GOVERNMENT OF MONGOLIA

THE MINISTRY OF ENERGY

Heat supply and renewable energy policy planning

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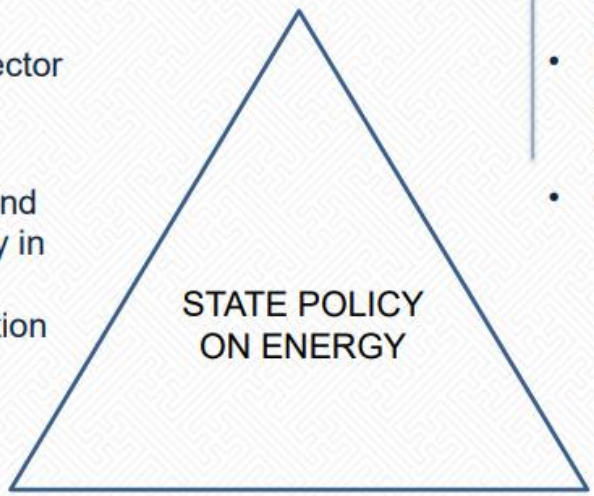
MINISTRY OF ENERGY

POLICY OF ENERGY OF MONGOLIA

PRIORITY AREAS AND STRATEGIC GOALS



SAFETY

- Ensure energy safety and reliable supply
- Develop mutually beneficial cooperation with regional countries
- Develop a human resource

EFFICIENCY

- Transfer the state dominated energy sector into private based competitive market
- Support innovation and advanced technology in energy sector, and implement conservation policy

ENVIRONMENT

- Increase the production share of renewables and reduce negative environmental impact from traditional power generation and greenhouse gas

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POLICY OF ENERGY

long-term development policy

Mongolia's long-term development policy

Vision-2050

THE NEW RECOVERY POLICY

Medium-term development policy

- Development target program
- Five-Year Development Guidelines for Mongolia
- Five-year guidelines for province, capital city and city development

Short-term development policy

- ACTION PLAN OF GOVERNMENT
- Governor's action plan
- Annual national development plan
- Budget

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THE NEW RECOVERY POLICY

•THE PURPOSE OF NEW RECOVERY POLICY

•Reduce the negative impact of the coronavirus infection pandemic on the economy

•Promptly address development barriers and expanding economic foundation

•Effectively implementing the “Vision-2050” long-term development policy of Mongolia

- •RECOVERY OF BORDER PORT
- •ENERGY RECOVERY
- •INDUSTRIAL RECOVERY
- •URBAN AND RURAL RECOVERY
- •RECOVERY THROUGH GREEN DEVELOPMEN
- •RECOVERY OF THE PUBLIC PRODUCTIVITY

