



CLASP.

Biomass and Low Carbon Fuels for Planners

Nigel Blandford

Timber and Bioenergy

The Mersey Forest

Delivered by:



CLASP. **EnviroLink** **Quantum** **AECOM**[®]

What is
Biomass?

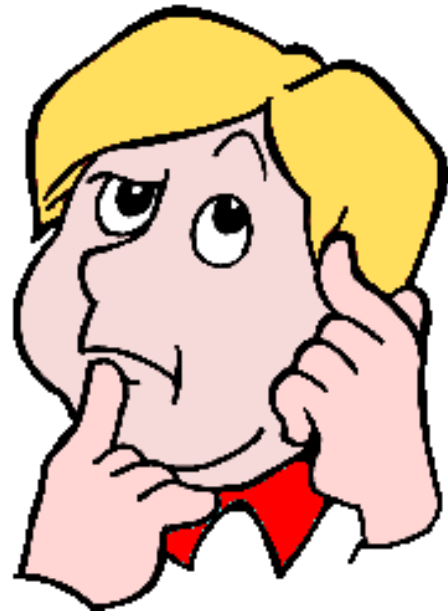
Hands up
please







Generally

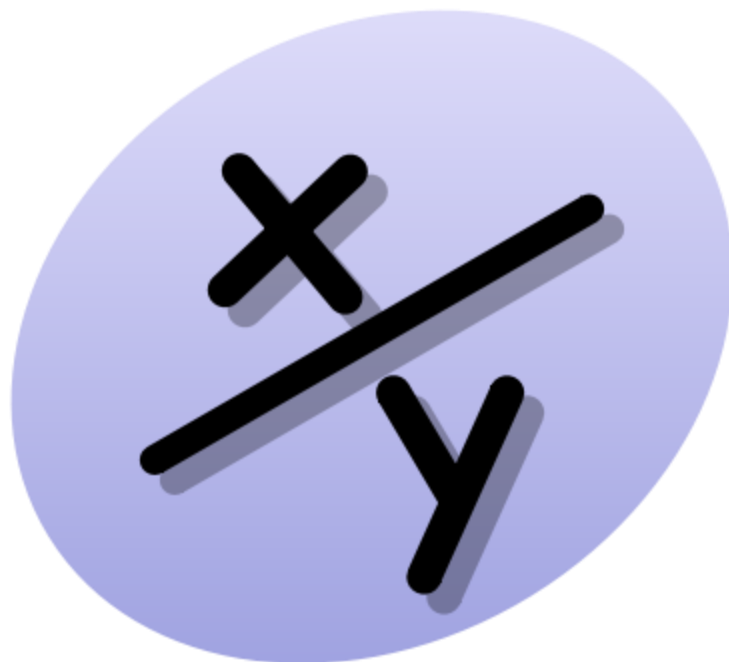








But







© Pat Penkinson

MORE TH>N®

50%



Biomass



Solid
Recovered
Fuels
SRF

MORE TH>N®

75%

Biomass



100%

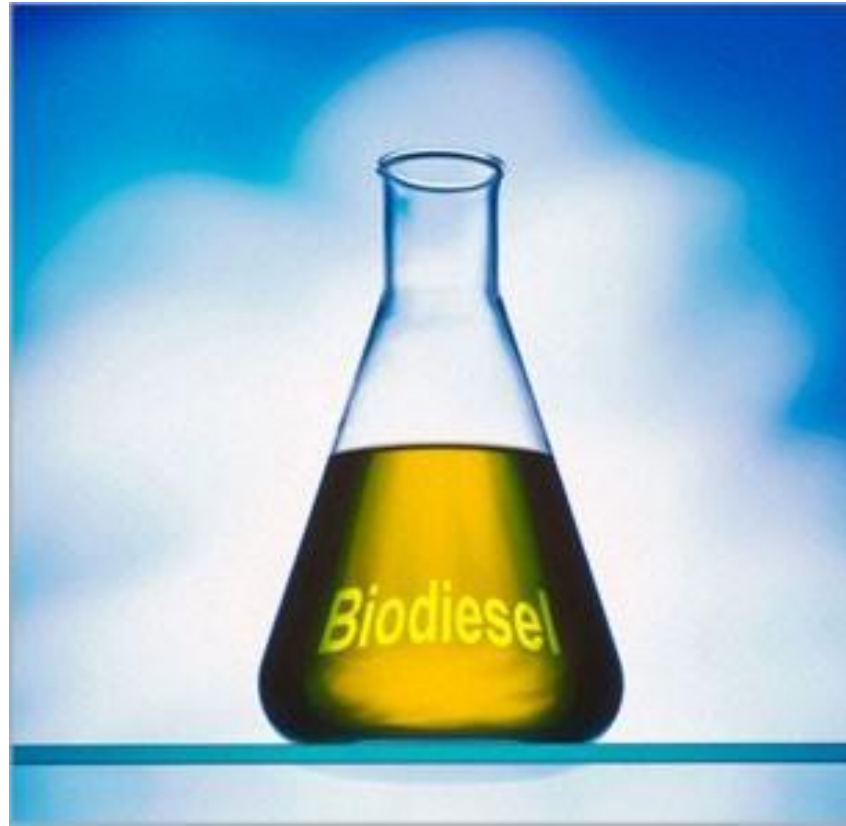
So



NO!

