Back to Facts & figures

Potential yields of biofuels per ha p.a.

Extremely approximate guideline figures of potential yields of different forms of biofuel per hectare per annum for the UK. N.B. these figures depend heavily on geographical location, cultivation inputs and techniques, establishment, harvesting and processing, etc.

Both net CV (calorific value, or energy content) and density are highly dependent upon moisture content. Hence these figures are quoted at the moisture content (MC) at which the fuel is typically used. The MC is quoted on wet basis (as % of the total weight).

Fuel	Net CV	Annual yield per ha	Energy per ha p.a.	
	MJ/kg	tonne/ha.a (odt/ha.a)	GJ/ha.a	MWh/ha.a
Wood (forestry residues, SRW, thinnings, etc.) @ 30% MC	13	2.9 (2 odt)	37	10.3
Wood (SRC Willow) @ 30% MC	13	12.9 (9 odt)	167	46
Miscanthus @ 25% MC	13	17.3 (13 odt)	225	63
Wheat straw @ 20% MC	13.5	3.5 (2.8 odt)	47	13

Biodiesel (from rapeseed oil)	37	1.1	41	11.3
Bioethanol (from sugar beet)	27	4.4	119	33
Bioethanol (from wheat)	27	2.3	62	17
Biogas @60% CH4 (from cattle slurry)	30	0.88	26	7.3
Biogas @60% CH4 (from sugar beet)	30	5.3	159	44

N.B. While some of these fuels may be harvested annually, some are harvested on a longer cycle. SRC Willow for example is typically harvested on a three-year cycle. Consequently while all the numbers in this table refer to the annual yield, an individual harvest of SRC will be three times as much per hectare.