•**RESOLUTION OF PARLIAMENT OF MONGOLIA No 106 of 2021**

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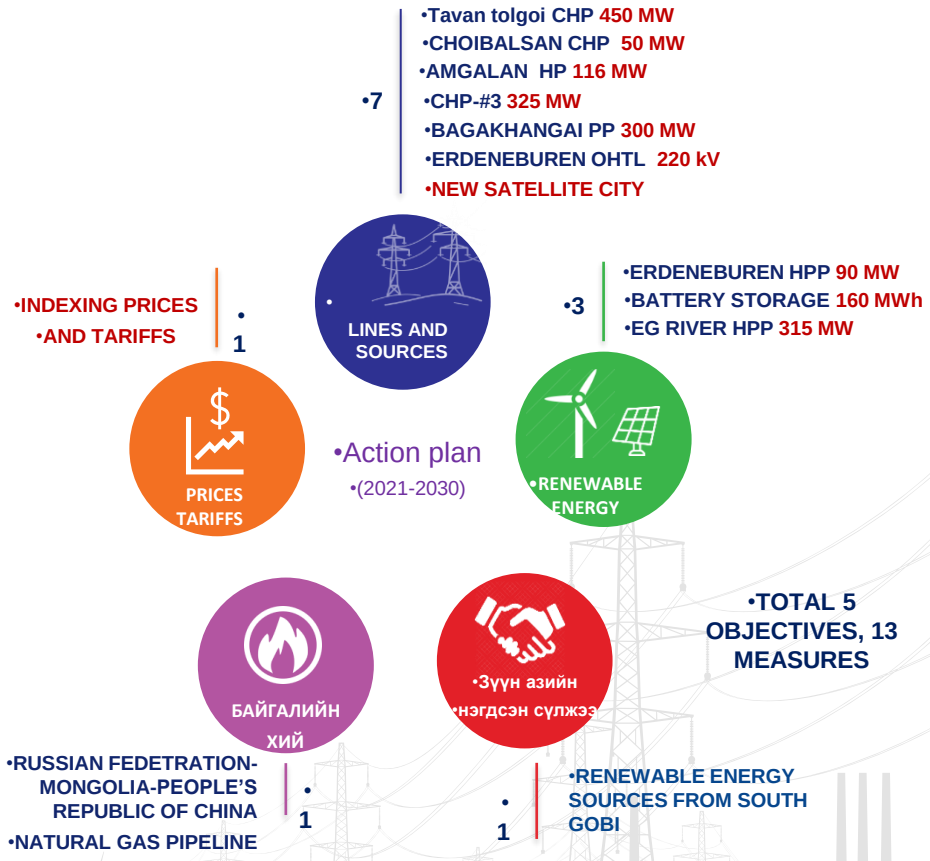
ENERGY RECOVERY

THE PURPOSE OF ENERGY RECOVERY

- New energy sources and transmission and distribution networks shall be established and their existing capacity shall be enhanced, and the reliability of energy production and supply shall be improved.
- Renewable energy facilities shall be developed in an appropriate ratio where the water facilities and stored resource stations shall be built for ensuring the reliability and stability of the integrated energy system.
- In certain phases, the energy sector shall be transferred into an independent financial and economic system.
- Actions shall be taken to ensure the preparation of the high voltage aerial transmission lines and substations for connecting to the renewable energy source and network within the Northeast Asian integrated energy grid.
- The construction of a natural gas pipeline from the Russian Federation to the People's Republic of China through the territory of Mongolia shall be boosted.



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ENERGY DEVELOPMENT PROJECTS

FOR 22 DEVELOPMENT PROJECTS, TOTAL REQUIREMENT INVESTMENT **14.9 TRILLION MNT**.

•6 •CAPACITY EXPANSION PROJECTS OF CHPS

- •CHP-3 325 MW
- •CHP-2 100 MW
- •CHOIBALSAN CHP 50 MW
- •AMGALAN TP 116 MW (100 Gcal/h)
- •CHP-4 boiler 500 ton/h
- •GAS SOURCES 219 MW (185 Gcal/h)

•TOTAL: **4,233.0** BILLION

•5 •PROJECTS TO BUILD NEW ENERGY SOURCES

- •Tavantolgoi CHP 450 MW
- •ERDENEBUREN HPP 90 MW
- •EG RIVER HPP 315 MW /Research/
- •BAGAKHANGAI PP 300 MW
- •BAGANUUR CHP 400 МВт

•**TOTAL**: **9,128.8** BILLION

•7 •POWER SUBSTATION, DISTRIBUTION AND TRANSMISSION GRIDS PROJECTS

- •ERDENEBUREN-MYANGAD-ULIASTAI 468 km
- •TAVANTOLGOI CHP-OYUTOLGOI 167 km
- •SAINSHAND-TSAGAANSUVARGA 204 km
- •BAGANUUR-CHINGIS-CHOIBALSAN 518 km
- •BAGANUUR-CHOIR 188 km
- •MANDALGOBI-ARVAIKHEER 287 km
- •BAGANUUR-NALAIKH-ULAANBAATAR 130 km