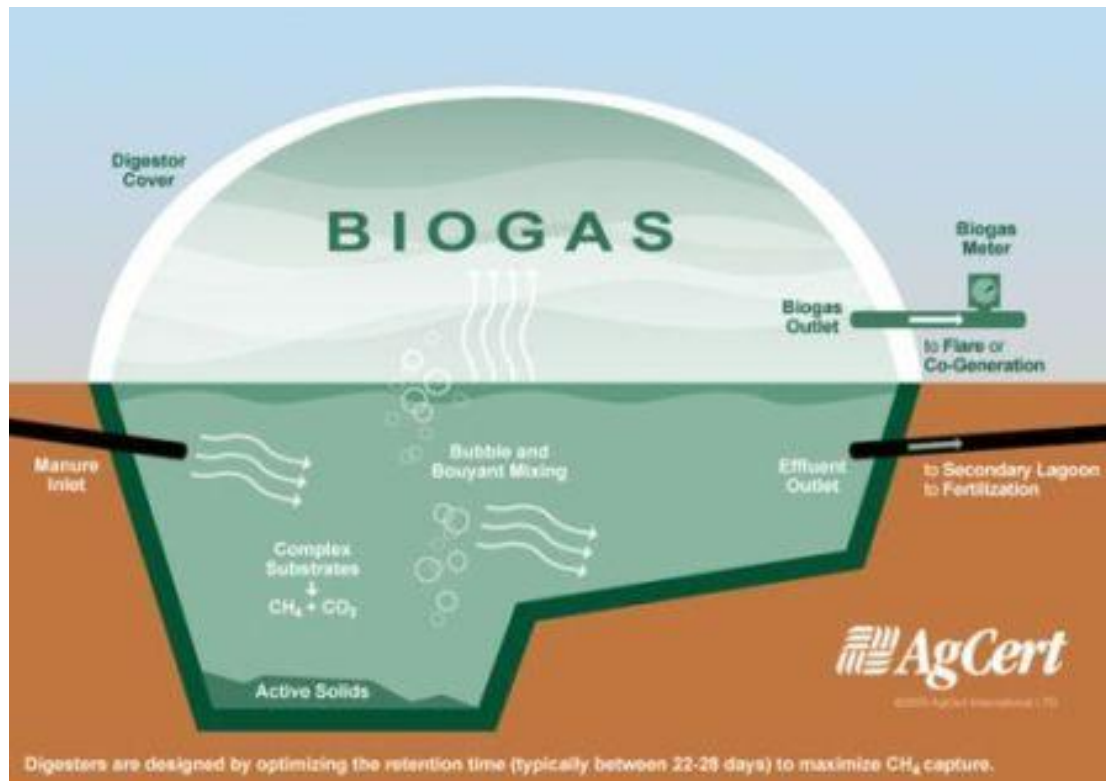


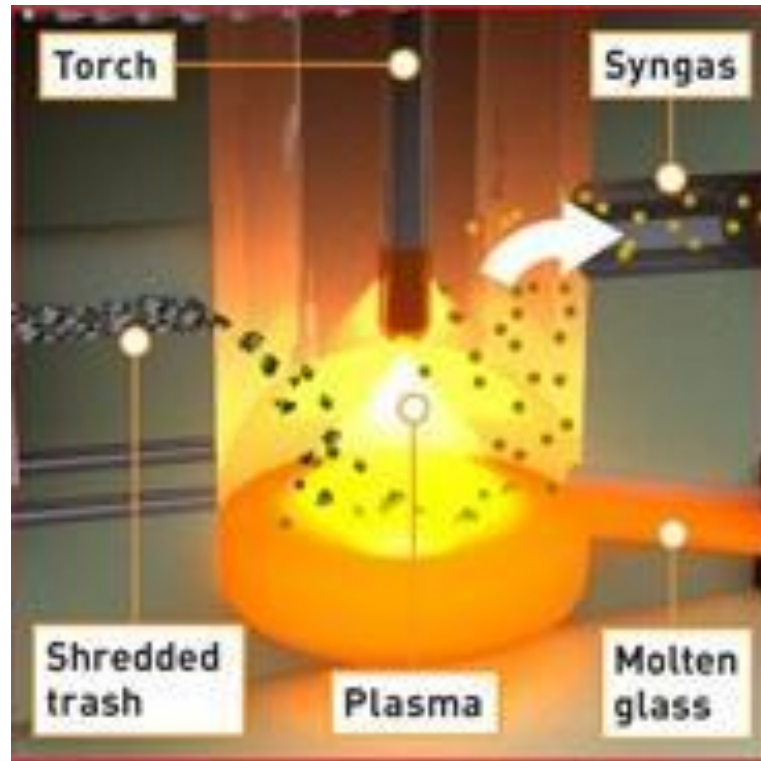












Carbon 14



What is
Biomass?

