for TPP/CHP plants' own needs and for cogeneration needs.

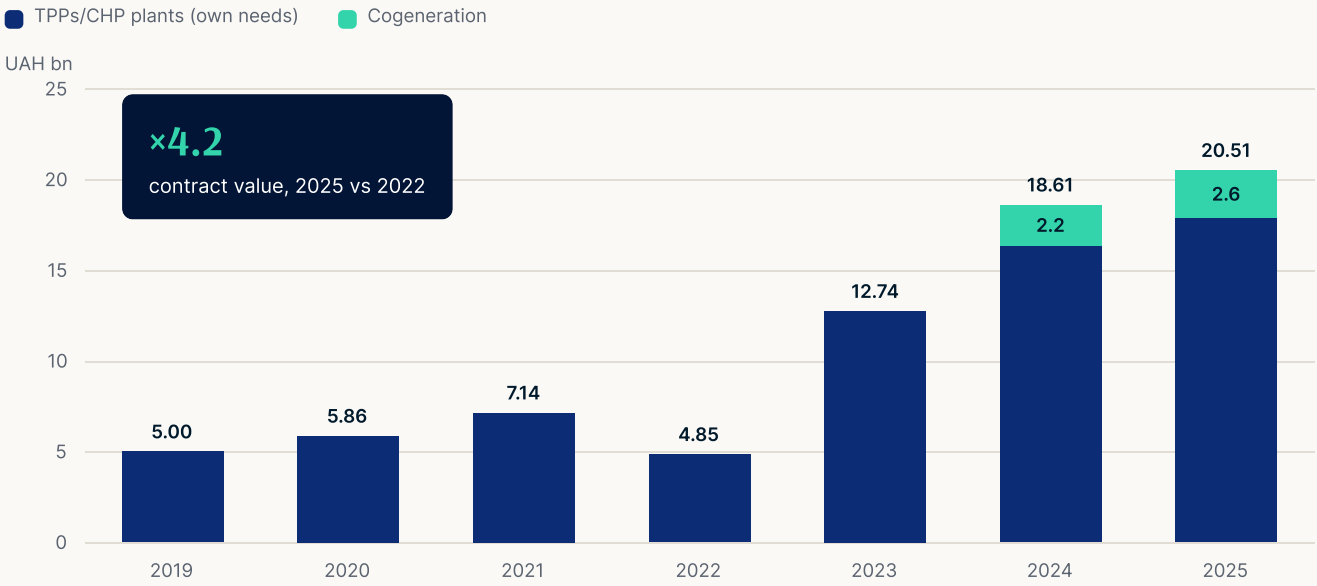


Figure 1.1 shows annual changes in the value of TPP/CHP plant contracts in 2019–2025 and separately identifies the share related to procurement of cogeneration solutions. Table 1.1 shows the share of these contracts in the total value of TPP/CHP plant contracts in each year.

TABLE 1.1

Share of contracts for cogeneration needs in the total value of TPP/CHP plant contracts in 2019–2025.

YEAR	SHARE FOR TPP/CHP PLANT NEEDS	SHARE FOR COGENERATION NEEDS
2025	**87.27%**	**12.73%**
2024	87.93%	12.07%
2023	99.98%	0.02%
2022	100.00%	0.00%
2021	100.00%	0.00%
2020	100.00%	0.00%
2019	99.99%	0.01%

In absolute terms, the pre-war trend shows a gradual increase in contract value: from almost **UAH 5.0 billion** in 2019 to **UAH 5.86 billion** in 2020 and **UAH 7.14 billion** in 2021. Within the procurement data, this trend primarily indicates that TPP/CHP plant procurement activity continued and grew moderately before the war, without sharp fluctuations. During this period, the procurement structure was almost entirely focused on TPP/CHP plants' own needs. Their share was **99.99–100%**, while the cogeneration component was absent or statistically insignificant.

In 2022, the value of contracts fell to about **UAH 4.85 billion**. This interrupted the pre-war trend of gradual growth in TPP/CHP plant procurement. It indicates a significant change in procurement trends in the first year of the full-scale war. Procurement data alone cannot clearly determine which factors caused this decline. They may have included changing priorities of procuring entities, postponement of individual procurements, security conditions, the technical condition of facilities, or other circumstances of the war. However, the sharp change in procurement trends is clear and indicates a major restructuring of sector operations in the first year of the full-scale war. In structural terms, this year remained fully focused on TPP/CHP plant needs. The share of cogeneration in contract value was effectively not visible.

The trend changed from 2023. The value of contracts increased to about **UAH 12.74 billion** and exceeded the pre-war level. In 2024, it reached **UAH 18.61 billion**, and in 2025 it exceeded **UAH 20.5 billion**. This indicates a significant increase in the financial scale of TPP/CHP plant procurement after the decline in 2022.

At the same time, a notable cogeneration component appeared in the TPP/CHP plant procurement structure in 2024–2025. In 2023, its share was only **0.02%** (**UAH 0.003 billion**). In 2024, it increased to **12.07%** (**UAH 2.2 billion**), and in 2025 to **12.73%** (**UAH 2.6 billion**). In value terms, this means that procurement for cogeneration projects was no longer isolated and formed a separate, notable segment within TPP/CHP plant procurement.

What this means for the sector

Changes in the value of TPP/CHP plant contracts show that, after 2022, centralised thermal generation procurement no longer followed the pre-war trend of gradual growth. The decline in 2022 and the subsequent sharp increase in financial scale in 2023–2025 are important indicators of a change in the sector's operating model during the war.

At sector level, this means that large thermal generation facilities entered a period of much higher procurement intensity. Procurement data alone cannot clearly determine all the reasons for this growth. However, it clearly confirms that, after 2022, the sector entered a new phase of operation with a much higher level of procurement activity.

The emergence of a notable cogeneration component in the TPP/CHP plant procurement structure in 2024–2025 is also important. It shows that, even within traditional centralised thermal generation, additional procurement demand related to cogeneration solutions is beginning to form.

SECTION 1 · TPPS/CHP PLANTS

1.2 Structure of TPP/CHP plant procurement

After analysing overall changes in contract value, it is important to consider which types of subject matter accounted for TPP/CHP plant expenditure in 2019–2025. Dividing contracts into goods, works, and services provides a deeper understanding of the nature of procurement activity. This analysis is important because changes in the ratio of goods, works, and services show which types of subject matter accounted for the largest shares of contract value in different years.

TABLE 1.2

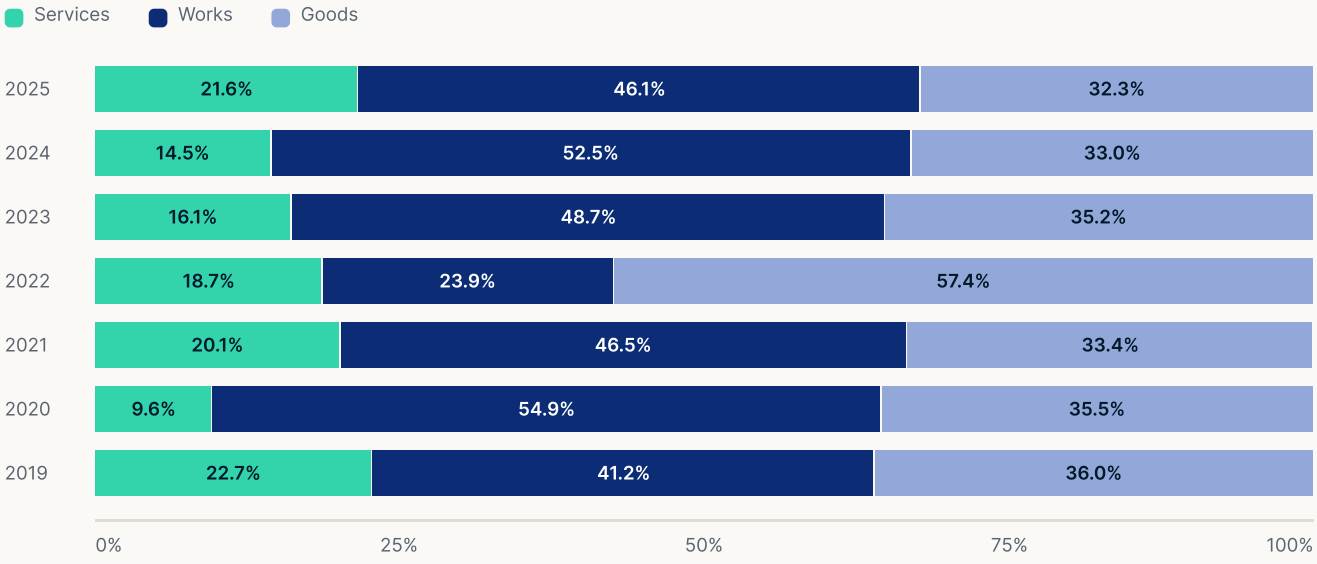
Distribution of TPP/CHP plant procurement contracts by goods, works, and services (by value).

