

Update on the Sustainable Fuel Register & Perennial Energy Crops

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*WoodHeat2020
20th October 2020*

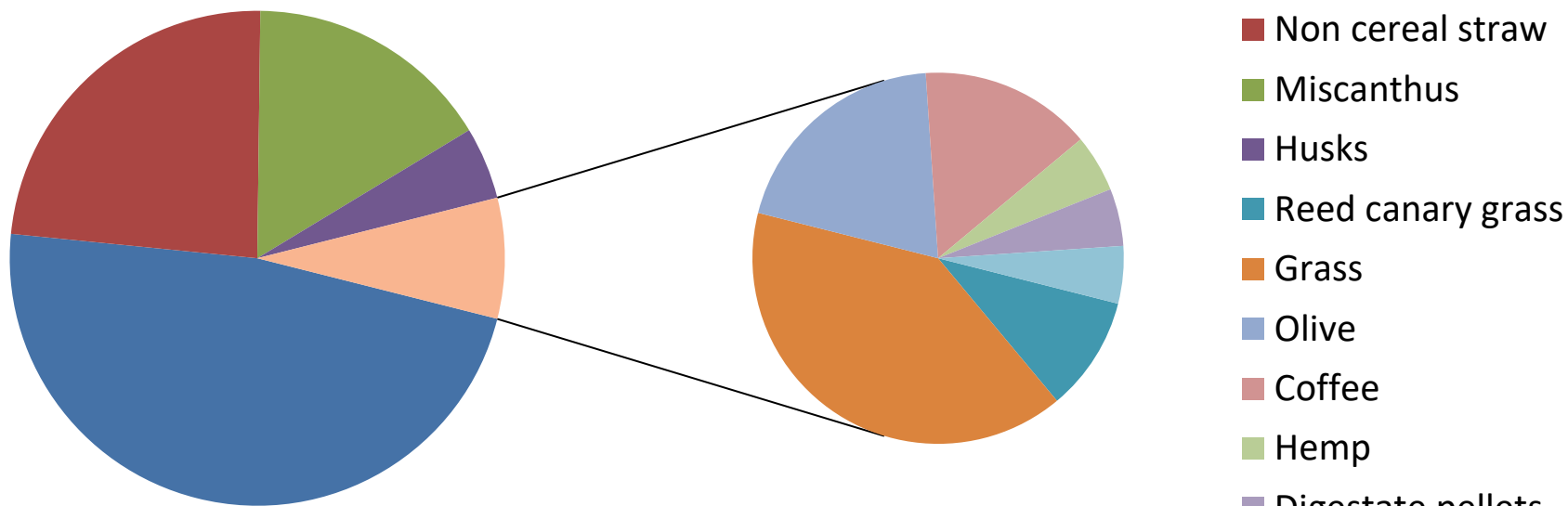


Sustainable Fuel Register



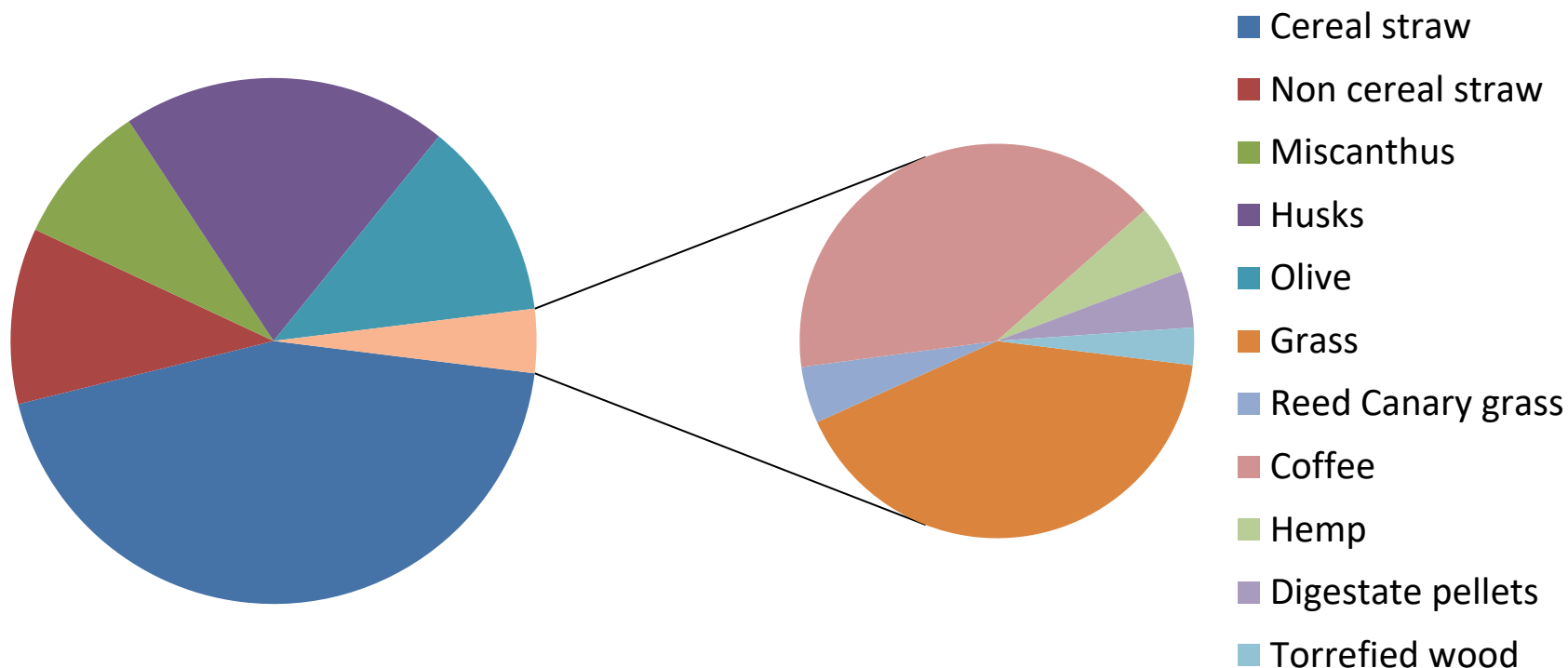
- Compliance for non-wood fuels
- Costs
 - £200 annual fee (covers 100 tonnes)
 - £0.50 per tonne for additional tonnage
 - Special rates negotiable for large volume users
- Assisted application service available
- 84 fuel registrants
- > 150 users
- 256 applications
- 55,000 tonnes registered
- Avg application 215 tonnes
- 2.27 % of BSL users
- 0.32 % of BSL tonnage!

