

Digitalization in the Energy Sector

Case of Azerbaijan

Tomris Bayramova

Strategic Planning and Innovations Division

Chief Specialist

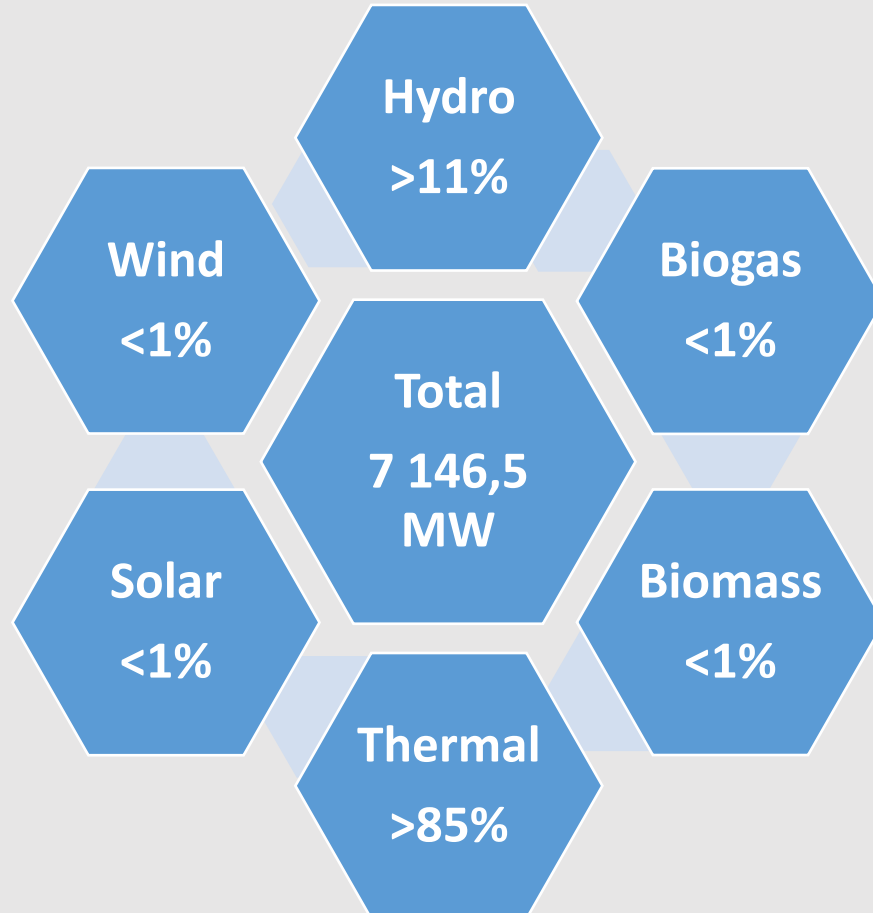
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Electricity Sector

- Electricity in Azerbaijan is produced mainly by thermal power plants operating on natural gas, with a small amount produced by hydroelectric power plants.
- The largest consumer of electricity in the country is the residential sector.
- However, despite its large generating potential, losses in the energy distribution system remain high and there are failures. The 2016 Roadmap for Utilities Development set a goal to reduce losses from 8.5% to 7% in Baku and from 12% to 8% in the regions of the country
- Moreover, the entire system is under the jurisdiction of the state and relies on government subsidies, which cannot be considered an effective model.
- There is a need for reforms to establish a stable and financially independent electricity power sector.