YEAR	SERVICES, UAH BILLION	WORKS, UAH BILLION	GOODS, UAH BILLION	TOTAL, UAH BILLION
2025	**4.431**	**9.463**	**6.615**	**20.509**
2024	2.696	9.765	6.144	18.606
2023	2.055	6.197	4.485	12.738
2022	0.905	1.158	2.783	4.846
2021	1.437	3.318	2.383	7.139
2020	0.565	3.217	2.079	5.861
2019	1.136	2.060	1.801	4.998

Table 1.2 shows the distribution of the value of TPP/CHP plant contracts among goods, works, and services in 2019–2025. It makes it possible to assess the absolute value of each category and identify which procurement types had the greatest effect on changes in total volumes in different periods. Figure 1.2 supplements the table by showing changes in the structural shares of these categories over time. This makes it possible to track not only the increase or decrease of individual categories in monetary terms, but also changes in their role in the overall TPP/CHP plant procurement model.

FIGURE 1.2

Distribution of TPP/CHP plant procurement contracts by goods, works, and services (by value).



In 2019–2021, works were the largest component of the TPP/CHP plant procurement structure in each of the three years. Goods also formed a significant share of contract value, but their share was lower than that of works. Services had a much smaller share. Therefore, before the war, the procurement structure was not evenly balanced among the three types of subject matter. It was based on works and goods, with works having a more pronounced dominant role and services playing a smaller role.

In 2022, the TPP/CHP plant procurement structure changed notably compared with the pre-war period. Against the background of an overall decline in contract value, procurement of works fell particularly sharply, while goods became the largest expenditure component. This indicates a change in the ratio of the main types of subject matter in the first year of the full-scale war. Procurement data alone cannot clearly determine which factors caused this change. It should therefore be considered a recorded structural shift in TPP/CHP plant procurement. It should not automatically be treated as a change in specific management decisions, the postponement of projects, or the condition of individual facilities. At the same time, the change in the procurement structure is clear enough to show a transformation in the nature of the needs of thermal generation companies during the war.

From 2023, the procurement structure shifted towards a sharp increase in the role of works. In 2022, the value of works contracts fell to **UAH 1.158 billion** (**23.89%**). In 2023, it rose to **UAH 6.197 billion** (**48.65%**), and in 2024 to **UAH 9.765 billion** (**52.48%**). In 2025, it remained high at about **UAH 9.463 billion** (**46.14%**). This indicates a significant increase in the role of works in the TPP/CHP plant procurement structure in 2023–2025.

This trend may be viewed as a sign of the growing role of procurement related to the execution of works at thermal generation facilities or related infrastructure. At the same time, the category of works is broad and may include contracts for repairs, construction and installation, reconstruction, modernisation, or other infrastructure measures. The data therefore support a conclusion that works became more important in the TPP/CHP plant procurement structure. However, without further analysis of the subject matter of the contracts, they do not support a conclusion that the entire increase was related to the restoration of damaged facilities or specific consequences of military attacks.

Procurement of goods also remained significant in 2023–2025. Its value increased to **UAH 4.485 billion** (**35.21%**) in 2023, **UAH 6.144 billion** (**33.03%**) in 2024, and **UAH 6.615 billion** (**32.25%**) in 2025. This means that goods retained an important place in the TPP/CHP plant procurement structure alongside works and services.

Services also require separate attention. Before the war, they had a smaller share than goods and works. In 2023–2025, their value gradually increased to **UAH 2.055 billion** (**16.14%**) in 2023, **UAH 2.696 billion** (**14.49%**) in 2024, and **UAH 4.431 billion** (**21.61%**) in 2025. This means that services became a more visible component of the TPP/CHP plant procurement structure after 2022.

The structure of TPP/CHP plant procurement in 2019–2025 therefore shows a significant structural shif among the main types of subject matter. Before the war, works were the main expenditure category. Goods formed a significant but secondary share, while services remained the smallest component. After 2022 especially in 2023–2025, the role of works increased and they became one of the key components of contrac value. At the same time, goods and services also retained a notable place in the overall procurement structure This supports a conclusion that the TPP/CHP plant procurement structure shifted during the war.

What this means for the sector

The changing ratio of goods, works, and services is one of the key indicators of the structural transformation of TPPs/CHP plants during the war. For sector analysis, it is important to consider not only that the overall financial scale of procurement increased after 2022, but also which types of contracts drove this increase.

The stronger role of works in 2023–2025 is a direct marker of change in the procurement structure. The category of works is broad and may include contracts for repairs, construction and installation, reconstruction, modernisation, or other infrastructure measures. The data therefore do not support automatically attributing the entire increase to specific types of recovery or the consequences of individual attacks.

At sector level, however, this trend shows that the TPP/CHP plant procurement model in 2023–2025 became more focused on contracts related to the execution of works at thermal generation facilities or related infrastructure. The changing procurement structure may therefore be seen as one sign of how centralised thermal generation adapted to wartime conditions.

SECTION 1 · TPPS/CHP PLANTS

1.3 Competition in TPP/CHP plant procurement

In addition to procurement value and structure, the level of competition in TPP/CHP plant procurement is an important part of the analysis. It is assessed through the number of bidders in competitive procurement procedures. This indicator shows whether procedures with one bidder prevailed or whether there remained a notable segment of procedures with two or more bidders.

TABLE 1.3

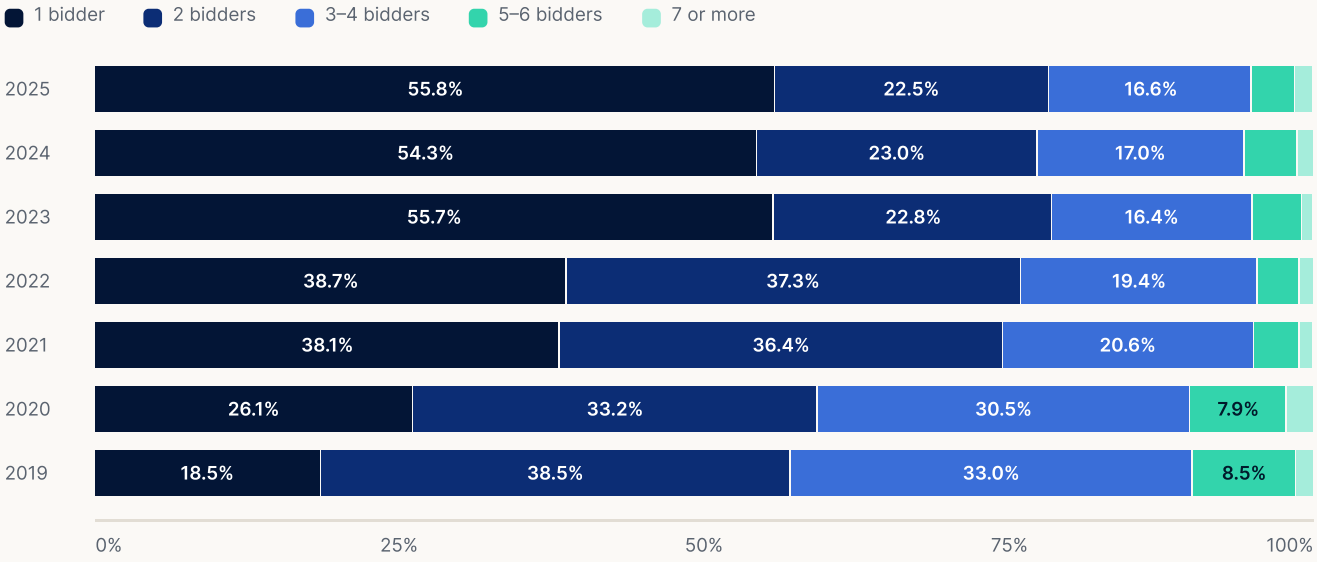
Distribution of competition ranges by number of contracts in competitive procurement procedures.

YEAR	1 BIDDER	2 BIDDERS	3–4 BIDDERS	5–6 BIDDERS	7 OR MORE	TOTAL
2025	**2,614**	**1,053**	**778**	**167**	**72**	**4,684**
2024	2,196	930	686	175	55	4,042
2023	1,960	803	578	144	34	3,519
2022	520	502	261	46	16	1,345
2021	1,266	1,207	684	125	38	3,320
2020	686	872	802	208	59	2,627
2019	363	754	645	166	29	1,957
Total	**9,605**	**6,121**	**4,434**	**1,031**	**303**	**21,494**

Table 1.3 shows the distribution of competitive TPP/CHP plant procurement procedures in 2019–2025 by number of bidders. It also shows changes in the number of contracts awarded through procedures in the relevant competition ranges. Figure 1.3 supplements the table and shows changes in the competition structure over time.

FIGURE 1.3

Distribution of competition ranges by number of contracts in competitive procurement procedures.



In 2019–2021, the competition structure gradually shifted towards procedures with fewer bidders. In 2019–2020, procedures with two bidders had the largest share. In 2021, procedures with one bidder became the largest group.

The number of contracts in procedures with one bidder increased from 363 (**18.55%**) in 2019 to 1,266 (**38.13%**) in 2021. The number of contracts in procedures with two bidders also remained significant, ranging from 754 (**38.53%**) in 2019 to 1,207 (**36.36%**) in 2021. At the same time, the share of procedures with three to four bidders fell from 645 (**32.96%**) in 2019 to 684 (**20.60%**) in 2021. The share of procedures with five to six bidders also fell from 166 (**8.48%**) in 2019 to 125 (**3.75%**) in 2021.

