

# Power Sector of Uzbekistan. Current situation and future conceivable energy market models

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**Abstract.** The transformation of energy sector needs substantial changes in legal and regulatory framework; institutional structure and sector governance. This article covers and analyses main options and criteria which were chosen for Uzbekistan in order to find optimal way for transition period of reforming power sector.

**Key words:** Uzbekistan, energy sector, reforms, energy market, single buyer, investments, wholesale, retail, analysis, market models.

## Introduction.

Energy sector is a main driver of economic growth in Uzbekistan. The sector accounted for about 25 percent of industrial output and 8 percent of GDP in 2019. Also, it is a large source of export earnings, predominantly of natural gas, accounting for around 20 percent of total commodity exports in 2019, and is among the large job providers, employing about 150,000 people. The Government is moving ahead with ambitious energy sector reforms aimed to liberalize the electricity and gas markets and promote private sector participation.

The recent developments in the power sector of Uzbekistan is a major step towards restructuring of the industry aimed at further improvement of management practices, introducing efficient corporate governance instruments, optimizing business processes etc. to be followed by the attraction of large-scale investments in modernization of outdated energy infrastructure and introduction of new generation capacities in the sector through attraction of foreign private capital.

Unbundling of generation, transmission and distribution/supply and establishment of Ministry of Energy is a big step forward aimed at sustainable development of country's power sector under the progressive institutional set-up together with corporatization and commercialization plans.

It also needs to be noted, that because of the low salaries in the country, social issues, under investments in the energy infrastructure have gradually led to high network losses, poor quality of service including load shedding in the regions, theft of electricity etc. The sector still remains heavily and dominantly regulated and controlled by the state. The dynamics and actual measures implemented by Uzbekistan for the last 2 years demonstrates commitment and progress to be further empowered with the continuation of efficient reforms.

Newly established in 2019 Ministry of Energy is a key policy implementer in the power sector, so it works as a sectoral arm-length of the government to lead energy associated developments in the country, do some elements of sector regulation (excluding tariffs), contribute to attraction of investments and supervise energy companies.

Despite being self-sufficient, Uzbekistan is facing several challenges in the long-term. Moreover, the country has one of the most energy intensive national economies in the world. Energy intensity is higher than in neighbour countries almost 30%.

## Materials and methods.

Nowadays government of Uzbekistan is aiming to reform energy sector in order to improve the quality, reliability, and sustainability of energy through enhanced sector management and increased private investment. There were identified options for reforming the current institutional and regulatory framework, considering the sector structure, institutional arrangements, regulatory framework and private sector participation implications areas.

In conjunction with stakeholders were defined and assessed the following 6 options:

- Option 1: Single Buyer – private investment only in new generation, no private participation in distribution;
- Option 2: Single Buyer – private investment for all new generation and for some existing generation, no private participation in distribution;
- Option 3: Single Buyer – private investment for all new generation and for some existing generation, and some private participation in distribution;
- Option 4: Staged transition to a Wholesale Market – this is the Single Buyer, then transitioning to a Wholesale market;
- Option 5: Immediate Transition to a Wholesale Market – this option assumes no Single Buyer stage, with immediate start on planning for transition to a wholesale market;
- Option 6: Transition from Wholesale Market to Retail Competition – this additional option considers the further development from option 4 or 5 towards full or partial retail competition.

Also, there were defined following criteria:

1. Investor Confidence
2. Efficiency of new investments
3. Ease of implementation
4. Speed of reform
5. Delivery risk
6. Ensuring generation adequacy
7. Delivery of social and environmental goals
8. Compatibility with further power sector liberalisation
9. Delivery of Energy Efficiency Goals

### Results.

On the basis of the following proposed criteria were prepared analysis on choosing the most suitable option for further implementation:

Criterion	Option Numbers					
	1	2	3	4	5	6
1 Investor Confidence	5	5	3	2	1	2
2 Efficiency of New Investments	4	4	4	4	4	4
3 Ease of Implementation	5	4	3	2	2	1
4 Speed of Reform	5	4	3	2	2	1
5 Delivery Risk	5	5	4	3	3	2
6 Ensuring Generation Adequacy	5	5	5	3	3	3
7 Delivery of Social and Environmental Goals	4	5	4	3	3	3
8 Compatibility with Further Power Sector Liberalisation	4	4	4	5	5	5
9 Delivery of Energy Efficiency Goals	4	5	4	4	4	3
Overall	41	41	34	28	27	24

### Conclusion.

The main conclusion is that for Uzbekistan in short term approach it is more appropriate to move to the single buyer model.

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Participation of policy makers in the in-depth strategic discussion is crucial in order to increase their ownership of the process and ensure confidence and trust for advises and recommendations. Extensive consultations and discussions with mobilized experts having different profiles will increase awareness of high-level officials regarding examples of success and failure in different countries and assist them to make informed decisions most needed and relevant for the power sector of Uzbekistan.

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