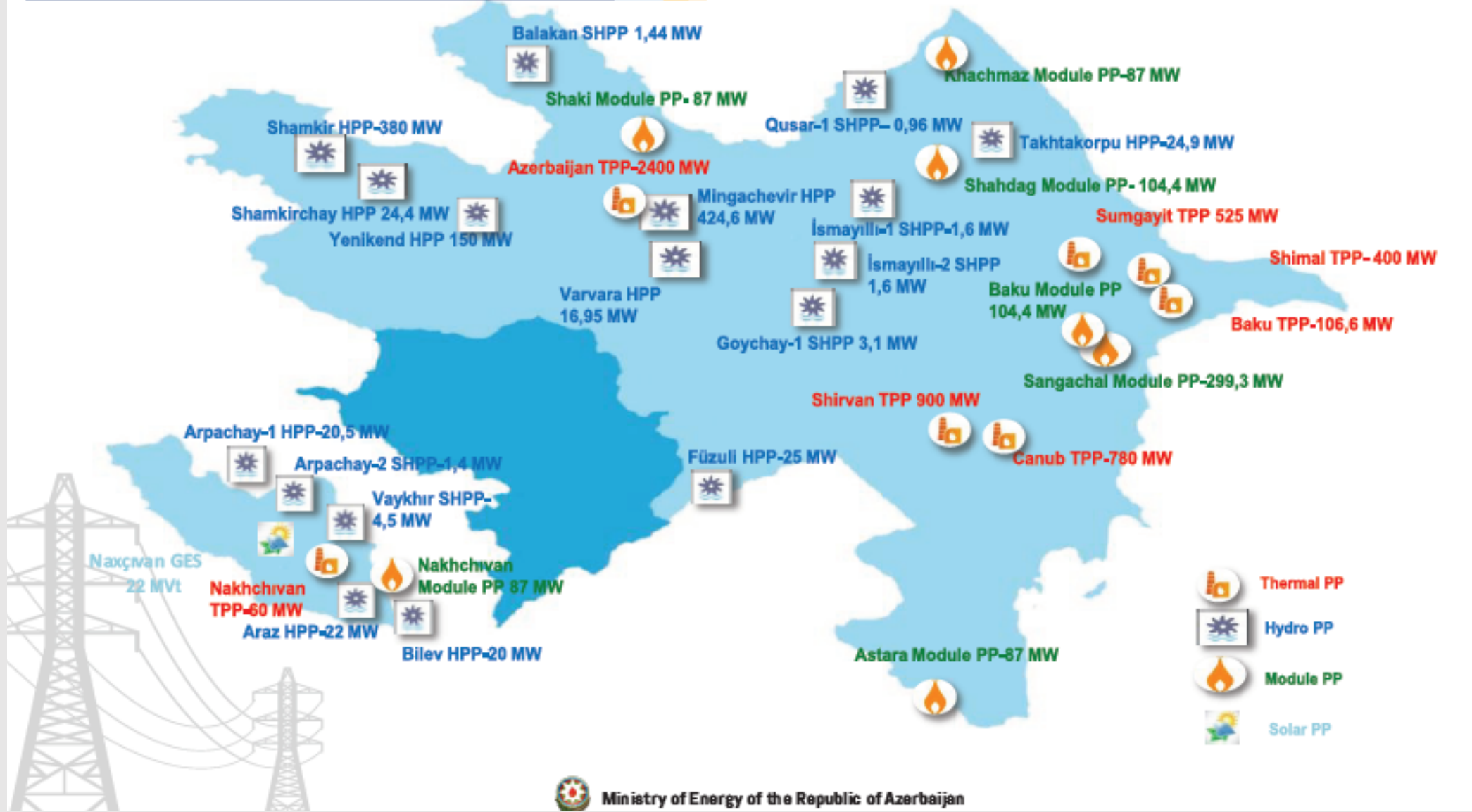
Electricity Sector (generation)