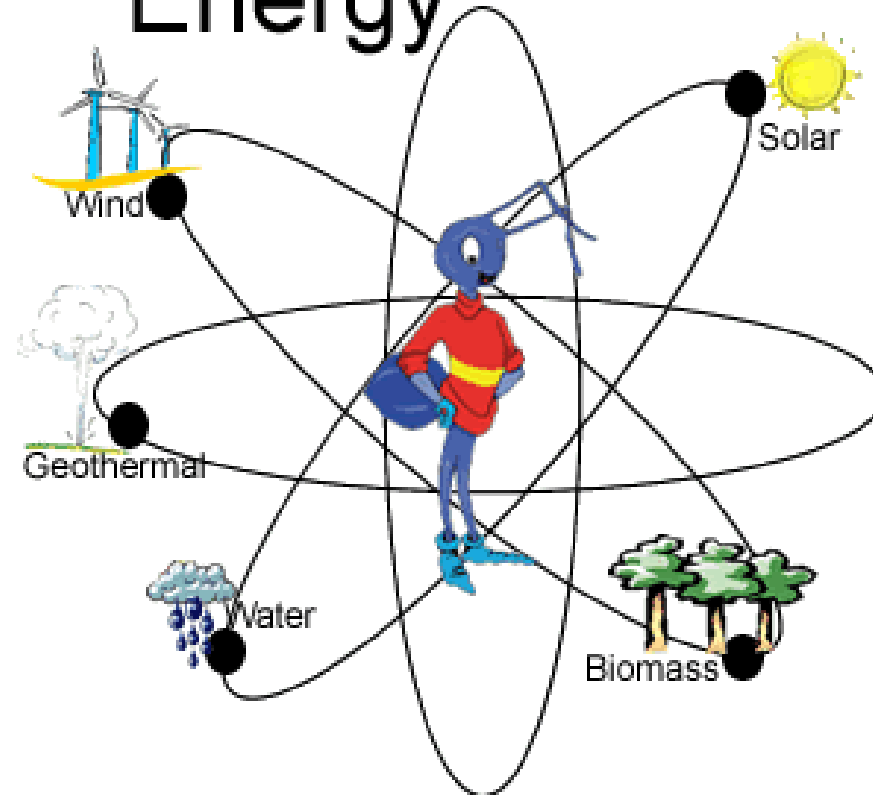
Hands up
please

- Organic - Animal or vegetable
- Variety of sources including waste
- Solid, liquid or gas.

