

Comprehensive Urgent Needs of the Government of Ukraine in Energy Equipment (both Ministry of Energy and Ministry for Development of Communities and Territories):

I. Power supply

1. Power Equipment

1.1. Power Transformers and Autotransformers

- **750/330 kV: 500 / 750 / 1000 MVA – 4 pcs**
- **330/110/35 kV: 200 / 250 / 300 / 400 MVA (incl. 330/110 kV autotransformers) – 5 pcs**
- **110/35/10 kV: 16–40 MVA (incl. 25 MVA) – 34 pcs**
- **150/35/10 kV: 25–63 MVA (incl. 40 MVA) – 14 pcs**
- **35/10 kV, 35/6 kV: 2.5 / 4 / 6.3 / 10 / 16 MVA – 47 pcs**

1.2. Circuit Breakers

- **SF₆ 750 kV: 36 pcs**
- **SF₆ 330 kV: 143 pcs**
- **SF₆ 110 kV: 64 pcs**
- **SF₆ 150 kV: 64 pcs**
- **Vacuum 35 kV: 145 pcs**
- **Vacuum 6–10 kV: 368 pcs**

1.3. Disconnectors (Isolators)

- **750 kV, 330 kV, 110 kV, 150 kV, 35 kV: 743 pcs**

1.4. Current and Voltage Transformers

- **750 kV, 330 kV, 110 kV, 150 kV, 35 kV, 6–10 kV: 1,016 pcs**

1.5. Surge Arresters

- **750 kV, 330 kV, 110 kV, 150 kV, 35 kV, 10 kV: 361 pcs**

1.6. Insulators and Bushings

- **Bushings (110 / 150 / 330 kV, RIP/RIS): 80 pcs**
- **Post insulators 35–110 kV: 2,109 pcs**

2. Switchgear and Substation Equipment

- **KRU / KRUN 6–10 kV:** 78 pcs
- **GIS / compact switchgear 35 kV (KRPZ):** ~3 kits
- **Enclosed & modular substations:** ~8 kits

3. Cable Products

- **Power cables 6–10 kV:** >10 km
- **Control cables (KVVG or equivalents):** >50 km
- **Cable joints/terminations:** >500 kits

4. Auxiliary Equipment

- Transformer oil (T-1500, Nytro, equivalents)
- Battery systems 110–220 V DC & chargers – **>21 pcs**
- Mobile substations 25 MVA, 150/35/10(6) kV – **10 pcs**

5. Electricity Generation (Diesel and Backup Power)

5.1. Diesel and Autonomous Generators (Consolidated)

Total: over **1,950 units**, total installed capacity **>530 MW**

By capacity range:

- 0.1 MW - approx. 1,100 units
- 0.1–0.6 MW - approx. 460 units
- 1–5 MW - approx. 230 units
- ≥ 5 MW - approx. 50 units

(including energy facilities, district heating, water supply companies, and mobile reserve stock)

II. Heat Generation

6. Cogeneration and Heat Generation Equipment

6.1. Cogeneration Equipment

- 30–100 kW – 67 pcs
- 0–1 MW: 196 units (51.23 MW)
- 1–2 MW: 51 units (60.4 MW)

- 2–5 MW: 54 units (162.1 MW)
- 5–10 MW: 24 units (190.3 MW)

6.2. Modular Boiler Houses

- 0–0.5 MW: 44 units (10.72 MW)
- 0.5–1 MW: 52 units (32.6 MW)
- 1–2 MW: 89 units (103.44 MW)
- 2–5 MW: 59 units (160.6 MW)
- 5–10 MW: 18 units (110.16 MW)
- 10–20 MW: 10 units (110 MW)

7. Electric Motors (or equivalents)

(for district heating enterprises)

- 4AZM 5000/6000, 6 kV, 5000 kW, 2982 rpm - 1 unit
- DAZO-15-49-8/10, 6 kV, 630/320 kW, 734/595 rpm - 6 units
- AO2-92-4U2, 0.4 kV, 11 kW, 750 rpm - 2 units
- 4AM160M8UZ, 0.4 kV, 11 kW, 730 rpm - 2 units
- AIR160M8UZ, 0.4 kV, 11 kW, 730 rpm - 1 unit
- A02-81-2, 0.4 kV, 40 kW, 2920 rpm - 1 unit
- 4AMN225M2, 0.4 kV, 90 kW, 2930 rpm - 3 units

III. Water supply and heat supply Companies

9. Diesel generators water supply: ~869 units (335.3 MW)

- 0–0.1 MW: 586 units (17.54 MW)
- 0.1–0.6 MW: 169 units (38.64 MW)
- 1–5 MW: 107 units (203.82 MW)
- 5 MW: 7 units (75.3 MW)

10. Diesel generators heat supply: ~543 units (196,66 MW)

- 0–0.1 MW: 364 units (13,04 MW)
- 0.1–0.6 MW: 121 units (25.2 MW)
- 0.6 - 1 MW: 9 units (7.16 MW)
- 1 – 5 MW: 45 units (98,76MW)
- 5 – 22,5 MW: 4 units (52,5 MW)

The total requirement water and heat supply amounts to – 1412 units (531,96 MW)

IV. Mobile Equipment Fund/Stock:

Operator: SARDI: STATE AGENCY FOR RESTORATION AND DEVELOPMENT OF INFRASTRUCTURE

Block-modular boiler houses:

- 1–3 MW: 586 units (1,284,185.23 kW heat power)

Diesel generators:

- AVR 1.5 MW: 136 MW (funded via state budget)

V. Urgent need for cogeneration for the city of Kyiv (Kyivteploenergo Municipal Enterprise)

- Gas reciprocating unit (GPU) 2.3 MW 11 units
- Gas reciprocating unit (GPU) 2.5 MW 19 units
- Gas reciprocating unit (GPU) 4.5 MW 20 units
- Gas reciprocating unit (GPU) 5.0 MW 2 units
- Gas reciprocating unit (GPU) 10.0 MW 5 units
- Gas turbine unit (GTU) 57 MW 2 units
- Steam turbine unit (STU) 46 MW 1 unit
- Battery energy storage system (BESS) 10 MW 2 units