

Country: **UK**

Total number of plants: 3
with co-firing: 0
fossil fuels for co-firing:

Locations (+database No.):

Londonderry (155), Slough (156), Smethwick (157).

Year of construction	No.	
before 1995	2	67 %
1995 - 2000	1	33 %
after 2000	0	0 %
unknown	0	0 %

Type of power generation	No.		Fuels	No.*	
Steam turbine:	1	33 %	Woodchips (forest residues):	3	50 %
Steam engine:	0	0 %	Woodchips (saw industry):	1	17 %
Organic rankine cycle:	0	0 %	Paper sludge:	0	0 %
Stirling engine:	0	0 %	Waste wood:	0	0 %
Hot air engine:	0	0 %	Bark:	0	0 %
Gas engine:	1	33 %	Peat:	0	0 %
Gas turbine:	0	0 %	Straw:	0	0 %
Other (or n.a.):	1	33 %	Other (or n.a.):	2	33 %

Character of plants	No.		Electric power	No.	
Testing plants:	0	0 %	<1MW:	1	33 %
Pilote plants:	1	33 %	1MW - <5MW:	0	0 %
Demonstration plants:	1	33 %	5MW - 20MW:	0	0 %
Commercial plants:	1	33 %	>20MW:	1	33 %
unknown:	0	0 %	unknown:	1	33 %

*) double counting possible because some CHP plants might use more than one fuel

Name: Brookhall Estate

Database No. 155

Basic Info	
Country:	UK
Location:	Londonderry
Character of plant:	Demonstration plant
Owner:	John Gilliland
Contact Person:	n.a.
Telephone:	028 71358215
Fax:	n.a.
email:	n.a.
webpage:	n.a.
Year of construction:	1996

Technology		Fuel	
Type of power generation:	Other	Total fuel input:	n.a. t/a
Electric power:	0 MW _{el}	Tot. lower heating value:	n.a. kWh/kg
Thermal power:	? MW _{th}	Moisture content:	8 % wet
Co-firing:	N		
Fuel conversion:	Gasification	Type of fuel 1:	Woodchips (forest residues)
Annual production electricity:	0,12 GWh/a	Share of fuel 1:	100 %
Annual production heat:	0,216 GWh/a	Input of fuel 1:	n.a. t/a
Electric efficiency:	n.a. %		
Thermal efficiency:	n.a. %	Type of fuel 2:	-
Total efficiency:	- %	Share of fuel 2:	- %
Ratio electricity/ heat:	-	Input of fuel 2:	- t/a
Fuel power:	n.a. MW _{fuel}		
<i>Boiler (if steam technology)</i>		Type of fuel 3:	-
Steam mass flow:	- t/h	Share of fuel 3:	- %
Steam temperature:	- °C	Input of fuel3:	- t/a
Steam pressure:	- bar		

Costs		Emissions	
Investment costs:	160 Mio €	CO:	n.a. mg/Nm ³
Spec.investment costs (elec):	925 Mio€/MW _{el}	NO _x :	n.a. mg/Nm ³
Fuel costs:	33 €/t	Particles:	n.a. mg/Nm ³
Subsidies:	80 Mio €	C _x H _y :	n.a. mg/Nm ³
Number of employees:	1	SO ₂ :	n.a. mg/Nm ³

Source:

Popi Panoutsou

n.a.... not available

Name: Slough Heat & Power

Database No. 156

Basic Info	
Country:	UK
Location:	Slough
Character of plant:	Commercial plant
Owner:	Slough Heat and Power LTD
Contact Person:	n.a.
Telephone:	n.a.
Fax:	01753 213213
email:	markcandlish@sloughheatandpower.co.
webpage:	n.a.
Year of construction:	1920

Technology		Fuel	
Type of power generation:	Steam turbine	Total fuel input:	17.500 t/a
Electric power:	70 MW _{el}	Tot. lower heating value:	n.a. kWh/kg
Thermal power:	17 MW _{th}	Moisture content:	50 % wet
Co-firing:	N		
Fuel conversion:	Combustion		
Annual production electricity:	154 GWh/a	Type of fuel 1:	Woodchips (forest residues)
Annual production heat:	n.a. GWh/a	Share of fuel 1:	n.a. %
Electric efficiency:	n.a. %	Input of fuel 1:	n.a. t/a
Thermal efficiency:	n.a. %		
Total efficiency:	86 %	Type of fuel 2:	Pellets
Ratio electricity/ heat:	n.a.	Share of fuel 2:	n.a. %
Fuel power:	101 MW _{fuel}	Input of fuel 2:	n.a. t/a
<i>Boiler (if steam technology)</i>			
Steam mass flow:	n.a. t/h	Type of fuel 3:	Woodchips (saw industry)
Steam temperature:	n.a. °C	Share of fuel 3:	n.a. %
Steam pressure:	n.a. bar	Input of fuel3:	n.a. t/a

Costs		Emissions	
Investment costs:	n.a. Mio €	CO:	n.a. mg/Nm ³
Spec.investment costs (elec):	n.a. Mio€/MW _{el}	NO _x :	n.a. mg/Nm ³
Fuel costs:	88-180 €/t	Particles:	n.a. mg/Nm ³
Subsidies:	0 Mio €	C _x H _y :	n.a. mg/Nm ³
Number of employees:	n.a.	SO ₂ :	n.a. mg/Nm ³

Source:

Charlotte Bruton

n.a.... not available

Name: Smethwick

Database No. 157

Basic Info	
Country:	UK
Location:	Smethwick
Character of plant:	Pilote plant
Owner:	Wellman Process Engineering
Contact Person:	n.a.
Telephone:	0121 601 3000
Fax:	0121 601 3123
email:	sales@wellman-process.co.uk
webpage:	www.wellman-process.co.uk
Year of construction:	1995

Technology		Fuel	
Type of power generation:	Gas engine	Total fuel input:	n.a. t/a
Electric power:	n.a. MW _{el}	Tot. lower heating value:	n.a. kWh/kg
Thermal power:	n.a. MW _{th}	Moisture content:	35 % wet
Co-firing:	N		
Fuel conversion:	Gasification		
Annual production electricity:	n.a. GWh/a	Type of fuel 1:	Woodchips (forest residues)
Annual production heat:	n.a. GWh/a	Share of fuel 1:	100 %
Electric efficiency:	25,6 %	Input of fuel 1:	n.a. t/a
Thermal efficiency:	55,2 %		
Total efficiency:	80,8 %	Type of fuel 2:	-
Ratio electricity/ heat:	0,46	Share of fuel 2:	- %
Fuel power:	0,46797 MW _{fuel}	Input of fuel 2:	- t/a
<i>Boiler (if steam technology)</i>			
Steam mass flow:	- t/h	Type of fuel 3:	-
Steam temperature:	- °C	Share of fuel 3:	- %
Steam pressure:	- bar	Input of fuel3:	- t/a

Costs		Emissions	
Investment costs:	n.a. Mio €	CO:	2.000 mg/Nm ³
Spec.investment costs (elec):	n.a. Mio€/MW _{el}	NO _x :	300 mg/Nm ³
Fuel costs:	n.a. €/t	Particles:	n.a. mg/Nm ³
Subsidies:	n.a. Mio €	C _x H _y :	n.a. mg/Nm ³
Number of employees:	7	SO ₂ :	n.a. mg/Nm ³

Source:

Popi Panoutsou

n.a.... not available