

ANALYSIS OF INNOVATION AND ECONOMIC ACTIVITY OF HEAT ENERGY INDUSTRY ENTERPRISES OF THE REPUBLIC OF UZBEKISTAN

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"Investment program of the Republic of Uzbekistan for 2022-2026" of the President of the Republic of Uzbekistan dated December 30, 2021 confirmation and investment projects of management new approach and mechanisms on introduction" No. PQ-72 to the decision mainly, the Society plans to implement 4 projects on the construction of new steam-gas and gas turbine installations with a total capacity of 2.3 thousand MW, including:

1. "Talimarjon IES common power 900 MW from less didn't happen the next two steam-gas turbine to build with expand" investment project (planned to be launched in 2024-2025);
2. "Tashkent In IEM power 32 M Whitley 2 ta Gas turbine device construction" investment project (planned to be launched in 2024);
3. The third steam-gas plant with a capacity of 650 MW at "Navoiy IES" JSC construction" investment project (2025 in to work lowering planned);
4. "Construction of the fourth steam-gas plant with a capacity of 650 MW at Navoiy IES" JSC" investment project (2026 in to work lowering planned).

Also, in addition to the projects included in the Investment Program, work is being carried out on several projects in cooperation with foreign companies, including:

Increase the capacity of power stations and centers in the system by installing "environmentally clean" combined energy equipment, modernize and re-equip power stations, allow maximum use of technical resources of existing power units and improve their technical and economic indicators, adjust their generation capacity to cover the highest loads of the power system mode to use enable giver devices current to do A Memorandum was signed between the Society and the Italian companies "AC BOILERS SpA", "ANSALDO ENERGIA" and IMAGRO in order to improve the skills of employees .

Available out of date powers modernization in the direction of making , taking into account the fact that traditional energy devices have significant technical potential, ensuring their economical and efficient operation in order to 2030 up to IES and in IEMs is available physically modernization and technical re-equipment of obsolete power units is also planned.

Due to the modernization of existing facilities with financing without state guarantees, the following will be achieved:

- of energy devices work release power almost 3 by the way increases;
- power plants FIK 31 % from almost 60 to % increases;
- consumption to be done natural gas the amount 2 equal to decreases;
- energy devices work period 25-30 per year extends;
- construction expenses relatively lack of (1 kW hour for an average of US\$500).

Including:

- Tashkent at IES is available steam in the turbine powers 1 or 2 and 7 or in energy blocks No. 8 modernization their work perform with 340 MW has been one gas turbine the device installation (monoblock). In this two of the energy block total capacity of 990 MW ($GT-340+PT-155=495*2=990$ MW) will be delivered.

- Installation of two gas turbines with a capacity of 200 MW each to the existing steam turbines in the modernization of "Tachiatosh IES" JSC (power units No. 7 and 8) and Navoi IES (power units No. 11 and 12) (Double block), total capacity is 600 MW ($GT-200+GT-200+BT-200=600$ MW).

- Installation of a new K-50-1.3 turbine with a capacity of 50 MW instead of the PT-60-90/13 type turbounit number 3 (not in use) at "Fergona IEM" JSC (with full use of auxiliary equipment) and, as a result, the 6th or 7th full use of turbo units;

- At Mubarak IEM, the total capacity of Mubarak IEM is 60 from MW An increase to 160 MW is planned.

Generation powers 2030 up to forecast indicators have also been developed and it is presented in table 1 below.

Commissioning of new production capacities in the energy system, new hydro electricity stations construction, the wind and the sun due to the establishment of electricity production based on power stations, the physically outdated energy equipment of IES and IEMs will be phased out for technical conservation.

As a result, by 2030 Society by electricity energy work release size - 51.0 billion kW per hour, the share of absolutely energy-efficient equipment in production is fully transferred.