•TOTAL: **1,280.7** BILLION

•4 •ENVIRONMENTALLY FRIENDLY POWER PROJECTS BASED ON SCIENCE AND ADVANCED TECHNOLOGIES

- •NUCLEAR ENERGY
- •HYDROGEN
- •LNG
- •RENEWABLE ENERGY,
- •solar 35 MW, Wind 15 MW

•TOTAL: **329.1** BILLION

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CURRENT SITUATION OF THE MONGOLIAN ENERGY SECTOR

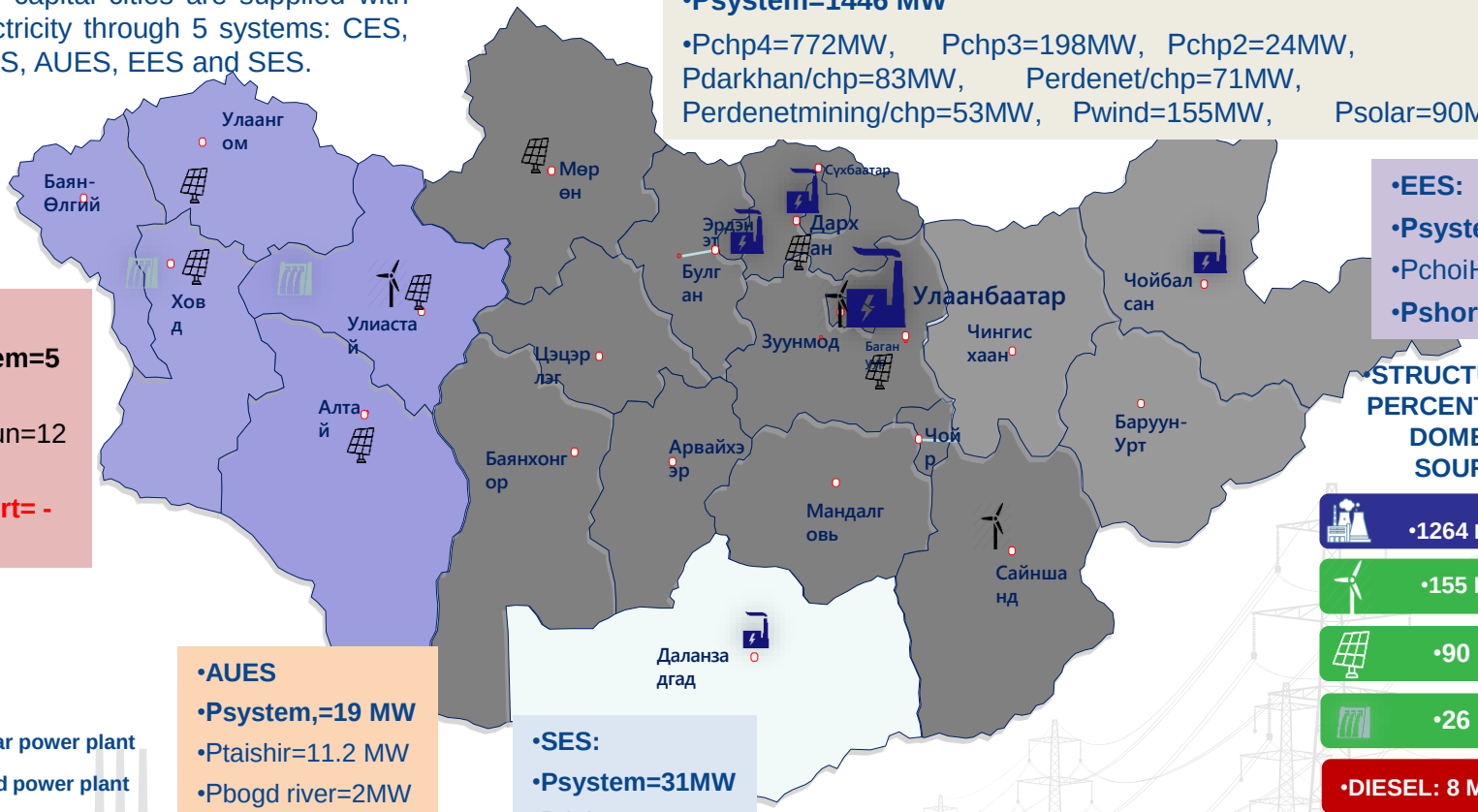
•5 ENERGY SYSTEMS IN MONGOLIA

•In Mongolia, 330 soums, towns and capital cities are supplied with electricity through 5 systems: CES, WES, AUES, EES and SES.