In 2022, alongside the overall decline in procurement activity, there were 520 contracts (**38.66%**) in procedures with one bidder and 502 contracts (**37.32%**) in procedures with two bidders. This shows that procedures with the minimum number of bidders continued to hold a notable place in TPP/CHP plant procurement.

In 2023–2025, the number of contracts awarded through procedures with one bidder increased, while their share remained close to **55%** each year. The number of such contracts rose to 1,960 in 2023, 2,196 in 2024, and 2,614 in 2025. This occurred against the background of overall growth in TPP/CHP plant procurement. During the same period, the number of procedures with two bidders increased to 803 in 2023, 930 in 2024, and 1,053 in 2025, while their share was about **23%** each year. The segment of procedures with three to four bidders also remained stable at about **16%** each year, as did the segment with five to six bidders at about **4%** each year.

The competition analysis shows that a significant share of competitive TPP/CHP plant procurement in 2019–2025 involved one or two bidders. In 2019–2020, procedures with two bidders had the largest share. From 2021, procedures with one bidder became the largest group. This group remained dominant in 2023–2025, with a share of about **54–56%** each year. This trend may have been partly related to changes in regulatory conditions under which one bidder was sufficient for a competitive procedure. Therefore, while the number of contracts increased after 2022, competition in TPP/CHP plant procurement remained limited, and procedures with three or more bidders formed a smaller part of the total.

What this means for the sector

Competition in TPP/CHP plant procurement is important not only as a procedural indicator. It is also an indicator of the supplier environment around a critical segment of centralised thermal generation.

The prevalence of procedures with one or two bidders in 2019–2025, and the dominance of procedures with one bidder in 2023–2025, show that the growing financial scale of procurement was not accompanied by a proportional expansion of competition within the procedures. This is important for the sector because procurement needs expanded in a limited competitive environment.

This indicator does not explain why procedures were concentrated around the minimum number of bidders. However, it records an important characteristic of the TPP/CHP plant procurement environment: competition within procurement remained limited even as the financial scale increased.

1

SECTION 1 SUMMARY

Interim conclusion

The analysis of TPP/CHP plant procurement in 2019–2025 shows a significant change in centralised thermal generation procurement after 2022. In 2019–2021, contract value gradually increased from almost **UAH 5.0 billion** in 2019 to **UAH 7.14 billion** in 2021. In 2022, it fell to about **UAH 4.85 billion**, interrupting the pre-war growth trend. From 2023, the financial scale of procurement increased significantly to **UAH 12.74 billion** in 2023, **UAH 18.61 billion** in 2024, and more than **UAH 20.5 billion** in 2025.

At sector level, this trend reflects a change in the operating model of TPPs/CHP plants during the war. It is not only an increase in procurement volumes after the decline in 2022. It also reflects a shift in centralised thermal generation towards much higher procurement intensity. Procurement data alone cannot clearly determine all reasons for this growth. However, it records a change in the scale of the needs of large thermal generation facilities during the full-scale war.

The procurement structure also changed notably. Before the war, works and goods formed the main value of contracts, while services had a smaller share. In 2022, goods became the largest component. In 2023–2025, the role of works increased again. Their share was **48.65%** in 2023, **52.48%** in 2024, and **46.14%** in 2025. This supports a conclusion that the TPP/CHP plant procurement structure shifted.

For sector transformation, it is important that the increase in financial scale was driven not only by growth in the total value of contracts, but also by a changing ratio between the types of subject matter. The stronger role of works in 2023–2025 indicates a growing infrastructure component in the operation of TPPs/CHP plants. At the same time, the category of works is broad. Without further analysis of the subject matter of the contracts, the data do not support an automatic conclusion that the entire increase relates to specific types of recovery, reconstruction, or the consequences of individual attacks.

The competition analysis shows that a significant share of competitive TPP/CHP plant procurement in 2019–2025 involved one or two bidders. In 2019–2020, procedures with two bidders had the largest share. From 2021, procedures with one bidder became the largest group. This group remained dominant in 2023–2025, with a share of about **54–56%** each year.

At sector level, this means that the growing financial scale of TPP/CHP plant procurement was not accompanied by a proportional expansion of competition within the procedures. In this case, competition is not only a procedural characteristic. It is also an indicator of the supplier environment around a critical segment of centralised thermal generation. The reasons for this concentration require separate analysis. However, the dominance of procedures with one or two bidders is an important indicator of the limited competitive environment around TPP/CHP plant procurement.

Another sign of structural change is the emergence of a notable cogeneration component in the TPP/CHP plant procurement structure in 2024–2025. Until 2023, the share of contracts for cogeneration needs was absent or statistically insignificant. In 2024, it reached **12.07%** of the total value of TPP/CHP plant contracts, and in 2025 it reached **12.73%**. This indicates the formation of an additional area of procurement demand within traditional centralised thermal generation.

> Section 1 therefore identifies several interconnected markers of sectoral change: the increase in financial scale after 2022, the stronger role of works in the contract structure, the continued significant share of procedures with the minimum number of bidders, and the emergence of a notable cogeneration component. These data show that TPPs/CHP plants shifted to a different procurement operating model, with higher intensity, a more pronounced infrastructure component, and a limited competitive environment around the sector's key needs.

SECTION 1 MARKERS

What changed: key figures

×4.2
TPP/CHP plant contract value in 2025 compared with 2022

52.48%
share of works in 2024, the highest in the period

≈55%
of procedures had one bidder each year in 2023–2025

12.73%
share of cogeneration in TPP/CHP plant procurement in 2025

SECTION 2

02 Cogeneration as a new area of energy resilience: procurement indicators of segment formation

After analysing TPP/CHP plant procurement, it is useful to examine the development of cogeneration solutions separately. During the war, these solutions began to form a notable and independent area of procurement demand. In this study, TPPs and CHP plants are considered large centralised thermal generation facilities. Cogeneration, by contrast, is analysed as a separate segment that became visible through a sharp increase in contract value in 2024–2025.

This section considers cogeneration not only as a subject matter of procurement, but also as a notable indicator of structural change in thermal generation during the war. Changes in contract value, the ratio of goods, works, and services, and the level of competition show how a new area of demand for solutions related to more local and flexible energy infrastructure is forming.

It is important to stress that this report does not consider cogeneration as a technological or functional replacement for TPPs/CHP plants. Its role is different. An analysis of cogeneration procurement shows how a separate area of demand is forming alongside traditional large facilities in thermal generation. In 2024–2025, this area became financially significant across different groups of procuring entities.

SECTION 2 · COGENERATION

2.1 Cogeneration procurement trends among other procuring entities

The first step in assessing the development of cogeneration is to analyse changes in the value of contracts awarded by other procuring entities, excluding TPP/CHP plant procurement. This indicator shows when cogeneration solutions began to move beyond a narrow range of individual projects and gain more systematic importance for local energy resilience.

FIGURE 2.1

Changes in the value of cogeneration procurement contracts.

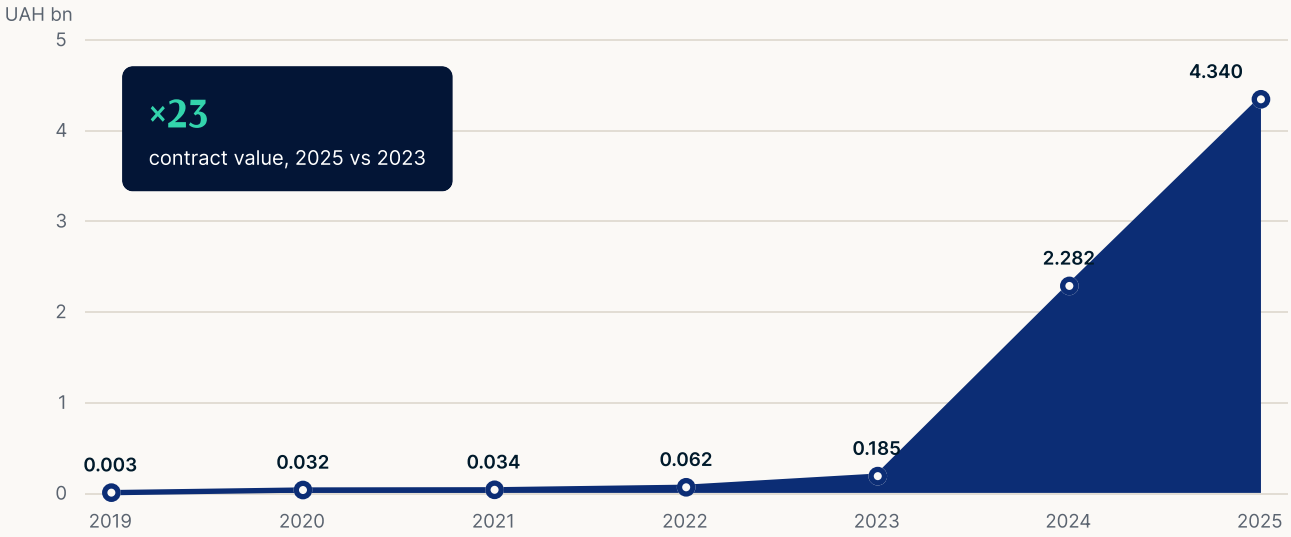


Figure 2.1 shows changes in the value of cogeneration procurement contracts in 2019–2025. It makes it possible to assess the scale of demand from other procuring entities, including municipal enterprises, local self-government bodies, heat supply organisations, critical infrastructure facilities, and other institutions for which cogeneration may provide backup capacity, autonomy, and continuity of essential services.

