

# Biogas as a Vehicle Fuel

BANZ Workshop

Auckland, 18 November  
2010

by Guenter Wabnitz



# BANZ Biogas Interest Group

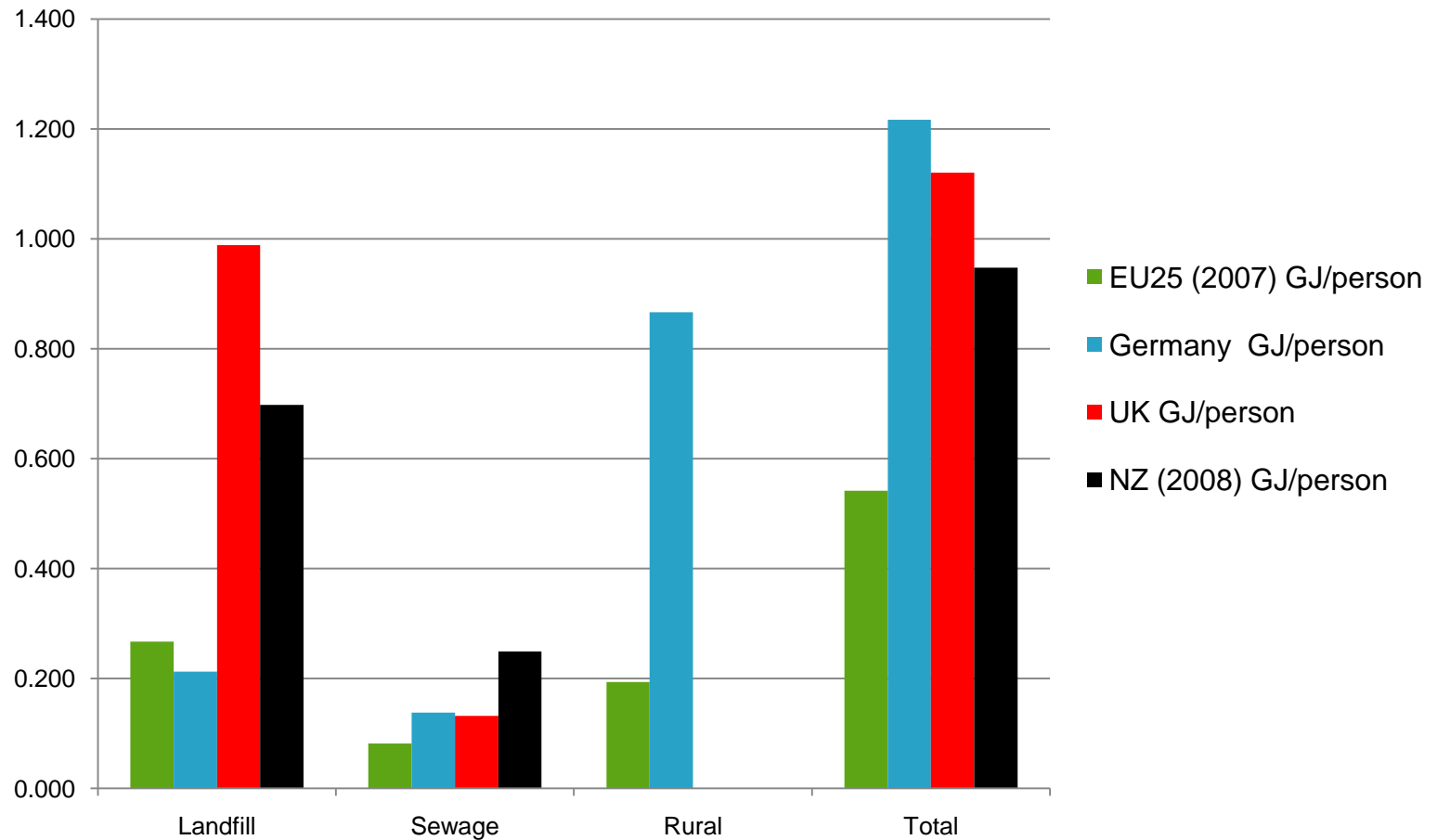
- inauguration July 2008
- Committee started Nov 2008
- reviewed market
- assisted BANZ on strategy
- organised workshops
- point of contact
- provision of information
- biogas website

[www.biogas.org.nz](http://www.biogas.org.nz)