Table 1

Generation powers 2030 up to forecast indicators³⁰

Indicator name	2022	2023	2024	2025	2026	2027	2028	2029	2030
Installed power, MW	1 539	2,724	3 933	3 563	3 848	3 353	2 277	2 368	2 308
Reserved old powers, MW	10	445	750	220	685	180	135	165	225
Energy efficient powers, MW	6309	664	0 178	1 278	2,028	2,028	2,028	2,028	2,028
Electric energy production, billion kWh	5.9	2.2	2.0	3.3	4.6	6.0	7.4	8.8	1.0
Heat energy work release, thousand Gcal	5067.9	4797.9	4797.9	4738.4	4713.4	4713.4	4713.4	4713.4	4713.4
Conditional of fuel comparison consumption, gr/kWh	309.28	303.61	288.27	241.70	241.63	240.46	238.71	238.13	237.4
Fuel consumption, including:									
- Natural gas, billion m ³	14.5	13.4	10.5	9.3	9.6	9.9	9.1	9.4	9.8
- fuel oil, a thousand tons	500	375	225	135	135	135	135	135	135

³⁰ Data of JSC "Heat Power Stations".

Work release localization and cooperation Localization of imported products for the Community system enterprises in the implementation of relations in order to "Uzbekenergota'mir" JSC value 1.9 It is planned to purchase 22 types of new modern machine tools worth million dollars being of this as a result value 3.7 million dollars localization of 48 types of imported products will be achieved.

In order to expand cooperation relations, it is planned to localize 70 types of imported products for the system enterprises of JSC "Heating Electric Stations" in cooperation with local manufacturers, as a result of which optimization of imports and support of local manufacturers is determined (Table 2).

Table 2

Localization and optimization of import in the system enterprises of JSC "Heat Power Stations".

Indicator name	2022 year	2023 year	2024 year	2025 year	2026 year	2027 year	2028 year	2029 year	2030 year
Localization <i>billion soums</i>	1.9	6.5	6.2	5.4	2.0	3.6	05.6	15.0	50.0
Import optimization <i>million dollars</i>	5.6	7.9	0.6	3.7	7.2	1.3	6.0	1.4	6.2

Uzbekistan Republic President 2020 year 27 According to the decree No. PF-6096 of October, transformation processes are being continued in system enterprises.

In order to increase the operational efficiency of society and system enterprises, 60 initiatives have been put forward by the McKinsey international company, and as a result of their implementation in 2021-2025, 1.6 - 3.7 trillion. efficiency is achieved in the amount of soums, including:

- fuel efficiency;
- constant expenses optimization;
- organizational efficiency;
- technical service show and repair;
- addition income sources create;
- investment program improvement.

Fuel efficiency this year analog-to-digital converters for real-time monitoring of conventional fuel consumption and software supply Tashkent of IES 4 – to the block test was established as and of conditional fuel comparison spending 2.49 g/kWh to or in the 1st quarter of 2022, 318,000 m³ of natural gas worth 209.9 million soums was saved. Currently, this project has started to be implemented in power unit No. 8 at "Tachiatosh IES" .

According to the organizational effectiveness initiative, a single repair enterprise was established at the base of JSC "Uzbekenergota'mir", from external contracting organizations in repair work partially give up passing away through repair to work being spent it was achieved to increase the efficiency of funds and improve the quality of the repair work being carried out.

Investment program improvement initiative As a result of the implementation of the activities on "Tashkent IEM" and "Navoiy IES" modernization projects, more than 24 million US dollars were saved from the total cost of the project due to the optimization of the modernization projects, including the reduction of the cost of purchased equipment. Implementation of transformation processes in society and system enterprises, implementation of advanced foreign experiences in the field "Project office" organize done.

To corruption against "COMPLAENCE" system was implemented. Society by to corruption against management system Jesus 37001 and quality management system ISO 9001 international standard certificates were obtained. Forensic audit conclusions were obtained by KPMG international audit company, which is part of the "Big Four" in order to identify corporate fraud and corruption related to public procurement.

In the analyzes carried out by the audit company, it was determined that mistakes were made in the execution of contracts, failure to maintain electronic registers, insufficient study of the qualifications of suppliers, the absence of uniform regulatory documents in some thermal power plants, the absence of a uniform circular document and an automated procurement system.

On the basis of the Law "On State Procurement", a regulation on uniform procurement procedures, a regulation on pre-qualification of suppliers, and guidelines for conducting marketing research were developed. It has been established to keep a register of electronic contracts, and an automated warehouse reporting system (1S: Enterprise) has been implemented. The company's financial and accounting reports are prepared based on international standards.