



ROAD MAP FOR DEVELOPMENT OF BIOGAS LEGISLATION IN THE REPUBLIC OF KAZAKHSTAN

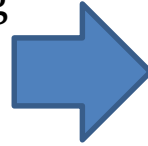


Photos from open sources

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Problems in the field of water disposal and water treatment

- 43% of residents, 69% of urban and 8.6% of rural population, have access to wastewater disposal
- 57% of sewerage systems are worn out
- Among 86 cities, 28 cities including Taraz have no WWTPs.
- Of 58 WWTPs, 10 WWTPs are completely worn out and require the construction of new ones, and 26 WWTPs require the upgrade
- The proportion of regulatory treated wastewater is 81.9%



Untreated and under-treated wastewater and sediments have an adverse effect on:

- **groundwater,**
- **soil;**
- **surface water bodies**



Problems in the field of waste and biogas

- Waste from wastewater treatment plants is disposed of in sludge beds (in 94% of cases in the largest wastewater treatment plants)
- Low-level wastewater treatment
- Biogas plants work only at 1 WWTP (Shymkent)
- No organic fertilizer production



The total **emission of methane** from the sediments of 16 largest WWTPs is **186,600 t-eq of CO₂**

Goals of the Green Economy Concept on waste are not fulfilled

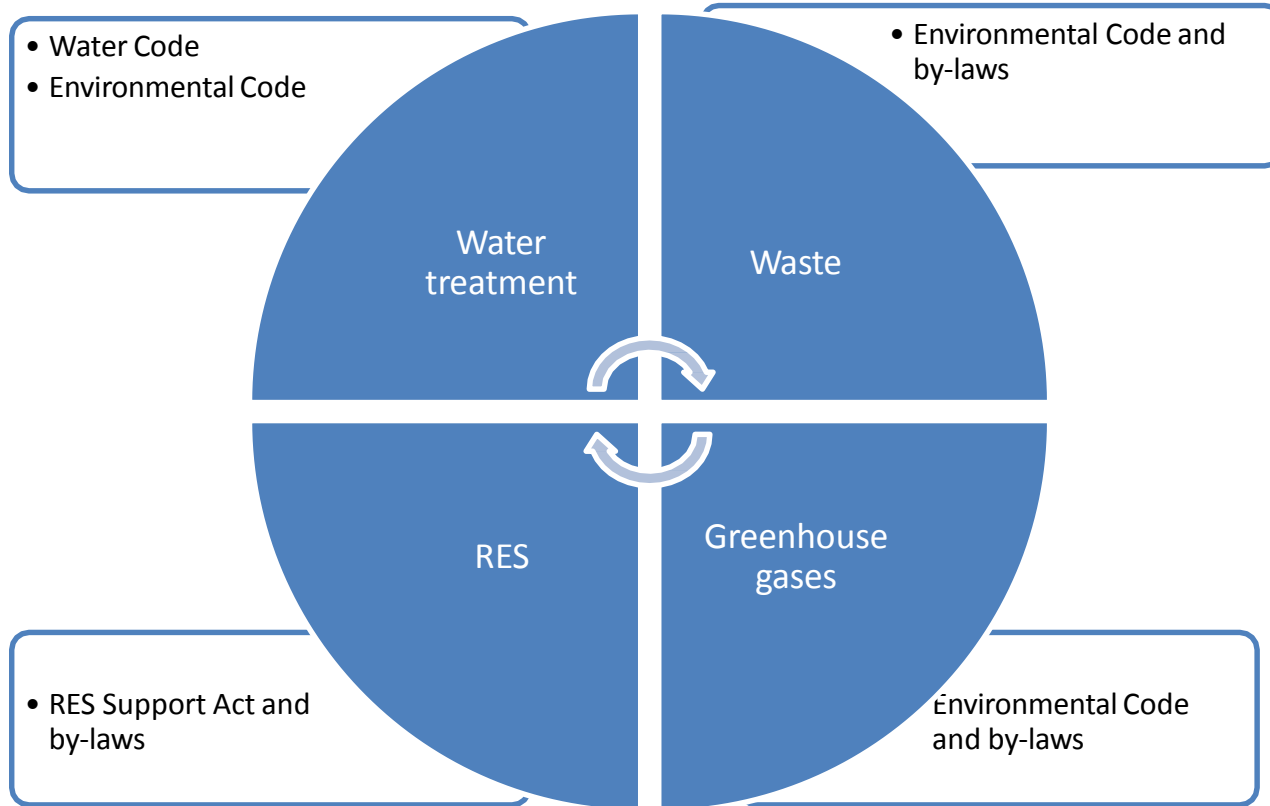
At the same time, the **reduction potential** in biogas introduction is **174,200 t-eq of CO₂**

Soil fertility declined by 17% in 15 years, and the level of degradation exceeds 70%.

