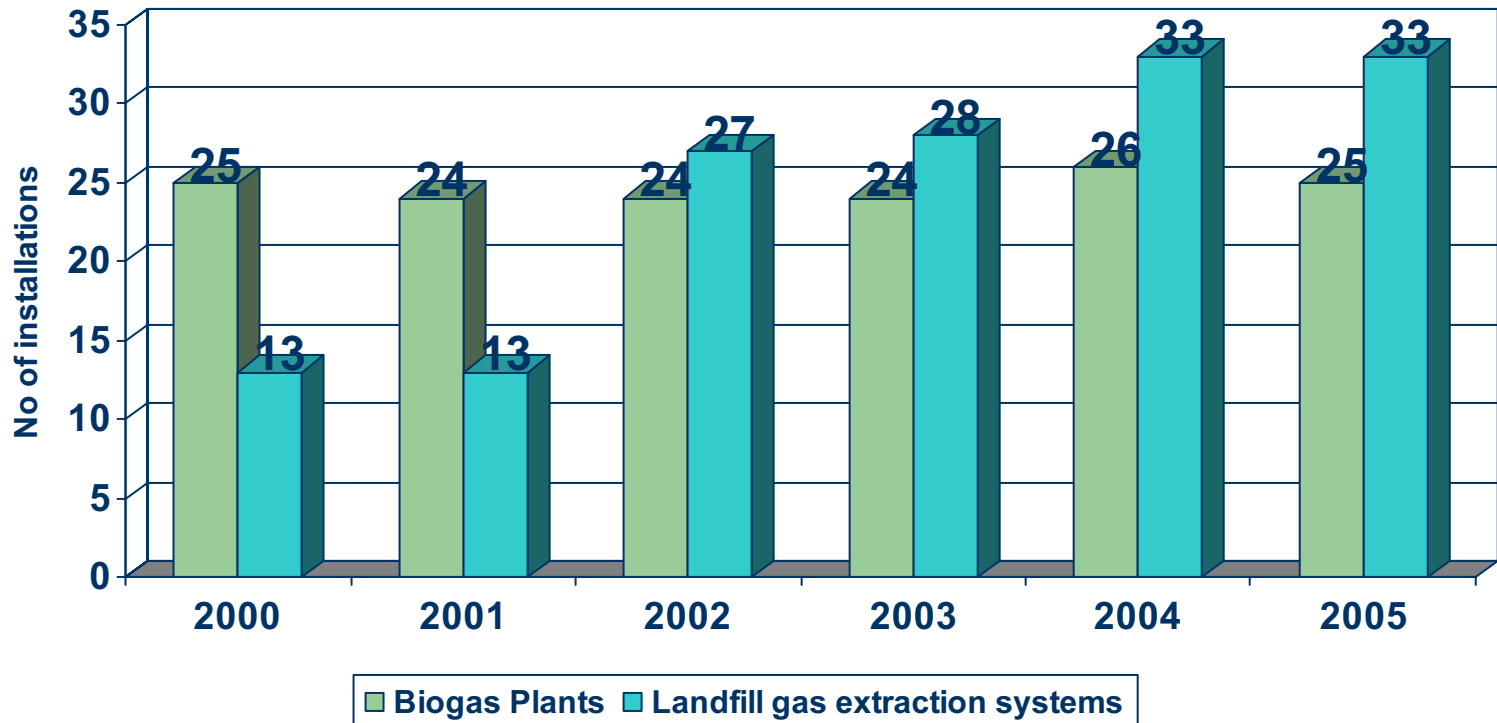


# Landfill Gas and Biogas in Finland in year 2005

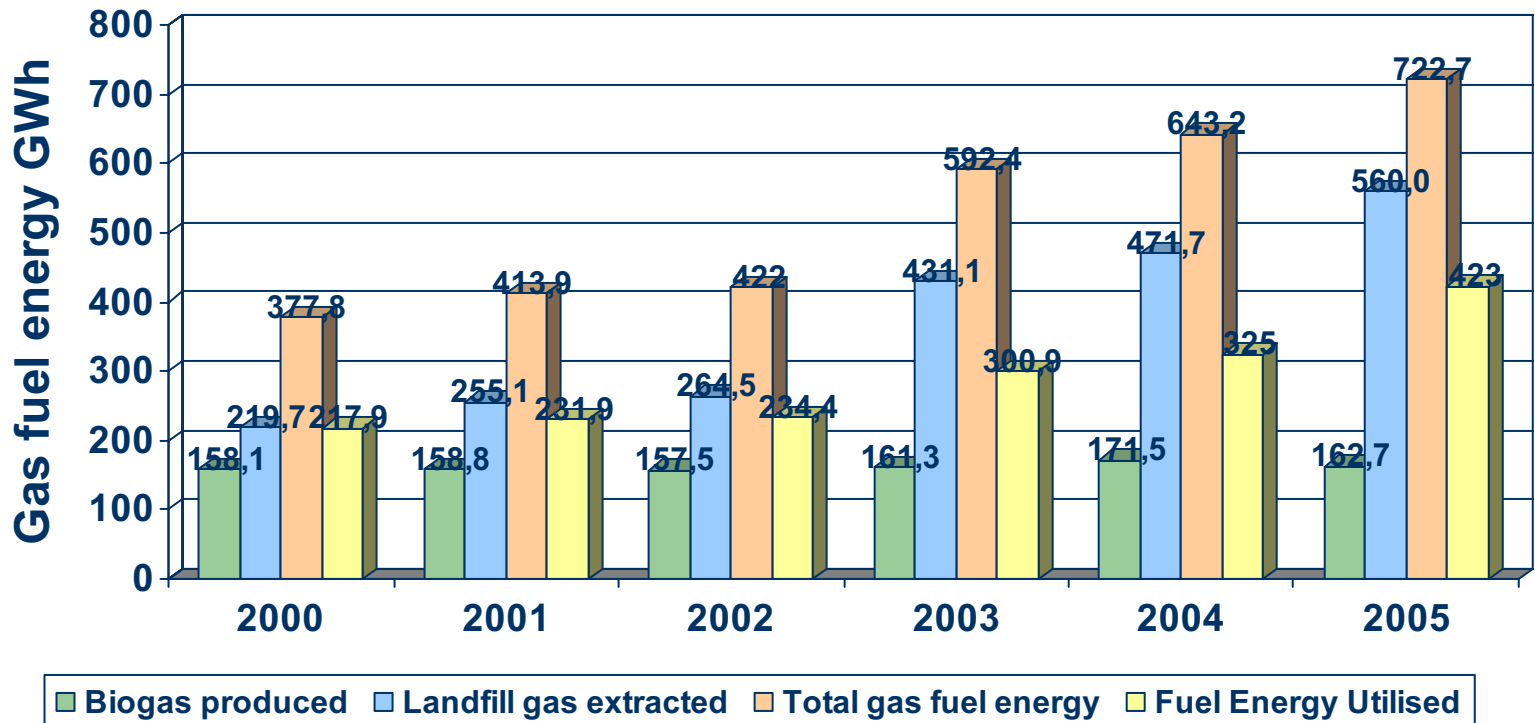
- **Landfill gas extraction systems**
  - in total 33 landfill gas extraction systems (+0)
  - landfill gas extracted in 2005: 118,4 Mm<sup>3</sup> (+21,4 Mm<sup>3</sup>)
  - landfill gas utilised in 2005: 70,3 Mm<sup>3</sup> (59 %, increased by 21 %-units from the previous year)
  - average methane content 48 vol-%
  - power produced in 2005: 9,2 GWh (-0,8 GWh)
  - heat produced in 2005: 289,3 GWh (+140,6 GWh)
- **Biogas plants**
  - in total 25 plants (-1) (sewage sludge:15; industrial waste water 3; ofmsw 1; co-digestion 2; farm waste 4;
  - biogas produced in 2005: 26,4 Mm<sup>3</sup> (-1 Mm<sup>3</sup>)
  - biogas utilised in 2005: 23,1 Mm<sup>3</sup> (87,5 %, increased by 2,5 %-units from the previous year))
  - average methane content 63,4 vol-%
  - power produced in 2005: 32,6 GWh (+2,0 GWh)
  - heat produced in 2005: 89,9 (- 4,9 GWh)
  - mechanical energy produced in 2005: 2,0 GWh (- 0,4 GWh)

## No of Installations in Finland – Update 15.9.2006



Source: Finnish Biogas Register  
IV - IX

## Biogas & Landfill Gas Production and Use – Update 15.9.2006



Source: Finnish Biogas Register  
IV - IX

## New laws and official policies - Update 15.9.2006

- **The proposed policy for renewable traffic fuels (the law proposal to the Parliament):**
  - Gasoline shall contain 2 % renewable fuel (ethanol) starting from 2008.
- **EU target of 5,75 % will be met by 2010.**
  - Now the share of renewable fuel is 0 %.
- **The political parties are favouring (at least in principle) increasing of use of renewable fuels in traffic.**
  - emphasis on ethanol production
  - no specific policy (benefits) for biogas

## New Projects – Update 15.9.2006

- **Ilmajoki Co-digestion Plant**
  - 55.000 tpy (75 % sewage sludge, 9 % industrial sludge, 16 % bio waste).
  - construction started in 2006
  - ready for start up in autumn 2007
- **Köyliö co-digestion Plant**
  - 20 000 tpy (30 % pig manure, 30 % sewage sludge, 30 % industrial waste, 10 % source separated bio waste from households)