So

Big Advantage

Renewable Energy



MUSIC MIX















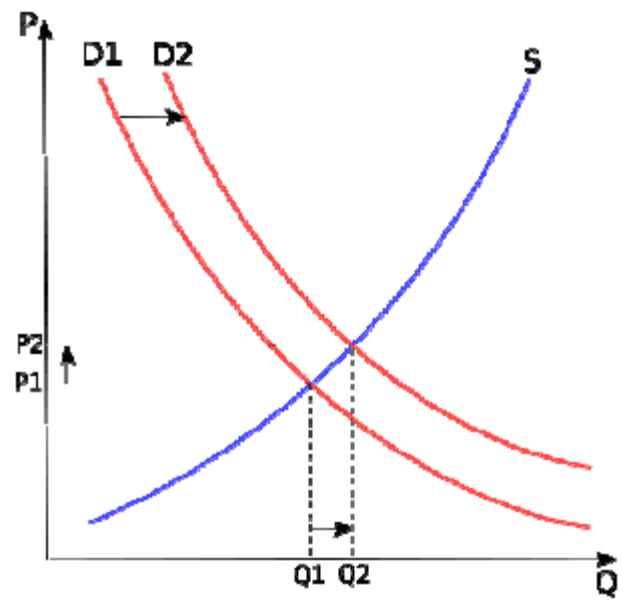


















Sustainable to transport?

Transport method	Grammes CO₂ per tonne-km
Inland	30.9
Maritime	13.9
Rail	22.8
Road	123.1
Light Duty Vehicle	397.4
Heavy Duty Vehicle	92.0

Source: European Environment Agency TERM 2003 27 EEA 31

Not so bad

Who drove
here?

Hands up
please

Who came on
public
transport?