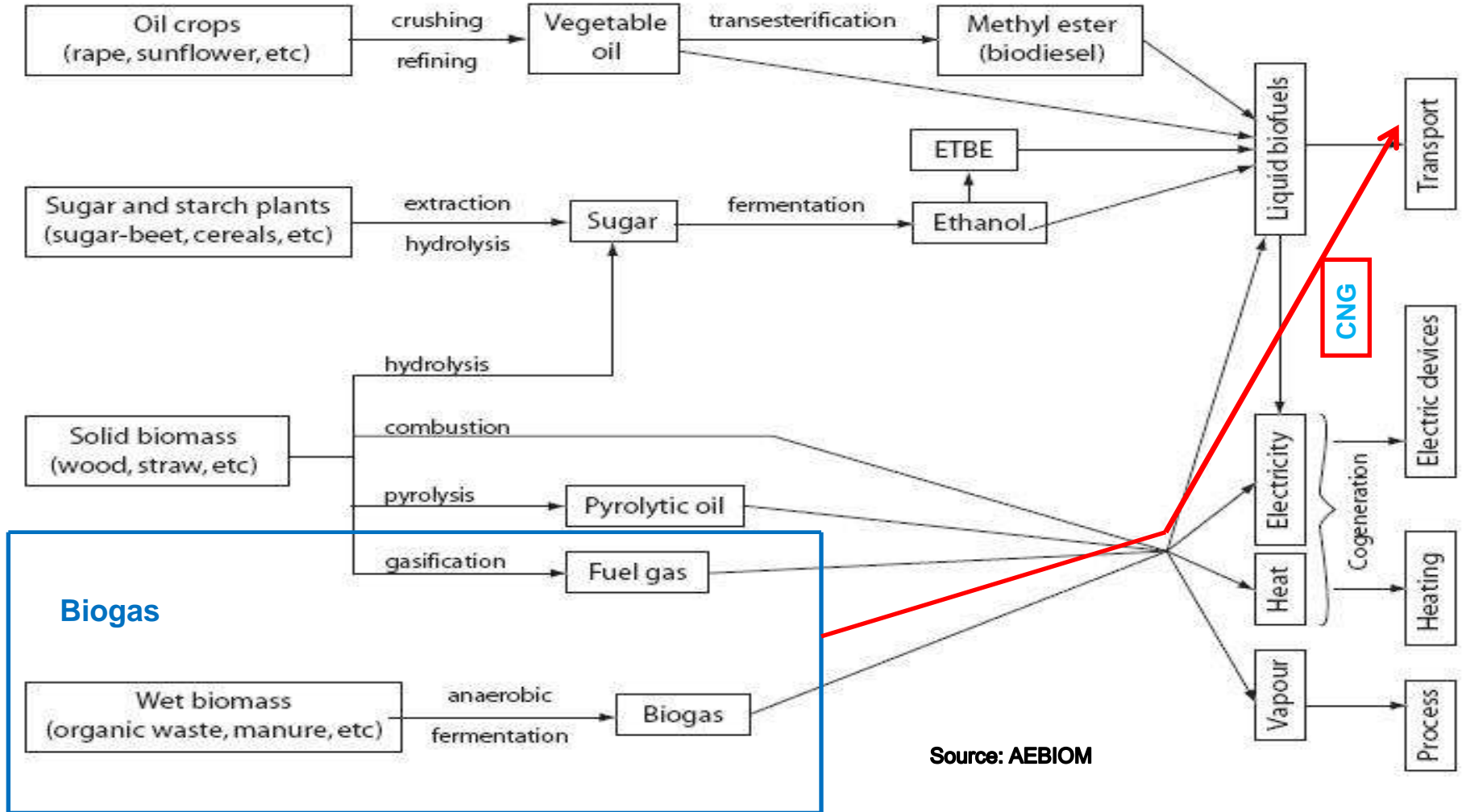
BANZ Biogas Workshop Hamilton July 2008  
Fonterra's pond digester in Tirau  
NZ's largest pond digester with a maximum rating of  
6000 kW (thermal)

# Annual Biogas Use in GJ/ Person by Country 2007/8



# The Role of Biogas in the NZ Bioenergy Industry

## Bioenergy routes



Source: AEBIOM

# Landfill Gas Utilisation Today



Todd Energy's LFG Generator on Wellington Landfill 2008

## Utilisation:

- power generation
- modular units
- grid connected

## In New Zealand:

- Input: 3 PJ p.a. biogas
- Output: 30 MW power continuous
- Value of Biogas: <\$5/GJ

# Waste Water Treatment Plants – Sewage Gas



In New Zealand:

- 1 PJ pa biogas input
- 10 MW power output plus process heat

Watercare: Mangarewa Waste Water Treatment Plant  
with NZ's largest biogas plant  
producing max 18 MW (thermal) or  
7 MW (el.)

# Biogas as a Vehicle Fuel in New Zealand



CNG in Dhaka, Bangladesh

## CNG Industry in New Zealand 1985:

- >100,000 vehicles
- 10% of vehicle fleet
- 5.8 PJ of gas sales

## Biogas potential as a vehicle fuel in 2010:

- 4 PJ biogas production
- fuel for 60,000 vehicles
- Retail Value >\$30 / GJ or \$120 million per year