•Central Energy System:

•Psystem=1446 MW

•Pchp4=772MW, Pchp3=198MW, Pchp2=24MW, Pdarkhan/chp=83MW, Perdenet/chp=71MW, Perdenetmining/chp=53MW, Pwind=155MW, Psolar=90MW



•WES:

•Psystem=50MW

•Pdurgun=12 MW

•Pimport= -38MW

•EES:

•Psystem=86 MW

•PchoiHPP=36 MW

•Pshortage= - 50 MW

•STRUCTURE AND PERCENTAGE OF DOMESTIC SOURCES

- •1264 MW, 81,9%
- •155 MW, 10,0%
- •90 MW 5,8%
- •26 MW, 1,7%
- •DIESEL: 8 MW, 0,6%
- •TOTAL 1544 MW

•AUES

•Psystem,=19 MW

•Ptaishir=11.2 MW

•Pbogd river=2MW

•Pother HPP=1MW

•Pdiesel=4MW

•Psolar=0.25MW

•SES:

•Psystem=31MW

•PdalCHP=9MW

•Phspp=18MW

•Pdiesel=4MW

- •Solar power plant
- •Wind power plant
- •Hydro power plant
- •Thermal power plany

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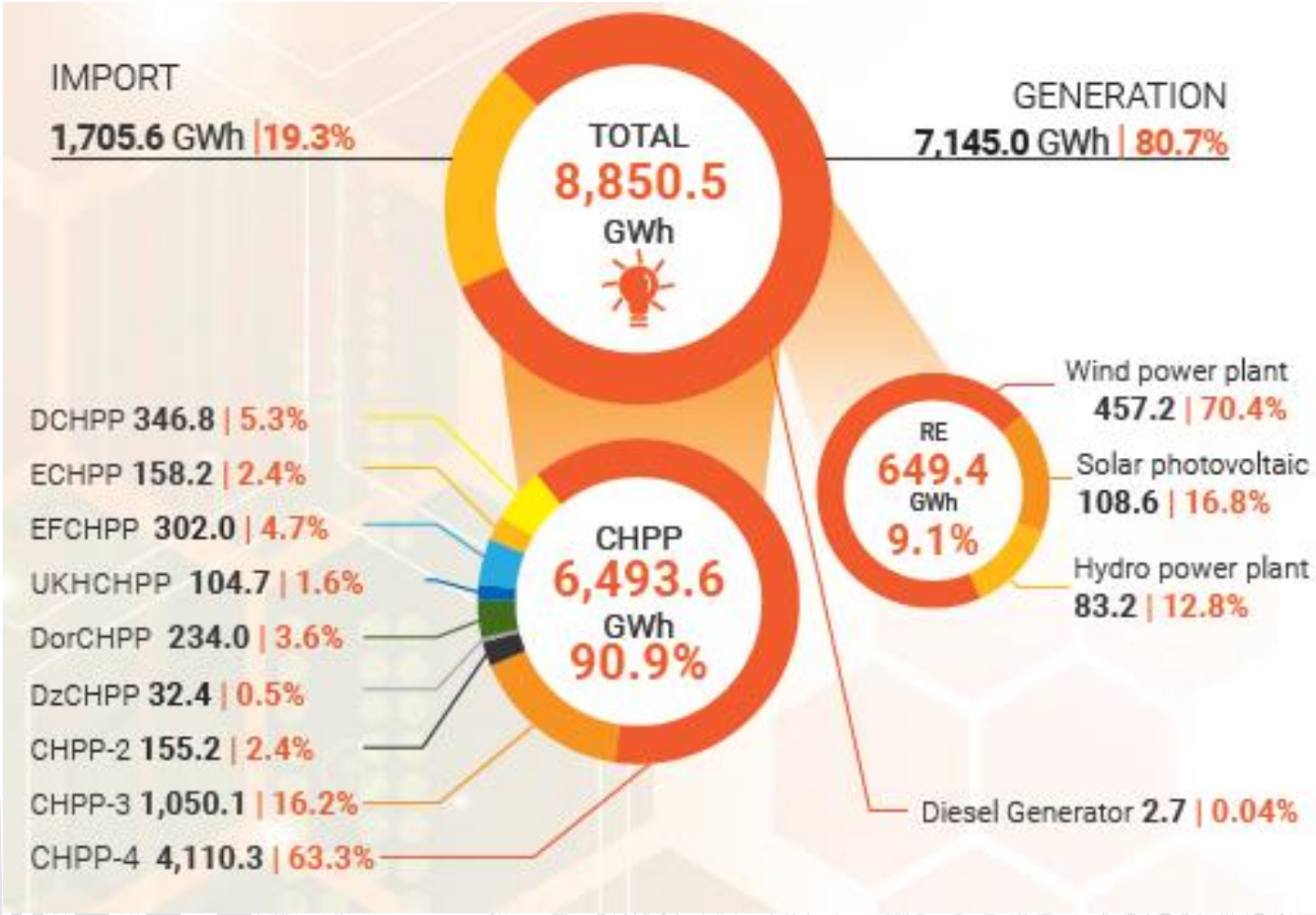
STRUCTURE AND IMPORT OF ELECTRICITY GENERATION IN MONGOLIA