In absolute terms, the value of contracts for cogeneration solutions remained very low in 2019–2021, at tens of millions of hryvnias per year. This indicates that, before the war, cogeneration procurement did not yet have a notable financial scale in the analysed data. Procurement remained sporadic and financially insignificant and did not form a stable, separate segment.

In 2022, contract value increased to **UAH 0.062 billion**. However, this figure remained relatively low compared with the subsequent growth in 2023–2025. This indicates that the first year of the full-scale war was not yet a period of large-scale deployment of procurement for cogeneration solutions. Procurement remained limited and only marked the beginning of a change in demand that became more visible in the following years. In 2023, volumes continued to increase to **UAH 0.185 billion**, but the market was still relatively small in financial terms.

The most significant turning point came in 2024. From that year, the value of cogeneration procurement contracts increased sharply and reached **UAH 2.282 billion**. In 2025, it increased further to **UAH 4.340 billion**. This indicates a significant increase in the value of cogeneration procurement in 2024–2025.

> Changes in cogeneration procurement by other procuring entities therefore show a transition from fragmentec demand to a separate procurement segment. In 2019–2021, cogeneration remained a minor area in financia terms. In 2022–2023, it began to gain greater relevance. In 2024–2025, it entered a period of rapid scaling This period is central to understanding the role of cogeneration in the wartime transformation of the energy sector.

What this means for the sector

Changes in cogeneration procurement by other procuring entities show that this area was no longer statistically insignificant in 2024–2025 and became financially significant. Procurement remained relatively small in 2019–2023. The sharp increase in 2024–2025 indicates the formation of a separate segment of procurement demand.

At sector level, this trend means that cogeneration entered the practical agenda of a wider range of procuring entities. It is not only an increase in contract value. It is also the emergence of a new area that becomes visible in public procurement as a distinct area of thermal generation development during the war.

At the same time, procurement data do not automatically show the specific functional purpose of each purchased solution or its future operating model. However, it clearly records the point at which cogeneration procurement moved from an isolated area to a notable segment of public demand.

SECTION 2 · COGENERATION

2.2 Structure of cogeneration procurement

After analysing overall cogeneration procurement trends, it is important to consider which types of subject matter formed this area in 2019–2025.

TABLE 2.2

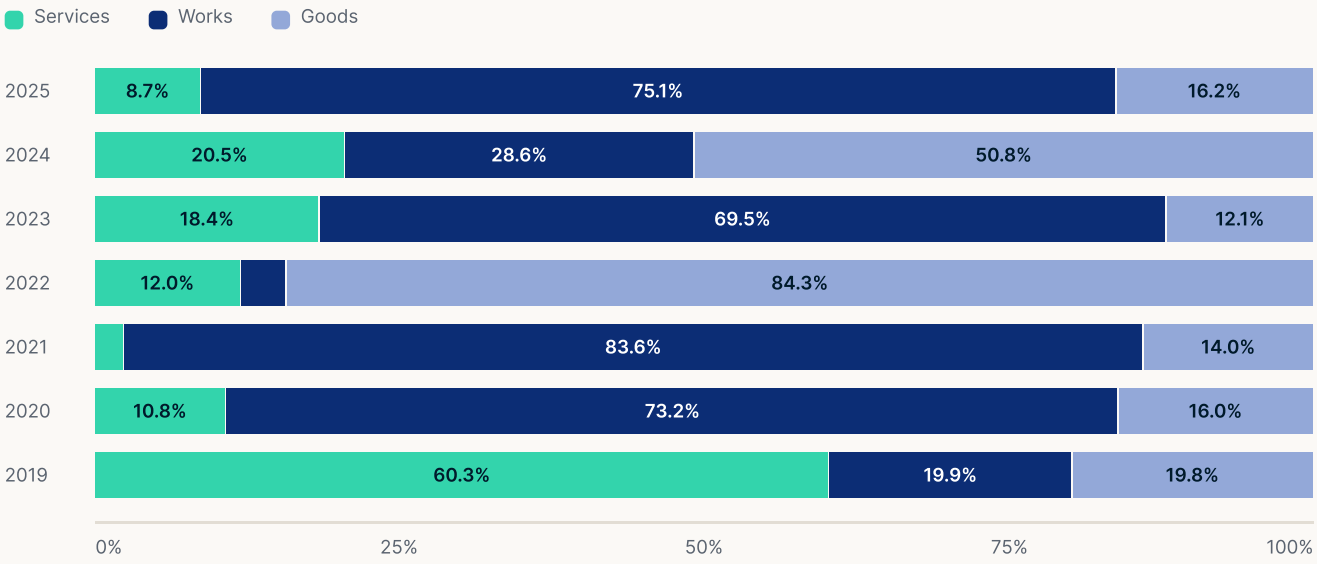
Distribution of the value of cogeneration procurement contracts by goods, works, and services.

YEAR	SERVICES, UAH MILLION	WORKS, UAH MILLION	GOODS, UAH MILLION	TOTAL, UAH MILLION
2025	**378.106**	**3,259.696**	**702.628**	**4,340.430**
2024	468.968	653.739	1,159.410	2,282.117
2023	34.063	128.410	22.344	184.817
2022	7.422	2.305	52.213	61.940
2021	0.821	28.534	4.774	34.130
2020	3.416	23.219	5.086	31.721
2019	1.698	0.562	0.558	2.818
Total	**894.494**	**4,096.465**	**1,947.013**	**6,937.973**

Table 2.2 shows the distribution of the value of cogeneration procurement contracts among goods, works, and services. It makes it possible to assess the absolute value of each category and identify which procurement types shaped the development of the cogeneration segment in different years. Figure 2.2 supplements these data by showing the structural ratio of goods, works, and services in each year.

FIGURE 2.2

Distribution of the value of cogeneration procurement contracts by goods, works, and services.



In 2019–2021, the cogeneration procurement structure was unstable because the absolute base was very low. The total value of contracts remained insignificant during this period: **UAH 2.818 million** in 2019, **UAH 31.721 million** in 2020, and **UAH 34.13 million** in 2021. The pre-war period therefore shows that cogeneration did not yet have a stable procurement model.

In 2022, after the start of the full-scale war, the total value of contracts increased to **UAH 61.94 million**. Goods dominated the structure for that year at **UAH 52.213 million**, or about **84%** of contract value. This structure shows that demand in 2022 was concentrated mainly in the goods segment. Works, by contrast, had a small share of the overall contract structure in the first year of the full-scale war.

In 2023, the total value of contracts increased to about **UAH 184.817 million**. At this stage, the structure changed significantly. Works became the largest component at about **UAH 128.41 million**, or **69.48%** of contract value. Compared with 2022, when goods prevailed, the centre of gravity shifted to works in 2023. Services increased to about **UAH 34.1 million**, or **18.43%**. Therefore, 2023 shows not only an increase in the total value of contracts, but also a change in their internal structure.

The largest changes took place in 2024–2025. In 2024, the total value of contracts reached about **UAH 2.282 billion**. Goods were the largest component at **UAH 1.159 billion**, or **50.80%** of contract value. Therefore, the increase in total contract value in 2024 was accompanied by a stronger role for the goods segment. The procurement structure changed compared with 2023, as the dominance of works gave way to goods. At the same time, works accounted for **UAH 653.739 million**, or **28.65%**, and services for **UAH 468.968 million**, or **20.55%**. This shows that, although goods prevailed in 2024, works and services also had a significant share of the overall contract structure.

In 2025, the structure changed even more clearly. The total value of contracts increased to about **UAH 4.34 billion**. Works became the dominant component at **UAH 3.26 billion**, or **75.11%** of contract value. Goods accounted for **UAH 702.6 million** (**16.18%**), and services for **UAH 378.1 million** (**8.71%**). This distribution indicates a significant increase in the role of works in the overall contract structure.

> Overall, the cogeneration procurement structure shows a changing ratio of goods, works, and services ir 2019–2025. Before the war, the structure was unstable and depended on individual procurements because the absolute base was low. Goods accounted for the main volume of contracts in 2022. Works formed the larges share in 2023. The role of the goods segment increased again in 2024, and works clearly dominated in 2025.

Cogeneration procurement in 2019–2025 was therefore characterised not only by growth in the total value o contracts, but also by a notable change in their internal structure. The most significant changes occurred ir 2024–2025, when procurement volumes increased sharply and the ratio of goods, works, and services became more dynamic. This indicates a change in the procurement profile of the cogeneration segment in 2019–2025.

What this means for the sector

The changing ratio of goods, works, and services in cogeneration procurement shows that this segment is still taking shape. Different types of contracts dominated in different years. Goods accounted for the main volume in 2022, works in 2023, the role of the goods segment increased again in 2024, and works clearly dominated in 2025.