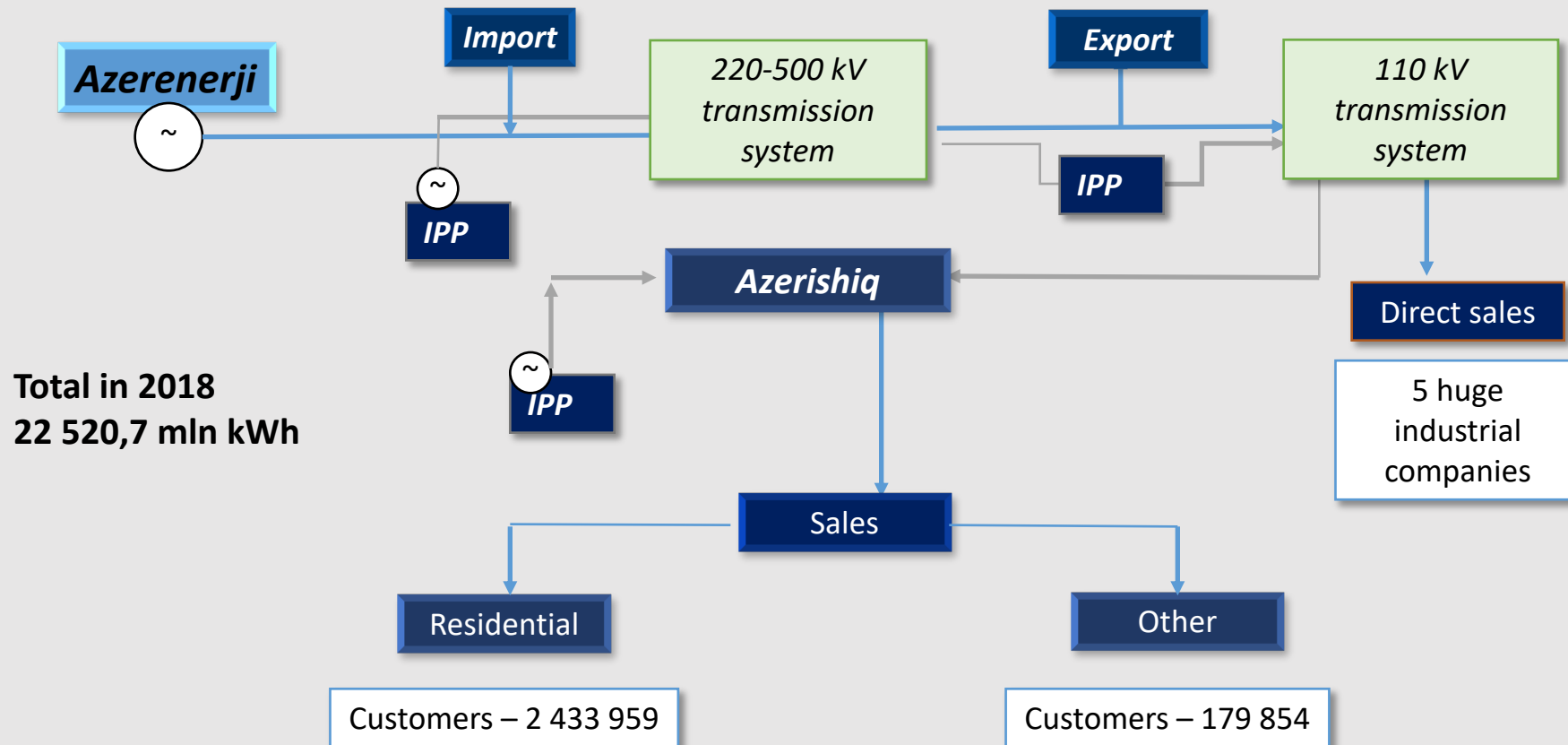
- “Azerenerji” JSC
- “Azalternativenerji” LLC
- Independent Power Plants
- Nakhchivan energy system



DISTRIBUTION OF POWER PLANT ACROSS THE COUNTRY



Electricity Sector (Azerenerji and Azerishiq)