Source: Energy Regulatory Commission of Mongolia /2020/

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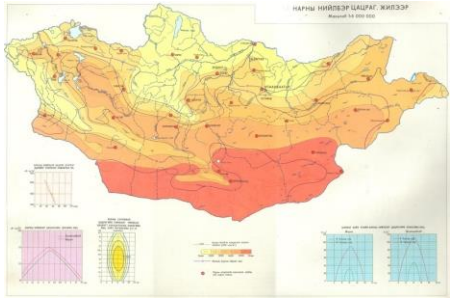
Renewable energy resources of Mongolia

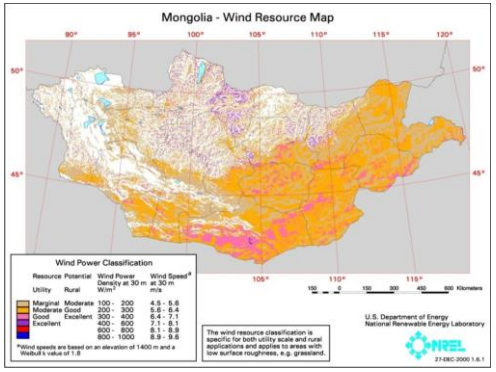
SOLAR TIME (2,250-3,300 hour)



1,200-1,600kW*h

(Years of solar radiation)

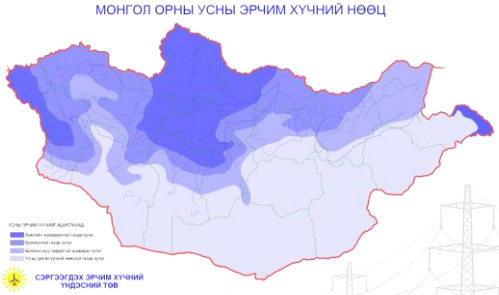
WIND AREA (620,000 km2)



1,100,000 MW 2.5 Trillion kWh

TOTAL 13,000 TW (year)

HYDRO ENERGY (3800 rivers and streams)



