

Wastewater Treatment Update

TURKEY

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Wastewater Treatment

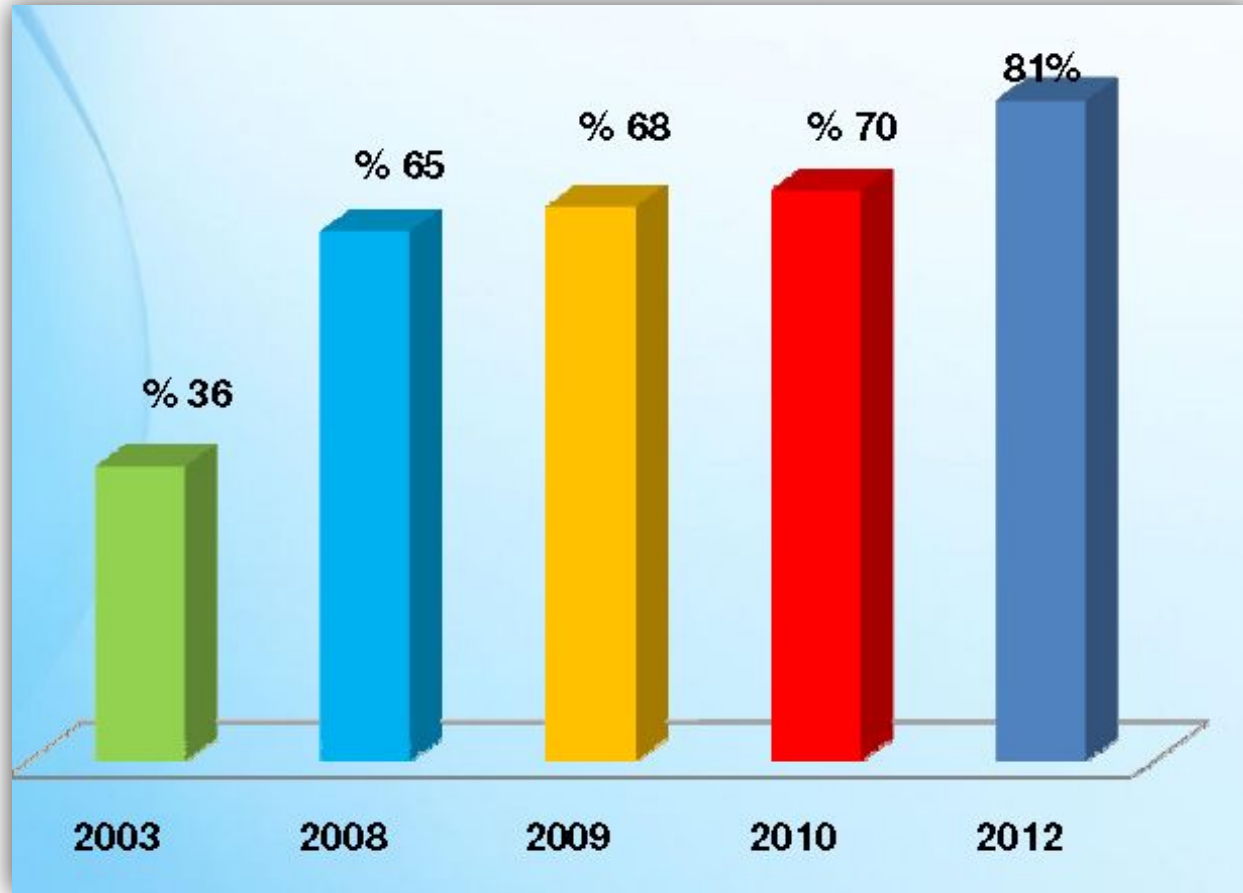
- ❖ At present, there are 631 wastewater treatment plants active region.
- ❖ There are 7 methane-producing wastewater treatment plants in Turkey.
- ❖ Most of these treatment plants are between 50,000 to 150,000 people.



Wastewater Treatment

- ❖ The establishment of sewerage and wastewater treatment plant has been made compulsory all the residential areas.
- ❖ Construction of treatment facilities is aim to be completed in the next 5 years.
- ❖ Also, there is an increased interest for methane-generating facilities in Turkey.

RATE OF (%) WASTEWATER TREATMENT FOR MUNICIPAL POPULATION IN TURKEY



Methane Reduction, Recovery, and Use Initiatives

- ❖ Within the framework of Turkey's National Climate Change Plan is increasing efforts to produce energy from methane.
- ❖ There are **7** methane-producing plants in Turkey. Last 10 years, this kind of energy sources is growing interest in Turkey.
- ❖ Ministry of Environment, project and the construction of wastewater treatment plants provides technical and financial support .

Methane Reduction, Recovery, and Use Initiatives

- ❖ According to the law of energy, the produced energy in this facilities can be sold day ahead market in Turkey.
- ❖ Also with new laws and regulations, Wastewater treatment plant construction and running are encouraged.

ANKARA (Capital) WASTEWATER TREATMENT PLANT

- **Population** : 5 Million
- **Capacity** : 1.000.000 m³/day
- Assimilation Biogas Power Station which produces electricity by using biogas tanks, gas engines exposed structure is established.
- 1.65 MW gas engines, each with 2 pieces of approximately 80% of the plant's electricity needs are produced.
- 21 million kWh of electricity produced per year.



KONYA WASTEWATER TREATMENT PLANT

- Biogas generation rate or gas flow (731 m³/hour)
- Average methane content in biogas (65 %)
- Biogas is used to produce electricity and thermal
- Provide capacity of generation :
2,2 MWh
- Capacity : 200.000 m³/day



KAYSERİ WASTEWATER TREATMENT PLANT

- Type(s) of anaerobic digesters used at plant mesophilic complete mix and capacity (6750 m³)
- Biogas generation rate or gas flow (166-208 m³/hour)
- Biogas is used to produce electricity and thermal
- Capacity : 260.000 m³/day



TOKAT WASTEWATER TREATMENT PLANT

Capacity : 30.000 m³/day



MUĞLA WASTEWATER TREATMENT PLANT

Capacity : 20.000 m³/day



KOCAELI WASTEWATER TREATMENT PLANT

Capacity : 42.000 m³/day



Barriers/Challenges to Methane Reduction, Recovery, and Use

- ❖ Within the framework of Turkey's National Climate Change Plan is increasing efforts to produce energy from methane.
- ❖ According to Wastewater treatment policy in Turkey, the plants will be established all residential areas until 2018.
- ❖ When these facilities are not built or exploited of wastewater treatment plants there shall be high penalties to the owners

Barriers/Challenges to Methane Reduction, Recovery, and Use

- ❖ Ministry of Environment, project and the construction of wastewater treatment plants provides technical and financial support.
- ❖ Renewable energy sources are subsidized by government . The electrical energy produced via these energy sources are purchased by the government, i.e the produced energy is under governmental quarentee.
- ❖ Half of the electricity consumption of the wastewater treatment plants will be meet by government.

Barriers/Challenges to Methane Reduction, Recovery, and Use

- ❖ Number of qualified personal in this regard should be increased for increasing of metan facilities.
- ❖ Technical information-sharing on this subject is important for more efficient plants for the construction.
- ❖ Technical works should be done to establish metan production plants for low-capacity facilities which where constructed before.



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Thank you...