  - construction started in 2006
  - ready for start up in spring 2007
- **Ekokem MSW Incineration Plant, Riihimäki**
  - under construction
- **YTV Composting Plant, Espoo**
  - under construction

## News in Brief – 15.9.2006

### Report on Energy and Climate Policy in Finland

- The emissions of greenhouse gases (GHG) have grown since 1990, being in 2000-2004 about 20 % bigger than in 1990.
- It is estimated that in the Kyoto Protocol period 2008-2012 the GHG emissions will exceed the 1990 level by 56 million tons, e.g. 15 %.
- According to the calculations made by the EU Commission the unit costs of reducing the GHG emissions in Finland are thirdly highest EU.
- The state will participate in reducing GHG emissions by using Kyoto mechanisms (i.e. Joint Implementation, Emission Trading)
- The share of renewable energy has been 22-25 % of the primary energy produced. As an average 27 % of electric power is produced by renewable energy (the set target is 31,5 % in 2010).
- The use of biomass (i.e. forest processed chips, agro biomass, recycled fuels, and biogas) will be increased greatly. The share of these energy sources was 2 % of the primary energy produced in 2004. The target is threefold or over 6 % of the primary energy should be produced by biomass after 15-20 years from now.
- For promoting the use of renewable fuels in traffic a specific working group has been set.
- Development of appropriate technology will be the key issue. Tekes technology programs where the state research organisations and universities are collaborating with the industry concerned.

# R & D and Technical Training

- **R & D**

- Several projects with energy crops: e.g. screening different crops and harvesting times, storing and pre-treatment of crops, process design, energy efficiency of the chain
- Development and demonstration of biogas upgrading facilities for vehicle use.

- **Technical Training & information**

- new updated www -site on biogas (in Finnish): <http://www.biokaasufoorumi.fi/>

- **Seminars**

- National seminar: Biogas as traffic fuel (9.10.2006) in Jyväskylä