This is important for sector-level interpretation because an unstable procurement structure is typical of a segment that is expanding rapidly and does not yet have an established procurement model. Procuring entities purchase not only individual goods or equipment. They are also gradually creating demand for contracts in which works and practical implementation of solutions play a greater role.

Without further analysis of the subject matter of the contracts, the division into goods, works, and services alone does not show the specific functional purpose of the purchased solutions. Nevertheless, it shows clearly enough that cogeneration is moving towards a more complex procurement model in which works play a growing role alongside goods and services.

SECTION 2 · COGENERATION

2.3 Competition in the cogeneration solutions market

The level of competition in the relevant procurement is a separate dimension of the formation of the cogeneration solutions segment. This indicator is particularly important for a new or rapidly scaling area of procurement because it makes it possible to assess the level of competition within completed procedures.

The number of bidders in procedures describes the competitiveness of procurement, but it cannot by itself clearly determine the reasons for low or high competition.

TABLE 2.3

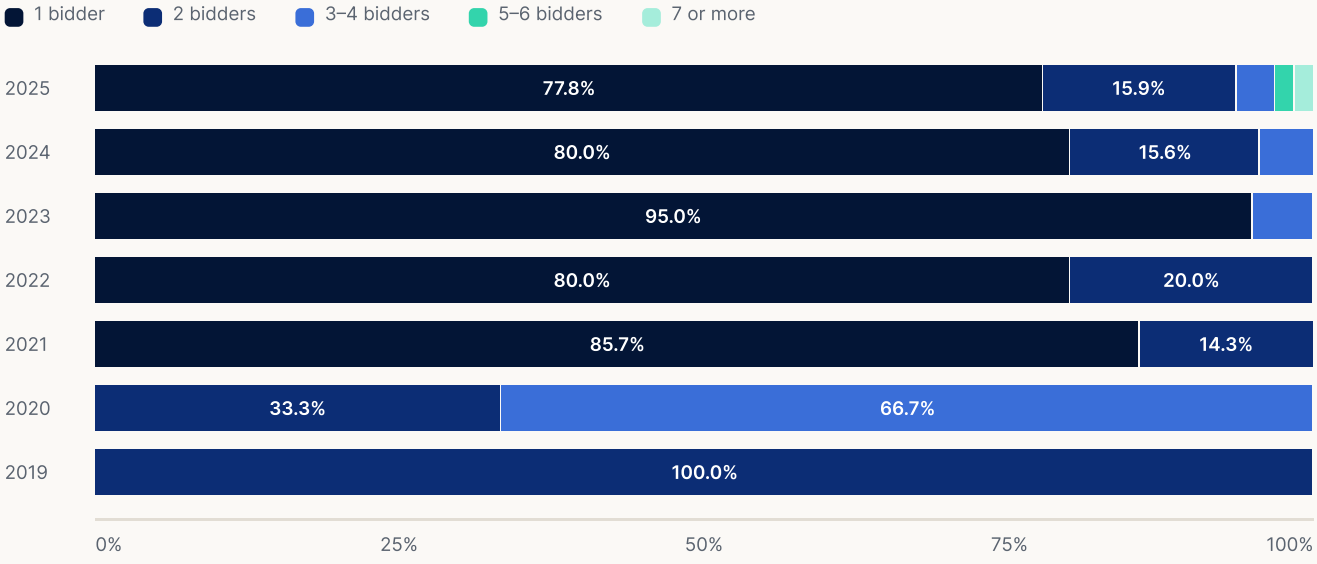
Distribution of competition ranges by number of contracts in competitive cogeneration procurement procedures.

YEAR	1 BIDDER	2 BIDDERS	3–4 BIDDERS	5–6 BIDDERS	7 OR MORE
2025	49	10	2	1	1
2024	36	7	2	0	0
2023	19	0	1	0	0
2022	4	1	0	0	0
2021	6	1	0	0	0
2020	0	2	4	0	0
2019	0	2	0	0	0
Total	**114**	**23**	**9**	**1**	**1**

Table 2.3 shows the distribution of competitive cogeneration procurement procedures by number of bidders in 2019–2025. Figure 2.3 supplements the table by showing changes in the competition structure over time.

FIGURE 2.3

Distribution of competition ranges by number of contracts in competitive cogeneration procurement procedures.



In 2019–2021, the number of competitive cogeneration procurement procedures was very low. With so few procedures, it is too early to draw firm conclusions about the stability of the competitive environment. This period instead reflects the early stage of the area, when cogeneration procurement remained isolated and the available data did not support a conclusion that a broad competitive environment had formed.

In 2022, despite the start of the full-scale war and the growing relevance of local energy solutions, the number of competitive cogeneration procurement procedures remained small at 5. Therefore, the competitive segment of cogeneration procurement did not yet expand significantly in the first year of the full-scale war. The data mainly show a limited number of procedures and a low level of competition within the procurement conducted.

In 2023, the number of competitive procurement procedures increased to 20. At the same time, almost all of them involved one bidder (**95%**).

In 2024–2025, the number of competitive procurement procedures increased significantly to 45 in 2024 and 63 in 2025. This is consistent with the overall scaling of cogeneration described in the previous subsections. However, the competition structure remained concentrated. In 2024, most procedures involved one bidder (**80%**), and this trend continued in 2025 (**77.78%**).

At the same time, signs of a gradual expansion of the competitive environment appeared in 2024–2025. Unlike in 2023, a segment of procedures with two bidders emerged (**15.56%** in 2024 and **15.87%** in 2025). In 2025, there were also individual procedures not only with three to four bidders, but also with five to six and seven or more bidders.

However, such cases remained rare. In 2024–2025, there were only 6 procedures with three or more bidders, or **5.55%** of all competitive procurement procedures during this period. The data therefore indicates limited instances of competition in individual procedures rather than a stable expansion of the competitive environment.

The data in Table 2.3 therefore show that the growing number of competitive procurement procedures ir 2024–2025 was not accompanied by a significant expansion of competition within the procedures. Mos procurement continued to involve one bidder, while procedures with three or more bidders remained rare.

The competition analysis therefore confirms that the cogeneration segment is in an active formation phase Most competitive procurement procedures continued to involve one bidder, while procedures with three o more bidders remained limited.

What this means for the sector

The competitiveness of cogeneration procurement is important not only as a procedural indicator, but also as a sign of the condition of the new segment. The data show that, even as the number and value of procurements increased, most competitive procedures involved one bidder.

At sector level, this means that demand for cogeneration solutions in 2024–2025 grew faster than competition within the procedures. For a new segment, this is an important characteristic of its formation stage. The segment is already expanding in value, but the competitive environment around it remains limited.

These data do not explain all reasons for limited competition. However, they show that the cogeneration segment formed under a high concentration of procurement procedures with the minimum number of bidders.

SECTION 2 MARKERS

4.34 bn
UAH: cogeneration procurement by other procuring entities in 2025

×23
growth in contract value, 2025 vs 2023

75.11%
share of works in cogeneration procurement in 2025

77.78%
of procedures had one bidder in 2025

SECTION 2 SUMMARY

2 Interim conclusion

The analysis of procurement of cogeneration solutions by other procuring entities in 2019–2025 shows the gradual formation of a separate procurement segment. In 2019–2021, contract value remained low and procurement did not have a significant financial scale. Volumes began to grow in 2022–2023, but remained relatively small compared with later trends. The largest increase occurred in 2024–2025, when contract value rose to **UAH 2.282 billion** in 2024 and about **UAH 4.34 billion** in 2025.

At sector level, this trend shows the formation of a new area in thermal generation during the war. Cogeneration is no longer an isolated or financially insignificant area and has entered the practical agenda of a wider range of procuring entities. This is not only an increase in contract value, but also the emergence of a notable area of demand for more local and flexible solutions in thermal generation.

The structure of cogeneration procurement also changed. Before the war, the ratio of goods, works, and services was unstable because the absolute base was low. Goods accounted for the main volume of contracts in 2022. Works formed the largest share in 2023. The role of the goods segment increased again in 2024, and works clearly dominated in 2025. This indicates a change in the internal structure of cogeneration procurement.

For sector-level interpretation, it is important that the cogeneration segment does not have a stable procurement structure: the ratio of equipment, works, and services changes from year to year. This instability may be associated with the scaling-up of the area, but procurement data alone do not allow its stage of technological development to be determined or the exact content of the procured solutions to be specified.

The competition analysis shows that growth in procurement activity in the cogeneration segment was not accompanied by a proportional expansion of competition within the procedures. Most competitive procurement procedures in 2019–2025 involved one bidder. The number of procedures with two or more bidders increased in 2024–2025, but procedures with three or more bidders remained rare.

At sector level, this means that cogeneration procurement expanded in financial terms faster than the competitive environment around it. For a new segment, this is an important characteristic of its formation stage. Demand already has a notable scale, but competition within procedures remains limited. Explaining this concentration requires a separate analysis of the market, the subject matter of procurement, and the supplier environment. In this report, it is recorded as one characteristic of the formation of the new cogeneration segment.