Hands up
please





Calvin Klein
OBSESSION
for men

eau de toilette spray
vaporisateur

Calvin Klein

4 FL OZ

125 ml e

OBSESSION
for men

eau de toilette spray
vaporisateur

Calvin Klein

Biomass

From here
on in





Woody Biomass



SOLID

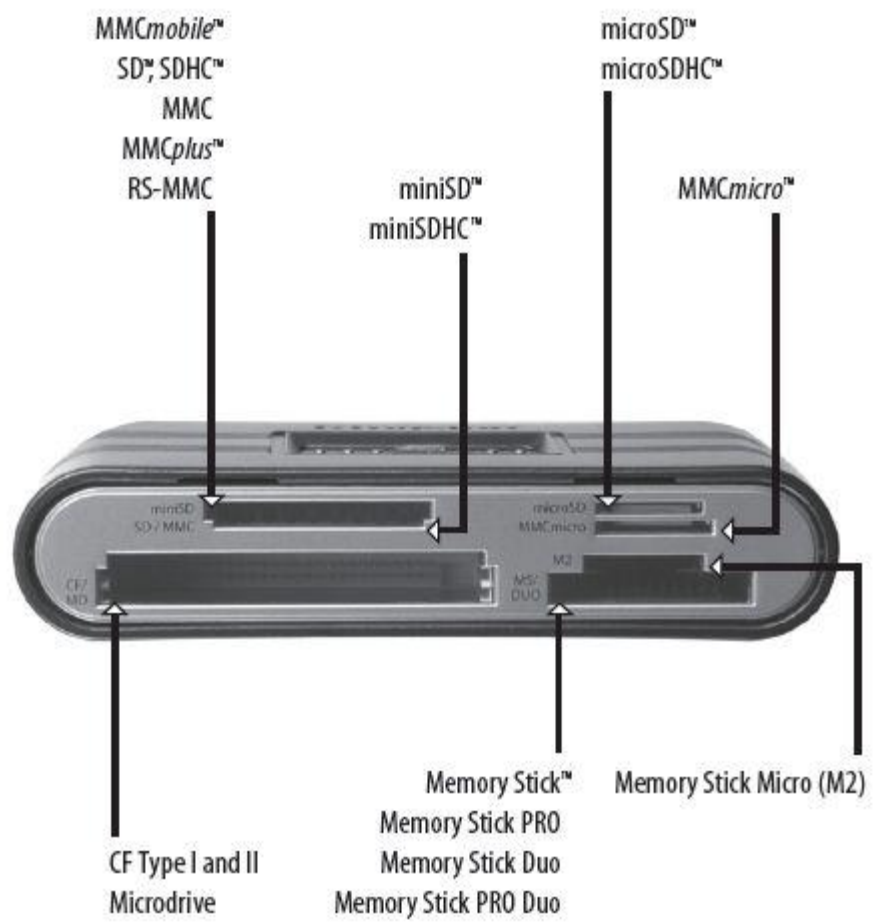




NO!







Solid Chunks





Chips





Pellets



Then















*Below - wood waste, mainly pallets,
prior to recycling*



*Right - finished product ready for use in
the manufacture of board, probably chipboard*



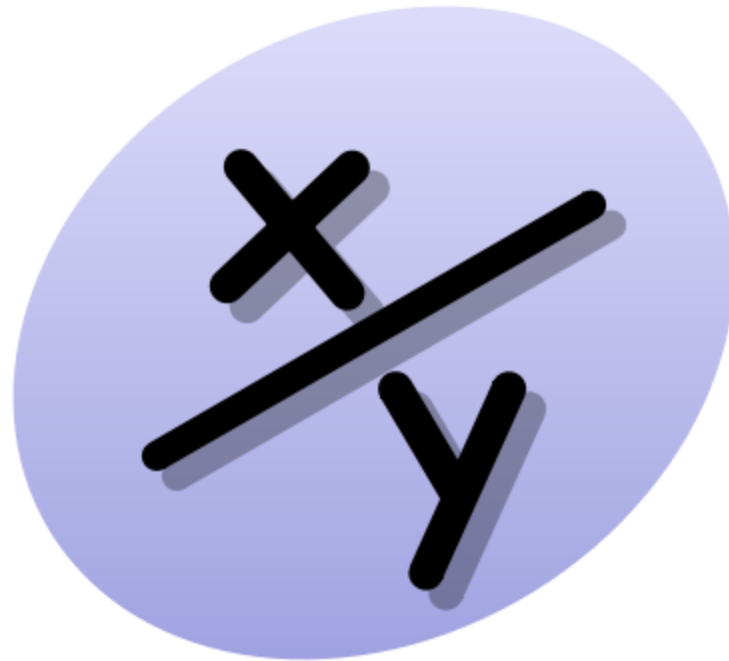






Torrefaction







Kellogg's

The Goodness
of Rice
B Vitamins
and Iron

RICE
KRISPIES
Original



Kellogg's
COCO
POPS
mega
munchers

Kellogg's
COCO
POPS

Kellogg's
FROSTIES

Kellogg's
VARIETY





150,000

Tonnes



WAIST











MUSIC MIX













*Below - wood waste, mainly pallets,
prior to recycling*



*Right - finished product ready for use in
the manufacture of board, probably chipboard*







