

Biomass Appendix

Examples of Biogas Generators Using a Variety of Inputs



Figure 1

Location: Shafter, Calif.

Project: 90 kW Digester Gas-Fired

Co-generator: Micro turbine (3 x 30 kW)

Year: 2004

Input: sewage

Co-generator: Micro turbine, 4 x 30kW

Designer: Calpwr



Figure 2

Location: Devon, England

Project: 90 kW Digester Gas-Fired

Co-generator: Micro turbine (3 x 30 kW)

Year: 2005

Input: cattle manure, abattoir and food
processing waste

Designer: Rutherford Renewables



Figure 3

Gasification plant in Växjö, Sweden for the production of bio-hydrogen and dimethyl-ether (DME), a cleaner-burning synthetic vehicle fuel, from biomass. More than 50 percent of Växjö's energy is from renewables, making it what many consider to be the world's cleanest city.

Figure 4
Location: Saskatoon, Canada
Year: 2003
Input: Manure, potatoes
Digester: Steel tank, 2 000 m³
Co-generator: Micro turbine, 4 x 30kW
Designer: Krieg & Fischer
Source of this and following items:
Electrigaz, http://www.electrigaz.com/company_en.htm



Figure 5
Location: Fakler, Germany
Year: 2005
Input: Corn, grass and wheat silage
Digester: Concrete tank, 1 045 m³
Co-generator: Gas engine 250 kW
Designer: Krieg & Fischer

Figure 6
Location: Hofgut Holland, Germany
Year: 2004
Input: Pig dung, turkey dung, grass and corn silage
Digester: Concrete tank, 350 m³
Co-generator: Gas engine 60 kW
Designer: Krieg & Fischer





Figure 7

Location: Brahm, Germany

Year: 2004

Input: Pig Manure, Kitchen Waste, Fats, Grain

Digester: Concrete tank, 1 205m³

Co-generator: Gas engine 2 x 190 kW

Designer: Krieg & Fischer



Figure 8

Location: Bluemel, Germany

Year: 1994/1995

Input: Biowaste, separately collected in households

Digester: Concrete tanks, 2 x 800 m³

Co-generator: dual fuel co-generators, 2 x 160 kW

Designer: Krieg & Fischer



Figure 9

Location: Barz, Germany

Year: 1996-1998

Input: Manure, kitchen waste

Digester: 2-stage-concrete tank, 200 m³ and 230 m³

Co-generator: Dual fuel co-generator, 45 kW

Designer: Krieg & Fischer