> Section 2 therefore shows that, in 2019–2025, cogeneration procurement by other procuring entities moved from a minor area to a notable and separate segment of procurement demand. The key markers of sectoral change are the sharp increase in contract value in 2024–2025, the unstable structure among goods, works and services, and the continued limited competition. Together, these signals support the view that cogeneration is a notable new area of thermal generation during the war and becomes visible through public procurement.

SECTION 3

A new institutional map of demand: who is shaping the cogeneration segment

03

After analysing financial trends, the procurement structure, and competition, it is important to identify which groups of procuring entities create demand for cogeneration solutions. The key question in this section is not only who buys, but also at what level of the sector the new need is forming: traditional thermal generation, heat supply, municipal infrastructure, local self-government, or sector-specific critical facilities.

This section considers the composition of procuring entities as an indicator of institutional change in the sector. Financial trends show the scale of demand, and the contract structure shows its internal content. An analysis of procuring entities shows how the institutional base of cogeneration is changing. It makes it possible to assess whether cogeneration remains primarily associated with traditional thermal generation or gradually covers a wider range of organisations related to heat supply, urban infrastructure, critical services, and local governance.

This approach considers demand for cogeneration not only as a set of individual procurements, but as an institutional process. In 2024–2025, cogeneration became visible not only through an increase in contract value, but also through the wider range of procuring entities that included this type of solution in their procurement practice.

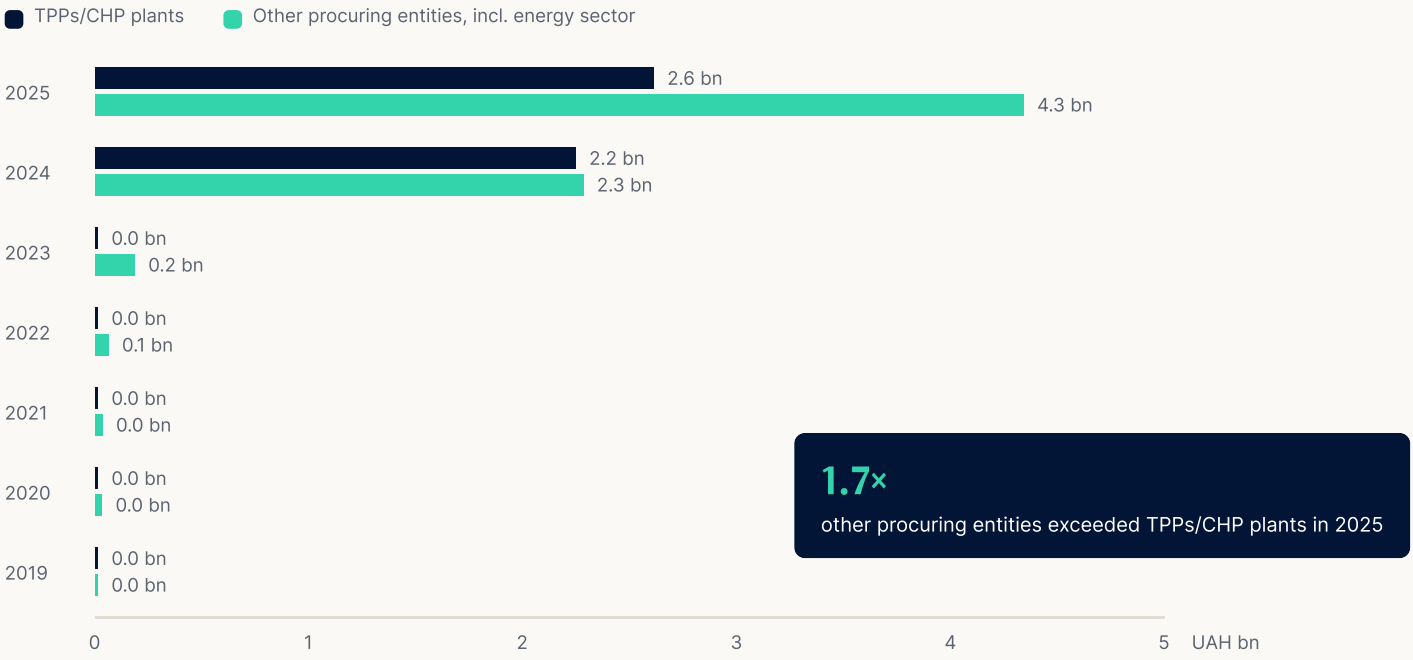
SECTION 3 · PROCURING ENTITIES

3.1 TPPs/CHP plants and other procuring entities

The first step in understanding the institutional structure of demand is to compare cogeneration procurement by TPPs/CHP plants with procurement by other procuring entities. This analysis shows whether demand was concentrated mainly within traditional thermal generation facilities or gradually expanded to other groups of procuring entities.

FIGURE 3.1

Comparison of the value of cogeneration procurement contracts between two groups of procuring entities: TPPs/CHP plants and other procuring entities.



Before the war, in 2019–2021, cogeneration procurement was small in both groups of procuring entities. In the figure, these values are effectively close to zero in UAH billions. This shows that, before the full-scale war, cogeneration procurement did not yet have a notable financial scale in the analysed data.

In 2022, the volume of cogeneration procurement also remained low and did not show a sharp increase. Procurement by other procuring entities was about **UAH 0.1 billion**, while procurement by TPPs/CHP plants for cogeneration needs remained effectively invisible in the value structure.

In 2023, procurement volumes increased but remained much lower than in 2024–2025. Procurement by other procuring entities was about **UAH 0.2 billion**, while TPP/CHP plant procurement was about **UAH 0.1 billion**. Therefore, 2023 may be considered a period of gradual growth, but not yet a stage of large-scale expansion of cogeneration procurement.

The largest increase occurred in 2024. The value of contracts for cogeneration needs awarded by TPPs/CHP plants was about **UAH 2.2 billion**, while contracts awarded by other procuring entities were about **UAH 2.3 billion**. Therefore, the two groups had almost comparable levels of cogeneration procurement by value in 2024.

Growth continued in 2025, but the ratio between the groups changed. TPP/CHP plant procurement for cogeneration needs was about **UAH 2.6 billion**, while procurement by other procuring entities was about **UAH 4.3 billion**. This shows that, in 2025, the value of contracts awarded by other procuring entities exceeded the value of TPP/CHP plant procurement in this segment.

What this means for the sector

The comparison of procurement by TPPs/CHP plants and other procuring entities shows one of the key sector shifts in cogeneration. In 2024, the two groups had almost comparable levels of cogeneration procurement by value. In 2025, the value of contracts awarded by other procuring entities exceeded the value of TPP/CHP plant procurement in this segment.

This means that cogeneration is no longer an area related only to traditional thermal generation facilities. In procurement practice, it is beginning to form as a broader area of demand involving other groups of procuring entities. This records the institutional expansion of the cogeneration segment.

At the same time, these data do not automatically show the specific operating models of the purchased cogeneration solutions. However, they clearly record the changing scale of participation by different groups of procuring entities and shows that demand for cogeneration moved beyond TPPs/CHP plants in 2024–2025.

SECTION 3 · PROCURING ENTITIES

3.2 Clusters of procuring entities in cogeneration

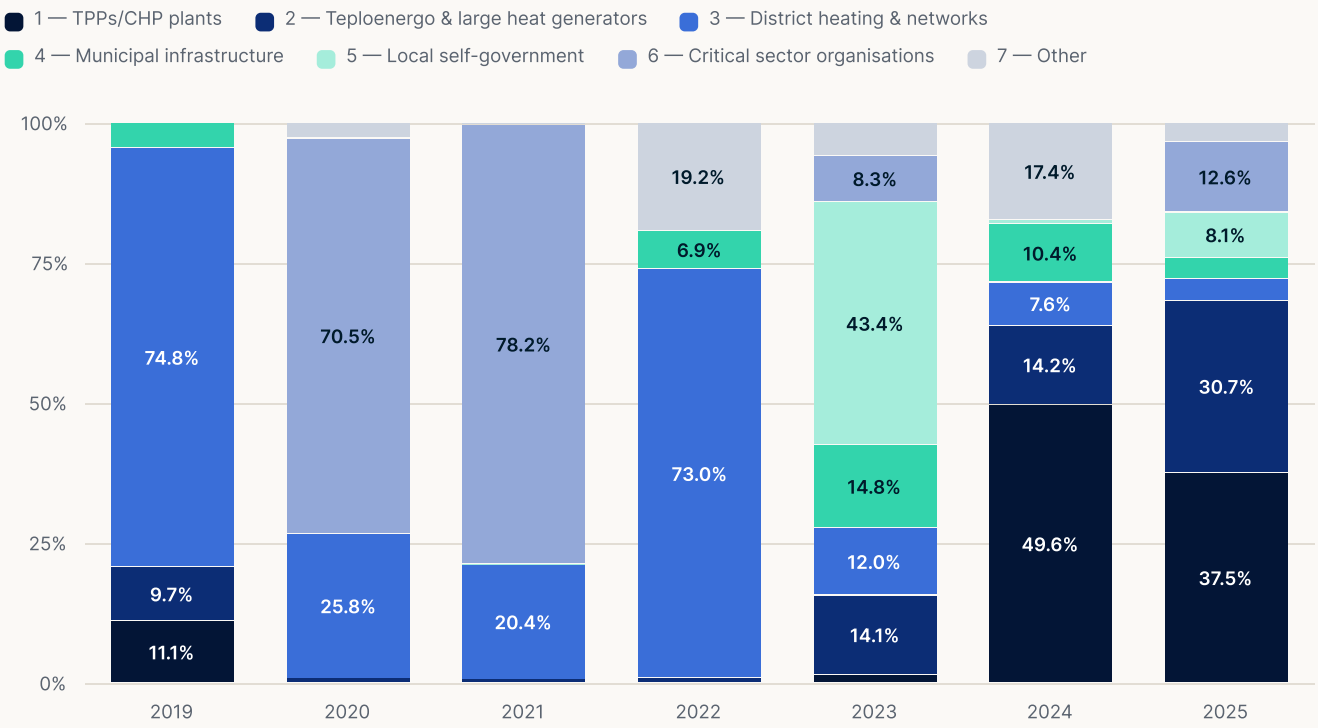
After comparing cogeneration procurement by TPPs/CHP plants and other procuring entities, it is useful to examine in more detail which groups of procuring entities create demand for these solutions. This moves the analysis from a general division into TPPs/CHP plants and other procuring entities to a more substantive analysis of the institutional structure of demand.