Sustainability







GREENPEACE

OFGEM

Mandatory Sustainability Reporting



ROCs
Renewable
Obligation
Certificate

RHI Renewable Heat Incentive

2013









STANDARDS



CEN/TC 335

Biomass

Standards

Specification

Assurance schemes for fuels



HETAS



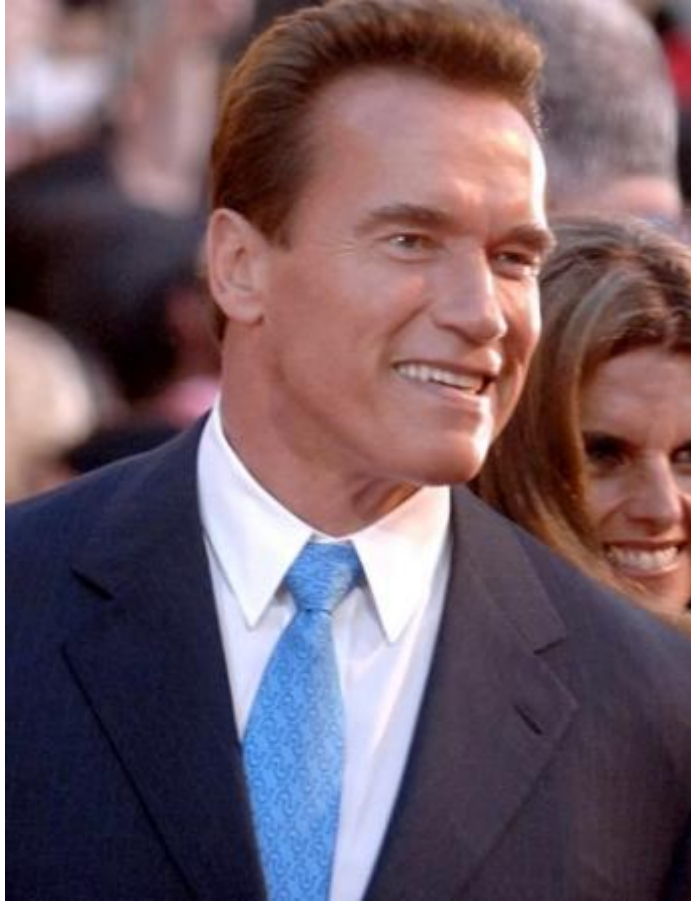






CERTIFICATE NO. UK001





SO

What can
planners do?

Don't



Calvin Klein
OBSESSION
for men

eau de toilette spray
vaporisateur

Calvin Klein

4 FL OZ

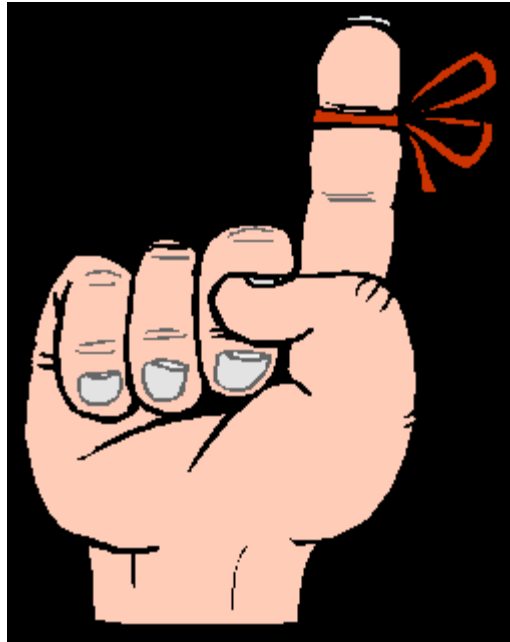
125 ml e

OBSESSION
for men

eau de toilette spray
vaporisateur

Calvin Klein











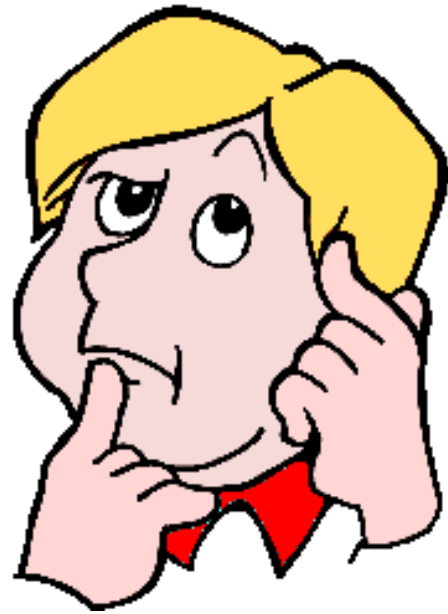




















- How's it going to arrive?
- Can the vehicles easily turn and discharge?
- Is there enough storage for fuel?





**Woody Biomass
Fuel Supply in
England's
North West
Directory
2010**

Thank you



CLASP.

Nigel's magic box of fuels

Nigel Blandford

Timber and Bioenergy

The Mersey Forest

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