6417.7 MW

56.2 Billion kWh (yers)

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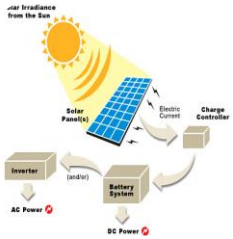
PRIMARY ENERGY

Liquid fuel

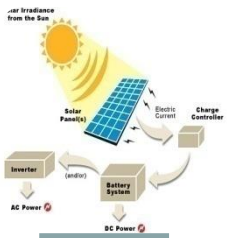
Biomass

Natural gas

Coal



Renewable energy



БАЙГАЛИЙН ХИЙ

Heating, ventilation, hot water

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RENEWABLE ENERGY ENHANCEMENT PROJECT IN THE WESTERN REGION

•Renewable Energy Enhancement Project in the Western Region /Solar 35MW, Wind 15MW/

- Khovd Myangad 10 MW Solar Power Plant,
- Uvs Umnugobi 10 MW Wind farm,
- Gobi-Altai, Yesun-Bulag 10 MW Solar Power Plant ,
- Gobi-Altai, Altai300 kW Solar Power Plant,
- Zavkhan, Uliastai 5 MW Solar Power Plant,
- Zavkhan, Telmen 5 MW Wind farm,

•By project:

- Reduce transmission and distribution network losses.
- Imported electricity will be reduced by 40 MW.
- It will be supplied with green energy without carbon emissions.
- With the commissioning of Erdeneburen HPP in 2027, it will be possible to fully supply renewable energy to the electricity consumption of 5 Western aimags.

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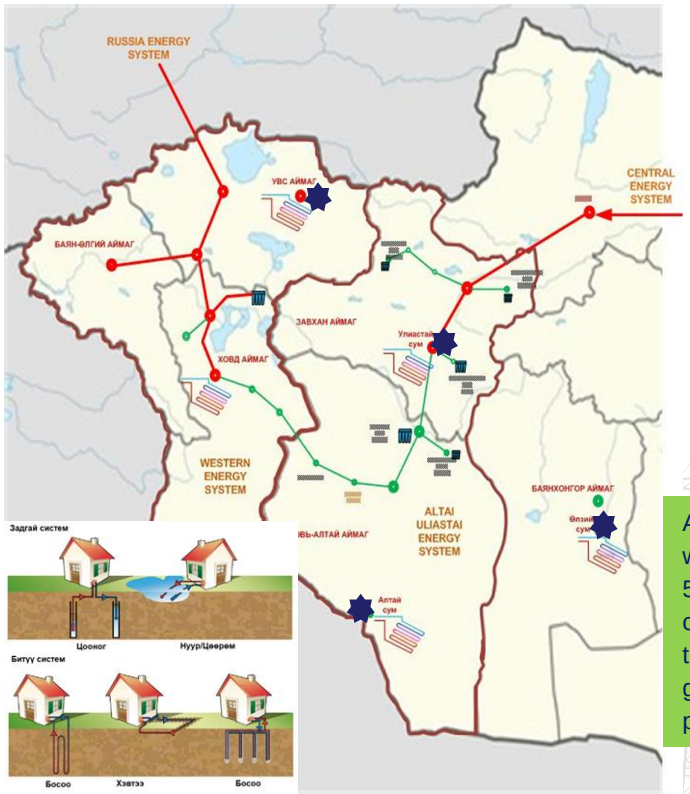
HEAT SUPPLY RENEWABLE ENERGY PROJECTS

I

135 kW and a 10 kW solar heat collector were installed in the heating supply in Jargalant soum, the center of Khovd province.

II



•A 70 kW ground heat pump will be installed in Zavkhan province.

III

A 150 kW ground heat pump will be installed at School No. 5 in Ulaangom soum, the capital of Uvs province, and at the Altai soum hospital and governor's office in Gobi-Altai province..