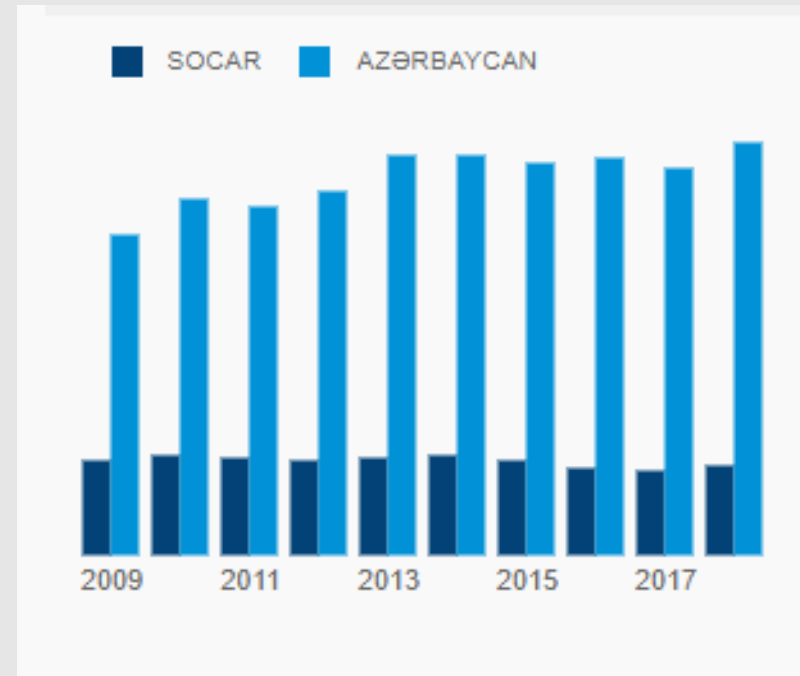


Tariffs for Electricity

Number	The name of service	Tariffs, for 1 kWh, qepik	Tariffs, for 1 kWh, eurocent
1.	From generation companies		
1.1.	Generation by the private small scale hydraulic stations	5,0	2,5
1.2.	Generation by the Wind Power Plants	5,5	2,3
1.3.	Alternative and renewable	5,7	2,4
2.	Wholesale tariffs	5,7	2,4
2.1.	The power supplying directly to 35 and 110 kV lines, with average daily energy consumption for production purposes of less than 5 million kWh, chemical and aluminum industries, steel smelting facilities based on mining ore, processing, recording and transmission of data centers		
2.1.1.	Daily (from 08.00 till 22.00)	5,8	2,9
2.1.2.	Nightly (from 22.00 till 08.00)	2,8	2,9
3.	Transit transmission of the electricity	0,2	0,1
4.	Retail tariffs		
4.1.	Households		
4.1.1.	Monthly till 300 kWh	7,0	3,6
4.1.2.	Monthly more than 300 kWh	11,0	5,6
4.2.	Others	9,0	4,6

Gas Production in Azerbaijan 2009 >> 2018

Gas Production (in million m ³)		
Year	SOCAR	AZERBAIJAN
2018	6525	30490
2017	6089	28597.9
2016	6266.7	29367.1
2015	6871.4	28977
2014	7222.8	29617
2013	7140.1	29456
2012	6924.6	26908.8
2011	7084.2	25752.9
2010	7178.9	26349.6
2009	6903	23681.6



In 2018, Azerbaijan produced 38.76 million tons of oil and gas condensate, which is approximately equal to the production volume in the previous year. Gas production amounted to 30.49 billion cubic meters (an increase of 7.1 percent) in 2018, while commercial gas production stood at 19.2 billion cubic meters (an increase of 5.8 percent).