Non-wood fuels - applications



Straw and miscanthus – 88% of SFR applications

Non-wood fuels – tonnage



Straw and miscanthus – 64% of tonnage

Processing residues – husks and olive pomace – 32% of tonnage

SFR participants



- Fuel imports from:
 - Russia
 - Ukraine
 - Spain
 - Bulgaria
 - Pakistan



Gaining RHI accreditation

- Suitable boiler that is capable of burning fuel
- Emissions certificate for
 - Stated boiler
 - Stated fuel
- May need supplementary emissions abatement equipment
- User will need an RHI amendment
- Fuel must be listed on the SFR
- May need environmental permit depending on fuel type and EA classification

GHG figures (g CO₂/MJ)



- Non wood

Straw - Cereal - Bale	2.2
Grass - Bale	2.3
Straw - Non-cereal - Bale	2.9
Miscanthus - Bale	3.3
Grass - Canary - Bale	4.6
Miscanthus - Chip	5.6
Digestate - fibre - pellets	13.4
Olive Pomace - Bulk	15.7
Husks - Non cereal - pellets	17.5
Coffee grounds - Mix - Pellet	21.2

- Wood

Arb – naturally seasoned	3.1
Arb – force dried	4.0
Virgin chip – naturally seasoned	5.8
Virgin chip – force dried	7.2
Waste wood pellets	?
Wood pellets	?

Please note:

Non wood figures based on approved SFR applications

Wood figures based on customer avg for BSL applications I've been involved in (

Any fuel <34.8g CO₂/MJ is compliant

Energy crop options



Insulation against fuel price rises



- A hectare of energy crops can produce **250-470 tonnes** of boiler ready fuel over 22 year period
- Delivered lifetime fuel cost of **<2p/kWh**
 - Includes all costs (establishment, management, harvesting, storage, drying & transport)
 - Includes lost income from food

Short Rotation Coppice Willow



- Quick growing (2-4 yr harvests)
- 15,000 per hectare
- 7m crop
- High yields (8.5-17 boiler ready t/ha/yr)
- Highest yields in the west
- £2,000-3,000/ha to establish



Further reading:

Willow: The fast-track to self-supply woodfuel (but make sure you read this first!)

<http://www.woodheatassociation.org.uk/getting-it-right-with-non-woodfuels>

10 ways to maximise yield from your short rotation coppice (SRC) crop

<https://www.crops4energy.co.uk/10-ways-to-maximise-yield-from-your-short-rotation-coppice-src-crop/>

Miscanthus



- Planted on arable land
- Harvested every year
- 20,000 rhizomes per hectare
- 3m high crop
- High yields (9 –15 t @ 16% MC)
- Highest yields in the east
- £1,500-£2,500/ha to establish



Further reading:

Getting it right with non-woodfuels

<http://www.woodheatassociation.org.uk/getting-it-right-with-non-woodfuels/>

Short rotation forestry (SRF)



- Eucalyptus, southern beech, Italian alder, poplar
- 8-12 year rotations
- 1,650 plants per hectare
- 12-21 boiler ready t/ha/yr
- 12m tall after 4 years
- Establishment costs £2,500/ha



Further reading:

Short rotation forestry – get the low down on Eucalyptus

<https://www.crops4energy.co.uk/short-rotation-forestry-get-low-down-eucalyptus/>

Want to grow your own firewood? Take a look at these high yielding options

<https://www.crops4energy.co.uk/want-to-grow-your-own-firewood-take-a-look-at-these-high-yielding-options/>

Land requirements (heat)



Building type	Annual heat energy consumption (MWh/yr)	Fuel required (odt/yr)	Energy crops area (ha)
Large farmhouse	100	16	1.9
Primary School	200	32	3.8
Secondary School	800	128	15.3
Elderly Peoples' Home	600	96	11.4
Golf course club house	150	24	2.9

- Assumes: New biomass boiler replacing old fossil fuel system and standard yields.

Contacts



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