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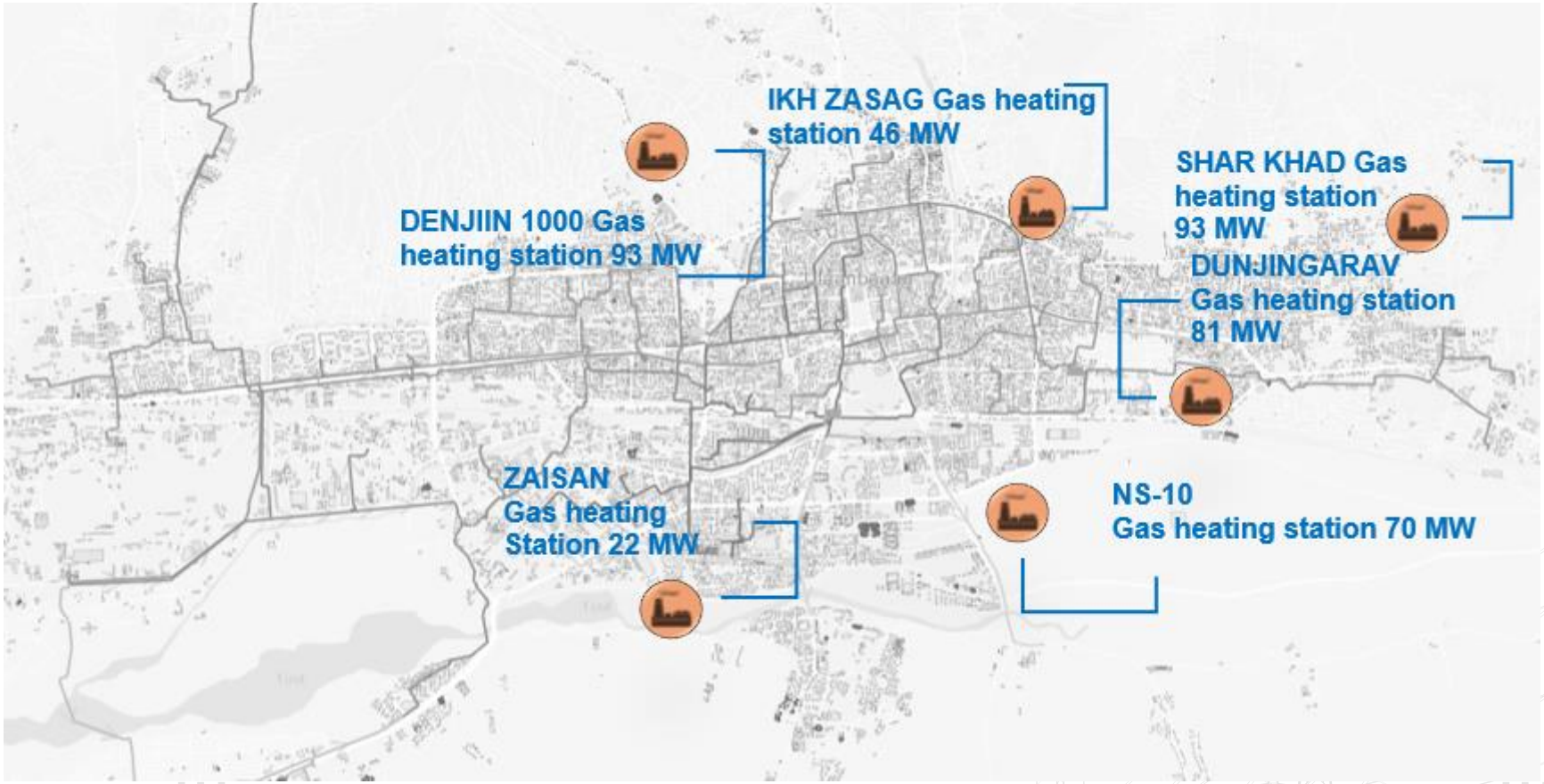
GAS HEATING STATIONS



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THANK YOU FOR YOUR ATTENTION!