



# Country report Finland

November 2007

# News in brief

- Proposed policy for biogas feed-in tariff in 2008 (<20 MW plants)
- New renewable energy policy for traffic fuels: Petrol and diesel in public filling stations should contain minimum of 2 % renewable fuel starting at 2008, 4 % 2009 and 5,75 % 2010
- New CO<sub>2</sub> emission based passenger vehicle purchase tax for new cars in 2008.
- CO<sub>2</sub> emission based yearly passenger vehicle tax proposed (2010)
- Standard for biogas as vehicle fuel in preparation
- Ministry of Agriculture has proposed that cultivation area of reed canary grass (used mainly for combustion) would be 100 000 ha by year 2015
- In 2006 energy crops area 17 065 ha in which reed canary grass 15 763 ha
- Increased interest in planning and building new biogas plants 2006 and 2007 as energy prices increase: ca 10 centralised plants are under planning, altogether 20-30 MW
- Critical public discussion on vehicle biofuels and availability of biomass for paper industry

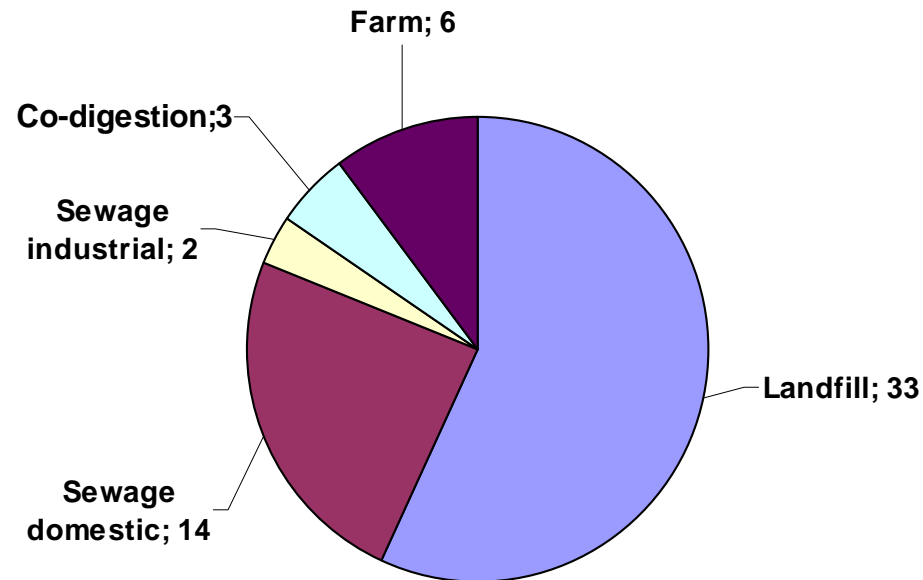
# Biogas plants in Finland

Total 58 biogas plants 2006

Landfills are currently the largest biogas producer in Finland

At least two new co-digestion plants are coming online in 2007

**Biogas plants in Finland 2006**

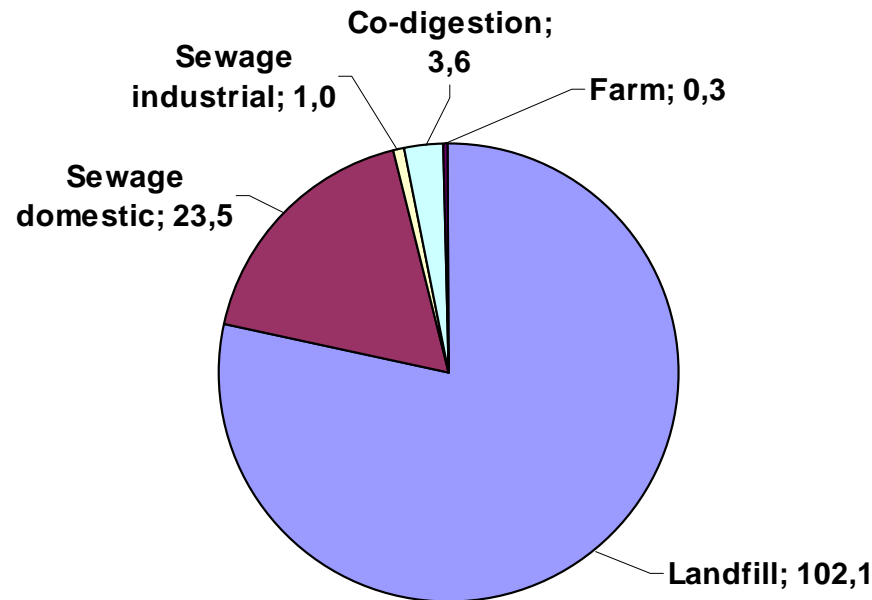


# Biogas production in Finland

Total biogas production 130,4 million m<sup>3</sup> (577 GWh) in 2006

Co-digestion plants increased their biogas production 46 %, landfills dropped 16 % from previous year (2005)