Tariffs for Gas

Sectors	Price for 1 000 m ³ , AZN	Price for 1 000 m ³ , EUR
Households		
Yearly till 2200 m ³	100	51
Yearly more than 2200 m ³	200	102
Others	200	102
For power (electricity) generation enterprises	120	61

*Since 01 May 2019

Azerbaijan Energy Regulatory Agency



Developments

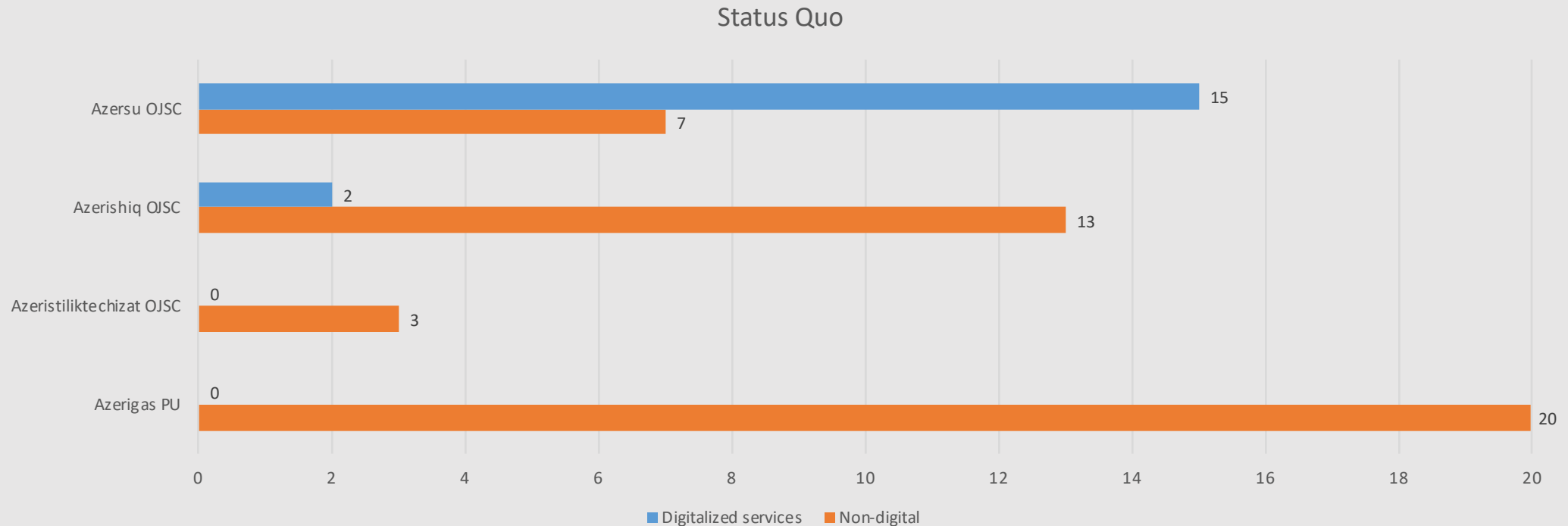
- Establishment of the Energy Regulatory Agency based on the Presidential Decree on December 22, 2017
- Cooperation with a number of international financial institutions, including EBRD, ADB and other partner regulatory authorities
- New legislative basis is being developed
- 5 rules based on the Presidential decree dated July 16, 2018 to be established:
 - electrical installation codes,
 - operational regulation for electrical and heat equipment,
 - safety rules for operating electrical and heat equipment,
 - rules for preparatory work for the autumn-winter season in the field of electrical and heat energy, as well as gas supply,
 - rules for financing, creation, protection, use and accounting of fuel stocks.
- Development of the Grid Code

