District heating systems in Uzbekistan

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Current situation of District heating

In the country, 33 heat supply companies are functioning:
• 10 of these are combined heat and power producing companies;

Heating plants
➢ In total, 973 boiler houses, including:
• 71 large-scale district heating plants and central heat supply boilers (connected to heat mains и distribution networks);
• 902 local boilers, from where household and business consumers are also serviced;
• overwhelming majority of boilers is low efficient and outdated (average gas consumption - 135-140 cub.m / Gcal)

Heat supply networks
➢ Total length of mains and distribution networks is 4 992 km:
• 1 770 km (35 %) of that are in unsatisfactory condition and requires capital rehabilitation.

Regulation
➢ According to the Law on Natural monopolies, heat production and distribution fall under list of natural monopolies. That’s why activities of these companies are subject to state regulation by means of setting tariff limits, quality standards and etc.
Forms of ownership of heat supply companies

- Joint-stock companies with state share 58%
- State owned companies 33%
- Private companies 9%

Capacity Building for Sustainable Energy Regulation in Eastern Europe and Central Asia
Current district heating system
(open-circulation system)

The main shutter (задвижка) in the basement is a border of ownership and responsibility.

House owners’ association is responsible for maintenance of inside system.
Regulation of district heating

Ministry of economy
- Strategic planning of DH development and approval of investment projects;

Ministry of finance
- Development of state tariff regulation policy;
- Formation of methodology for pricing;
- Setting heat tariffs by itself or through its regional departments;

State antimonopoly committee
- Control over observance of antimonopoly legislation;
- Control over application of tariffs and service quality standards;
- Protection of consumer rights;
- Dispute settlement and etc.

State energy inspection “Uzgosenergonadzor”
- Control over observance of safety and industry efficiency standards and norms
- Control over DH company’s administration;
- Permission for constructions;
- Primary control over district heat supply efficiency;
- Local solutions related to heat supply systems;
- Planning of local infrastructure;

Municipalities
- Capacity Building for Sustainable Energy Regulation in Eastern Europe and Central Asia
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District heating company
Main principals of heat pricing system

- Tariff consists of economically justified costs and net profit;
- Only approved norms of the main cost components (fuel, electricity, water, depreciation, labor, heat losses) can be included in tariff;
- Net profit is limited up to 10% from production costs;
- Additional profit is granted as a bonus, if a company manages to reduce material or energy costs from normative level;
- Tariff can be revised not more than twice a year;
- Level of tariffs is the same for all consumers (household and business).
Tariff structure
(in average)

- Fuel: 44%
- Electricity: 12%
- Labor: 13%
- Repairs and maintenance: 11%
- Depreciation: 4%
- Administration and operation expenditures: 9%
- Other production costs: 1%
- Chemicals and other materials: 4%
- Net profit: 2%
Underway reform plans

Working out process of Complex development program of heating in 30 large cities is underway, which includes:

- Modernization and capital reconstruction of heating plants, heating mains and distribution networks;
- Capital reconstruction of in-house heating networks:
- Transition to local heating systems, where it is economically and technically feasible;
- Transition to closed-circulation heating system (installing heat-exchange points in houses);
- Installing modern metering devices in entrance points of heat consuming buildings;
- Realization of projects with application of combined heat and power generation technologies (gas-turbine plants) in four cities (Tashkent, Buhara, Samarkand and Nukus). Estimated energy resource economy is 30%.
Transition to closed-circulation heating system with application of individual heat-exchange point

Combined automatic heat-exchange point for apartment houses. It consists of lamellar heat-exchanger, circulation pumps, meter, monitoring and regulation devices.
Thank you very much for your attention