Clustering procuring entities is important because, during the war, cogeneration became relevant not only to thermal generation companies but also to the wider system of local resilience. Different groups of procuring entities have different functional roles and areas of activity. Clustering therefore shows which institutional segments create demand.

For the analysis of demand for cogeneration, procuring entities were grouped by functional role and area of activity (see the Research Methodology section).

FIGURE 3.2

Distribution of the value of contracts for cogeneration needs by cluster of procuring entities in 2019–2025.



This approach shows not only the structure of procuring entities, but also the changing role of cogeneration. A concentration of contract value in one cluster indicates that procurement is focused within a particular group of procuring entities. The presence of several significant clusters indicates a more distributed demand structure.

Before the war, the structure of demand for cogeneration was mainly concentrated and unstable. In 2019, **74.82%** of contract value was attributed to cluster 3. This indicates that, at this stage, cogeneration solutions were related mainly to the needs of individual heat supply or municipal heating companies, rather than to a broad model of energy system backup capacity.

In 2020–2021, the centre of demand shifted to cluster 6. Its share was **70.49%** in 2020 and **78.16%** in 2021. This change shows that pre-war demand for cogeneration did not have a stable cross-sector structure. It formed unevenly, and different clusters of procuring entities held the leading position in different years.

In 2022, the structure again became concentrated around the heating and municipal heating segment. The share of cluster 3 increased to **73.02%**, while the share of cluster 6 fell to **19.20%**.

In 2023, the procurement structure became much more diversified. No cluster had a dominant share of more than **70%**, as had been the case in 2019–2022. Local self-government bodies and their executive bodies had the largest share at **43.36%**. Other notable shares included municipal infrastructure at **14.79%**, “teploenergo” utilities and large heat-generation companies at **14.12%**, district heating utilities and heating network operators at **12.02%**, and sector-specific critical organisations at **8.26%**.

This distribution is important because it shows a transition from a concentrated model to a more distributed demand structure. In 2023, cogeneration began to move beyond individual heat supply or sector-specific projects and became a solution used by different types of procuring entities. The growing role of local self-government bodies is particularly significant. It indicates that demand for cogeneration expanded to the level of communities and local essential service systems.

In 2024–2025, the demand structure remained multi-sectoral, while the role of TPPs/CHP plants increased notably. In 2024, cluster 1 accounted for **49.60%** of contract value, and in 2025 for **37.55%**. This means that traditional thermal generation facilities became one of the key demand segments for cogeneration solutions during the scaling of procurement aimed at improving energy resilience.

At the same time, the structure was more balanced in 2025 than in 2024. In addition to TPPs/CHP plants, cluster 2 also had a significant share at **30.72%** of contract value. Sector-specific critical organisations remained notable at **12.55%**, as did local self-government bodies at **8.07%**. This indicates the coexistence of several centres of demand for cogeneration solutions rather than the exclusive dominance of one type of procuring entity.

The importance of Figure 3.2 for the report is that it shows changes in the cluster structure of demand for cogeneration in 2019–2025. Before the war, procurement was mainly concentrated in individual clusters, and different groups of procuring entities held leading positions in different years. In 2022, the structure again became concentrated around the heating and municipal heating segment.

In 2023–2025, a more complex model formed. Cogeneration solutions were procured not only by TPPs/CHP plants and heating companies, but also by municipal, public-utility, and sector-specific critical procuring entities. This indicates an expansion of the institutional structure of demand for cogeneration.

What this means for the sector

The cluster structure of demand shows not only which groups of procuring entities procured cogeneration solutions, but also at what level of the sector the new need formed. In 2023–2025, municipal, public-utility, and sector-specific critical procuring entities played a notable role in procurement alongside TPPs/CHP plants and heating companies.

This is important for sector-level interpretation because cogeneration is gradually moving beyond one type of procuring entity. Demand is forming not only at the level of large thermal generation facilities, but also among organisations related to heat supply, urban infrastructure, local self-government, and critical services.

The cluster analysis shows the institutional expansion of the cogeneration segment. At the same time, the distribution of procuring entities by cluster is not enough to determine the specific functional purpose of the purchased solutions without further analysis of the subject matter of the contracts. Despite this, the institutional base of cogeneration is expanding from traditional thermal generation to heat supply, urban infrastructure, communities, and critical services.

SECTION 3 · PROCURING ENTITIES

3.3 Largest procuring entities in cogeneration

After analysing the cluster structure of demand, it is useful to examine the largest procuring entities for cogeneration solutions separately. This analysis identifies the organisations that account for the largest shares by contract value and number of contracts. It also shows whether demand for cogeneration is dispersed among many procuring entities or concentrated around a limited group.

During the full analysed period of 2019–2025, 132 procuring entities in the cogeneration segment awarded contracts with a total value of about **UAH 11.7 billion**. Most of this value relates to 2024–2025. This confirms the conclusion that cogeneration procurement scaled up during the war.

TABLE 3.3

Top 9 cogeneration procuring entities by share of the value and number of awarded contracts.

PROCURING ENTITY	CONTRACT VALUE, UAH BILLION	SHARE BY VALUE	NUMBER OF CONTRACTS	SHARE BY NUMBER
ME "Kyivteploenergo"	3.295	27.93%	195	8.71%
ME "Kharkiv Heating Networks"	0.924	7.83%	367	16.39%
ME "Kharkiv Metro"	0.807	6.84%	57	2.55%
ME "Kharkivvodokanal"	0.637	5.40%	110	4.91%
LCME "Lvivteploenergo"	0.581	4.92%	62	2.77%
Concern "Municipal Heating Networks"	0.472	4.00%	149	6.65%
ME "Vyshnivskteploenergo"	0.355	3.01%	52	2.32%
ME "Zhytomyrteplokomunenergo"	0.139	1.18%	66	2.95%
ME "Vinnytsiamiskteploenergo"	0.138	1.17%	90	4.02%
Total	**7.347**	**62.28%**	**1,148**	**51.27%**

Table 3.3 contains the top 9 cogeneration procuring entities based on two combined criteria: their share of the total value of contracts and their share of the total number of contracts. This approach includes not only procuring entities with the highest-value projects, but also those that systematically conduct a significant number of procurements.

> Together, the top 9 procuring entities account for about **UAH 7.35 billion**, or **62.28%** of the total value o contracts in the cogeneration segment. They also account for 1,148 contracts, or **51.27%** of the total number This indicates a fairly high concentration of demand. Although a wide range of procuring entities conducts cogeneration procurement, a limited group of the most active organisations accounts for the bulk of the segment by contract value and number of contracts.

The composition of the largest procuring entities has important analytical value. The top 9 show the significant role of municipal enterprises related to heat supply, heating networks, water supply, and urban infrastructure.

At the same time, the ratio between the share by value and the share by number of contracts shows different models of procurement behaviour. Some procuring entities create demand through high-value projects that have a significant effect on the segment's overall financial scale. Other procuring entities have a larger share by number of contracts. This shows the difference between the financial and procedural weight of individual procuring entities.

> The analysis of the largest procuring entities therefore shows that demand for cogeneration is both broad and concentrated. On the one hand, the participation of 132 procuring entities indicates that cogeneration solutions are spreading among different organisations and territories. On the other hand, the concentration o more than **60%** of contract value among the top 9 procuring entities indicates a clearly defined core of demand related mainly to large municipal and critical urban enterprises.

What this means for the sector

The analysis of the largest procuring entities shows that demand for cogeneration is both broad and concentrated. On the one hand, the participation of a significant number of procuring entities indicates an expansion of the institutional base of cogeneration. On the other hand, more than **60%** of contract value and more than half of the contracts are accounted for by the top 9 procuring entities.

At sector level, this means that the group of the most active procuring entities accounts for the bulk of the cogeneration segment by contract value and number of contracts. Their role is important not only because of contract value, but also because these procuring entities may form the practical core of procurement demand for cogeneration solutions.