Objectives

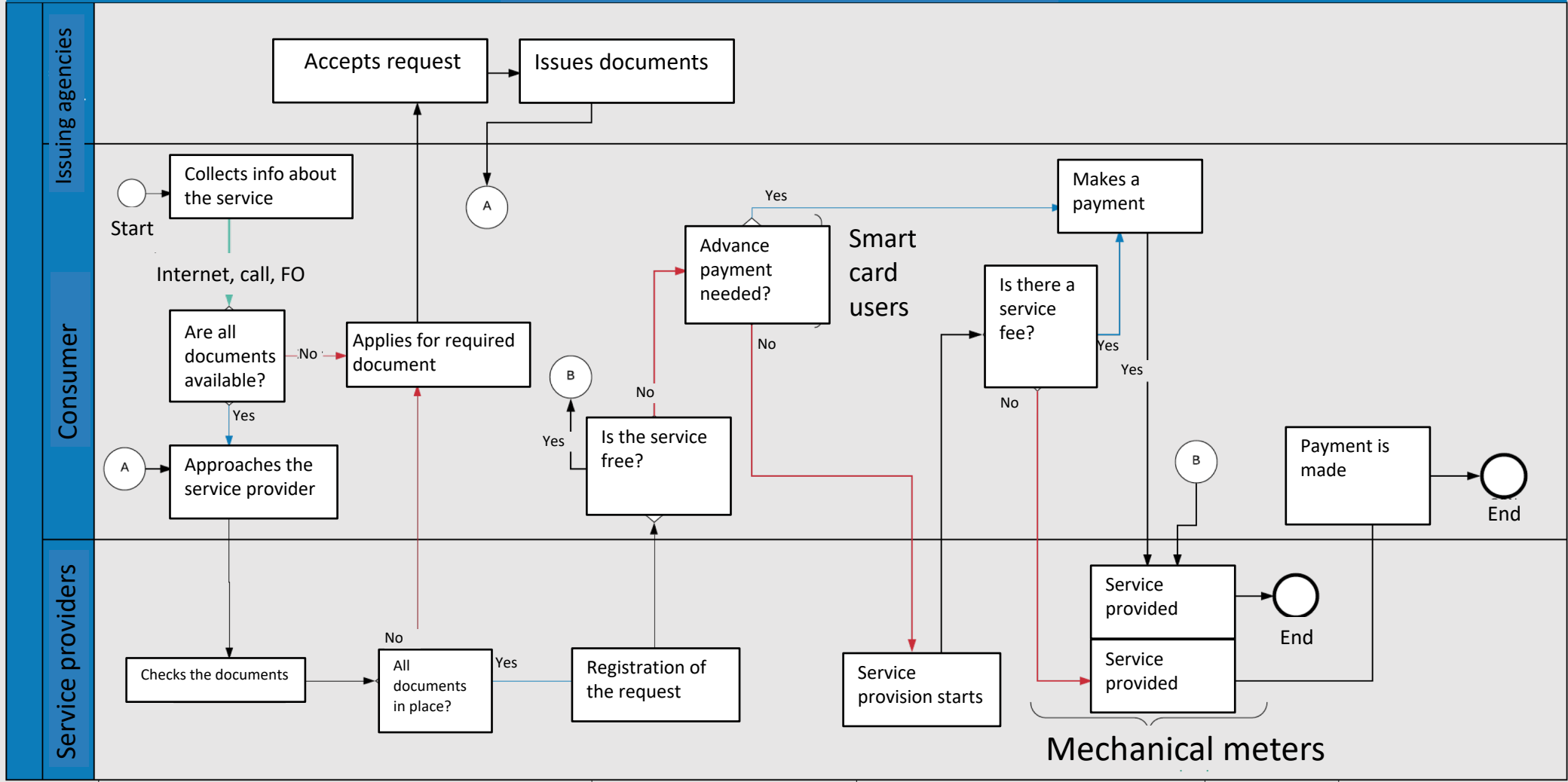
- Approximation of the national legislation to the EU III Energy Package
- Implementation of the governmental reforms and liberalization of national electricity, natural gas and heat markets
- Implementation of unbundling strategy
- Tariff regulation in collaboration with the national Tariff Council
- Modernization of system operators (TSO and DSO)
- Increasing the share of the renewable energy in total electricity generation and attraction of investment to this field

Digitalization – Status Quo

- Digitalization status of public utilities (60 in total for 01/01/2019):
 - Digitalized services – 17
 - Non-digital – 43