**Biogas production by source 2006**  
(millions of m<sup>3</sup>)



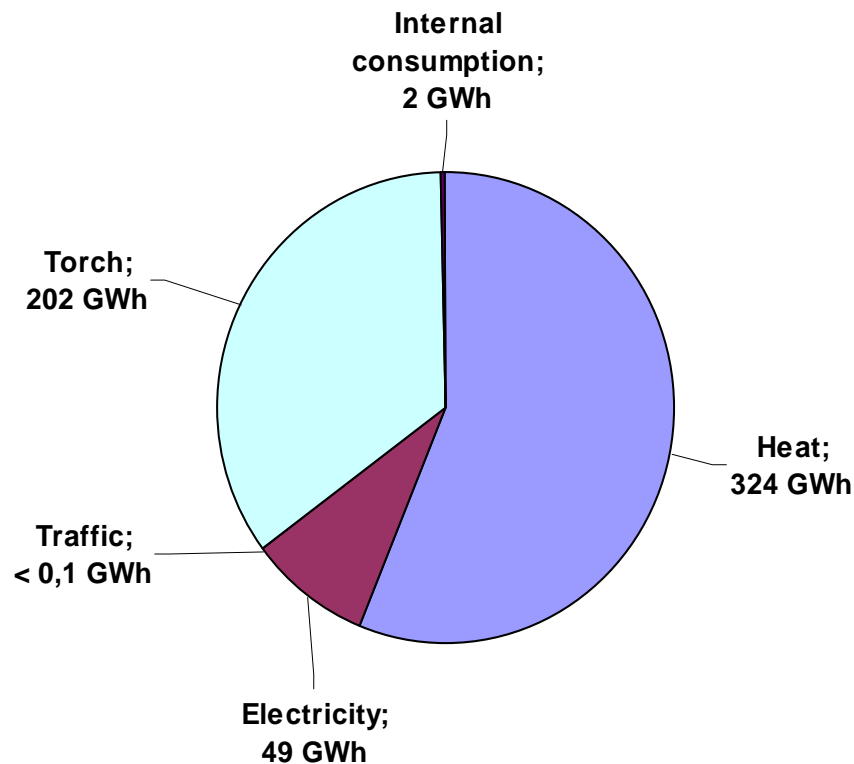
# Biogas utilization in Finland

Biogas utilization was 62 % of total production in 2006

Electricity generation increased 15 % from previous year (2005)

202 GWh of energy was wasted due to torching of biogas

**Biogas utilization in Finland 2006 (GWh)**



# Traffic biogas utilization

-About 10 biogas vehicles (one taxi) by 2007 outside the natural gas grid. About 100 gas vehicles total.

Currently 6 public natural gas fuelling stations in southern Finland (2007), more opening in near future

One farm-scale biogas fuelling station in Laukaa near Jyvaskyla, another planned in Salo

# Natural gas grid in southern Finland

National gas grid operator (Gasum Oy) plans to build 30 public natural gas fuelling stations by 2010, some could be build outside the gas grid using liquefied natural gas transported by tanker trucks  
Biomethane injection to the grid possible



# Ongoing R&D

- Development and demonstration of landfill gas upgrading to traffic biofuel (biomethane)
- Farm scale traffic biomethane production from cow manure, organic industrial waste and energy crops.
- Energy crops research for biogas production; Reed canary grass, perennial herbaceous grasses and maize in near future
- Proposed that 500 000 ha arable land could be dedicated to energy crop production, which is 25 % of all arable land in Finland (including fallow and set aside)
- And also 50 % of the regrowth yield of grasslands (600 000 ha) could be utilized to biogas production