These data do not support automatic conclusions about typical implementation models or the future use of the purchased solutions. However, they clearly show that the group of the largest procuring entities accounts for the bulk of cogeneration procurement by contract value and number of contracts and is the most active core of public demand in this segment.

3 SECTION 3 SUMMARY
Interim conclusion

The analysis of procuring entities for cogeneration solutions shows that the institutional structure of demand for cogeneration gradually changed in 2019–2025. Before the war, procurement was limited in scale and concentrated in individual groups of procuring entities. Procurement volumes increased in 2022–2023, but remained much lower than in 2024–2025.

The comparison of procurement by TPPs/CHP plants and other procuring entities shows that the two groups had almost comparable levels of cogeneration procurement by value in 2024. Procurement by TPPs/CHP plants also increased in 2025, but the value of contracts awarded by other procuring entities was higher. This indicates that demand for cogeneration solutions is not limited to traditional thermal generation facilities and extends to a wider range of organisations.

For sector-level interpretation, this is important because cogeneration solutions are procured by different groups of procuring entities related to heat supply, municipal infrastructure, local self-government, and critical services. Changes in the composition of procuring entities show the levels at which demand for such solutions is forming.

The cluster analysis confirms the changing demand structure. Different groups of procuring entities held leading positions in different years, and the structure became more distributed in 2023–2025. Municipal, public-utility, and sector-specific critical procuring entities played a notable role in procurement alongside TPPs/CHP plants and heating companies. This indicates an expansion of the institutional base of the cogeneration segment.

At the same time, the analysis of the largest procuring entities shows that demand is not only broad, but also concentrated. Although a significant number of procuring entities participate in the cogeneration segment, more than **60%** of contract value and more than half of the contracts are accounted for by the top 9 organisations. Therefore, the bulk of cogeneration procurement by contract value and number of contracts is accounted for by a limited group of the most active procuring entities.

For the analysis of sectoral change, it is important that the composition of procuring entities complements the picture of financial growth in the cogeneration segment. Trends in contract value show the increasing scale of procurement, while the analysis of procuring entities identifies which groups of organisations are incorporating cogeneration solutions into their procurement practices and at what levels the corresponding demand is forming.

Section 3 therefore shows that, in 2019–2025, demand for cogeneration not only increased in financial scale but also spread to a wider range of procuring entities related to heat supply, municipal infrastructure communities, and critical services. At the same time, the bulk of procurement remains concentrated among the most active organisations. The combination of a broader range of procuring entities and concentration of the bulk of procurement is one of the key markers of sectoral change reflected in cogeneration procurement.

SECTION 3 MARKERS

What changed: key figures

132
cogeneration procuring entities in 2019–2025

62.28%
of contract value is accounted for by the top 9 procuring entities

1.7×
other procuring entities exceeded TPPs/CHP plants in 2025

43.36%
share of local self-government bodies in 2023

KEY FINDINGS

General conclusions

The analysis shows that in 2019–2025 notable changes occurred in thermal generation and were reflected in public procurement through changes in procurement value, contract structure, competition levels, and the composition of procuring entities. In this report, these indicators are treated as markers of broader processes in the sector—changes in the practical needs, priorities, and behaviour of procuring entities during the war.

Procurement data do not replace a technical analysis of the condition of energy facilities, the reasons for management decisions, or the actual use of purchased solutions. However, it shows which areas gain greater financial weight, which types of contracts become more important, which groups of procuring entities become more active, and where new demand is forming. The report uses this lens to analyse TPP/CHP plant procurement and procurement of cogeneration solutions. Procurement data therefore make it possible not only to describe procurement activity, but also to identify the key areas of structural change in the sector.

01 After 2022, TPP/CHP plant procurement activity reached a much higher financial level

In 2019–2021, the value of TPP/CHP plant contracts gradually increased and then fell in 2022. From 2023, the financial scale of procurement increased significantly and exceeded the pre-war figures. This indicates not only a change in procurement trends, but also a move by TPPs/CHP plants to a different operating model during the war. In this model, public procurement related to the needs of large thermal generation facilities became substantially larger in value.

02 The changing TPP/CHP plant procurement structure shows the growing role of works

Before the war, works and goods formed the main value of contracts, while services had a smaller share. Goods became the largest component in 2022. In 2023–2025, the role of works increased significantly again, and they became one of the key components of contract value. This indicates that the financial growth in procurement after 2022 was accompanied by a change in its internal structure. At the same time, the category of works is broad; therefore, without further analysis of the subject matter of the contracts, the entire increase cannot be attributed to specific types of recovery, reconstruction, or other infrastructure measures. Nevertheless, the changing ratio of goods, works, and services remains pronounced enough to confirm a stronger infrastructure component in the TPP/CHP plant procurement model after 2022.

03 The growth of TPP/CHP plant procurement was not accompanied by a proportional expansion of competition

A significant share of competitive TPP/CHP plant procurement in 2019–2025 involved one or two bidders. Procedures with two bidders had the largest share in 2019–2020. From 2021, procedures with one bidder became the largest group. This group remained dominant in 2023–2025. This means that the value of centralised thermal generation procurement increased while competition within procedures remained limited.

04 A notable cogeneration component appeared in TPP/CHP plant procurement in 2024–2025

Until 2023, the share of contracts for cogeneration needs in the total value of TPP/CHP plant contracts was absent or statistically insignificant. In 2024–2025, it became notable and exceeded **12%** of the total contract value in each year. This indicates the formation of an additional area of procurement demand within traditional centralised thermal generation. The report does not consider cogeneration as a replacement for TPPs/CHP plants. It is considered a separate area that becomes visible through the changing procurement structure.

05 Outside TPPs/CHP plants, a separate segment of procurement demand for cogeneration emerged

In 2019–2021, cogeneration procurement by other procuring entities remained insignificant in financial terms. It increased in 2022–2023, but remained limited in value. The largest increase occurred in 2024–2025, when contract value rose to about **UAH 2.282 billion** in 2024 and **UAH 4.34 billion** in 2025. At sector level, this means that in 2024–2025 cogeneration procurement was no longer isolated or financially minor and became a separate, notable segment of procurement demand in thermal generation during the war.

06 The internal structure of cogeneration procurement indicates that the new segment is still taking shape

Because the absolute base was low before the war, the ratio of goods, works, and services was unstable. Goods accounted for the main volume of contracts in 2022. Works formed the largest share in 2023. The role of the goods segment increased again in 2024, and works clearly dominated in 2025. This trend shows that the cogeneration segment does not yet have a fully established procurement model, but is quickly developing a more complex internal structure.

07 The competitive environment in cogeneration procurement did not expand in proportion to the growth in demand

The competition analysis shows that most competitive cogeneration procurement procedures in 2019–2025 involved one bidder. The number of procedures with two or more bidders increased in 2024–2025, but procedures with three or more bidders remained rare. This indicates that the segment expanded in financial terms faster than competition increased within procurement procedures.

08 Demand for cogeneration expanded beyond TPPs/CHP plants

The comparison of procurement by TPPs/CHP plants and other procuring entities shows that the two groups had almost comparable levels of cogeneration procurement by value in 2024. In 2025, the value of contracts awarded by other procuring entities exceeded the value of TPP/CHP plant procurement in this segment. This is one of the key sector shifts. Cogeneration is no longer confined to traditional thermal generation facilities and is beginning to form as an area of demand among a wider range of procuring entities.

09 The cluster structure shows a more distributed map of demand

Before the war, cogeneration procurement was concentrated in individual clusters, and different groups of procuring entities held leading positions in different years. In 2023–2025, the structure became more distributed. Municipal, public-utility, and sector-specific critical procuring entities played a notable role in procurement alongside TPPs/CHP plants and heating companies. This means that demand for cogeneration is forming not only at the level of large generation facilities, but also in heat supply, urban infrastructure, communities, and critical services.

10 The expansion of demand is accompanied by a concentration of contract value among the most active procuring entities

The analysis of the largest procuring entities shows that demand for cogeneration is both broad and concentrated. On the one hand, the participation of a significant number of procuring entities indicates an expansion of the institutional base of cogeneration. On the other hand, more than **60%** of contract value and more than half of the contracts are accounted for by the top 9 procuring entities. This identifies the group of organisations that accounts for the bulk of the new segment by contract value and number of contracts.

KEY CONCLUSION

Together, these markers of sectoral change show that in 2019–2025 not only the volume of procurement in thermal generation changed. The contract structure changed, the role of individual procurement types increased, a cogeneration segment formed, and demand for energy solutions became more distributed among different groups of procuring entities.

Public procurement therefore shows not only expenditure volumes, but also changes in the sector's practical priorities. In thermal generation, the key manifestations of this transformation were the sharp increase in the financial scale of procurement after 2022, the stronger role of works, the emergence of cogeneration as a separate area, and the expansion of demand beyond traditional TPP/CHP plant facilities. Procurement data do not replace a technical audit of the sector and do not confirm that procured capacity has actually been commissioned. At the same time, they make it possible to see changes in the scale and structure of demand, the level of competition, and the composition of procuring entities. The report should therefore be read not only as a procurement analysis, but also as an analysis of markers of sectoral change reflected in public demand data.