Biogas industry development goals

- **RES** proportion should reach 3% by 2020
- The **proportion of gas power plants** should be 20% by 2020
- The total **capacity of biogas plants** should be 10 MW until 2020.
- Kazakhstan needs to reduce greenhouse gas emissions by at least 15% from 1990 levels to 2030 according to the Paris Agreement
- **Waste recycling: 40% by 2030** .. The **use of residual waste** in the production of biogas is required.
- Sewage treatment coverage in 2019 should reach 70.5% in cities and 8.8% in villages. (Regional Development Program)
- Modernization of water disposal systems. The **wear factor of water disposal networks** should be 57% in 2019 (Nurly Zhol)
- Energy production from biogas at WWTPs contributes to the achievement of sustainable development goals (SDG 6, 7, 11, 12).

Legislative regulation of the biogas industry in Kazakhstan



Distribution of powers of state bodies in the biogas industry

- water supply – **Water Resources Committee** of the Ministry of Agriculture of the Republic of Kazakhstan
- sewage disposal – **Committee for Construction and Housing and Public Utilities** of the Ministry of Investments and Development of the Republic of Kazakhstan
- wastewater discharge – **Committee for Environmental Regulation and Control** of the Ministry of Economy of the Republic of Kazakhstan
- production of biogas, renewable energy sources - **Department of Renewable Energy** of the Ministry of Economy of the Republic of Kazakhstan
- waste management – **Department of Waste Management** of the Ministry of Economy of the Republic of Kazakhstan
- greenhouse gases – **Climate Change Department** of the Ministry of Economy of the Republic of Kazakhstan
- organic fertilizers – **State Inspection Committee in the Agro-industrial Complex** of the Ministry of Agriculture of the Republic of Kazakhstan
- public health and well-being – **Ministry of Health** of the Republic of Kazakhstan

Directions for the development of biogas legislation



toughening of requirements for the construction of water disposal and wastewater treatment systems in the domestic and industrial sector



establishment of legislative and regulatory and technical requirements for the mandatory treatment of sewage sludge and agricultural waste



introduction of specific measures to support enterprises for biogas collection, production and use



strengthening of inter-agency coordination in the biogas and wastewater treatment sector



Toughening of requirements for the construction of water disposal and wastewater treatment systems

Measures required	Changes and additions to legislation
Ensuring the availability of water disposal systems at the initial stage of construction of buildings and structures	Water Code (Articles 92-4, 92-5, 120)
Prohibition of land irrigation with untreated wastewater and wastewater that has not reached the level of regulatory-treated wastewater	Code of Administrative Offenses
Establishment of requirements for the water disposal systems in settlements on obligatory treatment of wastewater discharged in settlements	(Article 331)
Strengthening of administrative responsibility for violation of requirements for wastewater treatment, discharge of untreated or insufficiently treated wastewater in the domestic and industrial sector	

Recycling of wastewater sludge and agricultural waste

Measures required	Changes and additions to legislation
Establishment of requirements for the handling of sediments after wastewater and agricultural waste treatment, including the establishment of the need for their mandatory processing and the prohibition of placing them on sludge beds without prior processing	Environmental Code (Articles 225, 292-1, 301) National standards
Prohibition of placing and receiving sediments after wastewater treatment at landfills for burial	
Development of national standards of the Republic of Kazakhstan in the field of wastewater and agricultural waste treatment and organic fertilizer	

The introduction of specific measures to support enterprises for the development of the biogas industry

Measures required	Changes and additions to legislation
Facilitation of the rules for participation in tender bidding for the selection of RES projects in the Republic of Kazakhstan	Order of the Minister of Energy No. 466 of December 21, 2017
Formation of demand for products derived from biogas production in the field of agriculture and construction	Order of the Chairman of the Committee for Construction and Housing and Communal Services of the Ministry of Investments and Development of the Republic of Kazakhstan No. 6-NK dated March 27, 2017
Increase in tariffs for electric power produced by biogas plants	Order of the Minister of Agriculture No. 4-4/305 dated April 6, 2015
Establishment of the ability to use greenhouse gas reduction units from the introduction of biogas plants as part of long-term domestic projects	Order of the Acting Minister of Agriculture No. 317 dated July 23, 2018 Environmental Code (Article 94-10) Government Decision No. 271 of March 27, 2014

Strengthening of inter-agency coordination in the biogas and wastewater treatment sector

- Official creation of an inter-agency working group on the development of the biogas industry in Kazakhstan
- Conduct of periodic meetings of the interdepartmental working group, including "field" meetings
- Consideration of the development of the biogas industry at the Council on the Transition of the Republic of Kazakhstan to Green Economy under the President of the Republic of Kazakhstan

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