Current situation in the utilities sector



Document collection

Registration of the request

Service provision

Results

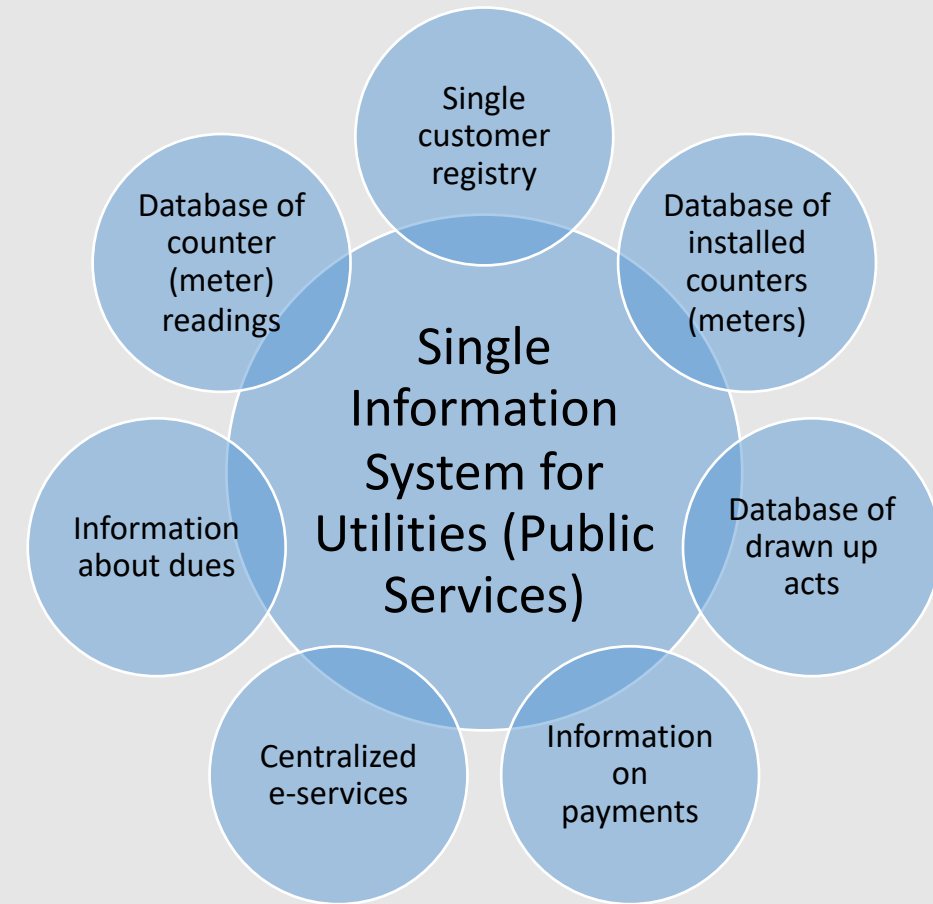
Mechanical meters

Digitalization Challenges

- The discrepancy between information systems of different public services:
 - Companies assign different subscriber codes to the same customers– each company has its own system
 - In some cases information for the real estate address is not correctly reflected in the utility service system
 - Different metering equipment within the same company (Smart and mechanical)
- Non-digital services which cannot be integrated to information systems;
 - Some information has to be inserted manually, which results in mistakes and typos
- Lack of required documentation cycles (which create obstacles to citizens' access to the services);
 - E-government portal allows only the authentication, some processes are not integrated to the portal
 - Data protection/security
- Lack of awareness and need of capacity building

Next Steps

- Development of «Single Information System for Utilities (Public Services)» under "Rules for the Formation, Implementation, Integration and Archiving of State Information Resources and Systems" No. 263 dated September 12, 2018 and the implementation of paragraph 2.1 of the Decree of the President of the Republic of Azerbaijan on some e-government measures.
 - ensures integration of information systems and resources, monitoring and analytical analyses, forecasting, and provision of centralized electronic services in the said area, collected and processed in the public domain;
 - coordination and access to information resources and systems of the agencies, would be provided through centralized Electronic Government Information System.



Thank you for your attention!

