

Introduction

- The Warwickshire biomass opportunity
- Current state of the market
- The current project portfolio
- Market barriers and the way forward

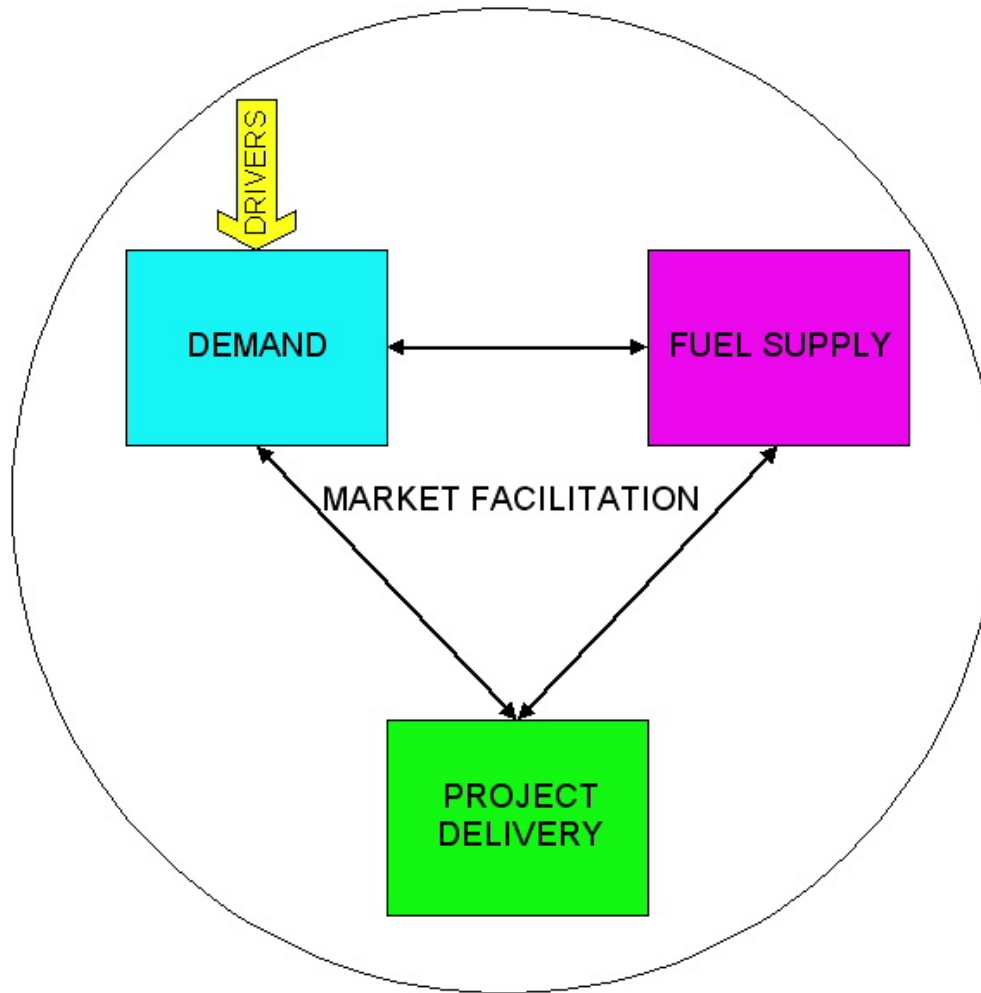


Market Objectives



- 10 -20 projects £1-2m, £100-£200k revenue.
- Focused facilitating body
- Network of specialist local SMEs
- Informed clients/customers

The Market



The Demand for Heat

- Total demand for biomass heat
- Derived from Warwickshire commercial gas sales 2450 GWh in 2003
- 610 GWh suitable for biomass heating, 230 MW boiler capacity
- Total market £140m , this could be £10m per year in boiler installations and replacements

Market Drivers



Building Codes

- Merton Rule,
- Part L building regulations,
- BREEAM
- Code for Sustainable Homes

Other Factors

- Procurement policy
- Environmental concerns
- Cost saving
- Use of local resources
- Security of supply

Fuel Supply Potential

Sources

- Woodland management
- Tree management
- Waste wood recovery, SRF
- Fuel crops, SRC

Estimate of fuel supply

- 120 kt / yr (dry fuel)
- 340 GWh / yr
- 130 MW of boiler capacity
- £6.8m / yr

Warwickshire's Project Portfolio



<u>Stage</u>	<u>Qty</u>	<u>Power</u>
Operational or on order	5	0.6 MW
Projects in progress	19	4MW thermal 7MW power
Known opportunities	23	

Potential market

- 130MW of boiler capacity
 - 1300 x 100kW
- Or
- 260 x 500kW

Cost Headlines



- Capital costs £400-£800 kW
- O&M £500-£3500 / yr
- Wood chip £55 - £75 t
- Pellets £130 - £200 t

Market Barriers

Issue

1. Policy on grants
2. Lack of familiarity with the biomass option
3. Perception of fuel quality and continuity
4. Shortage of expertise

Mitigation

1. Market facilitation
2. Education
3. Quality control, education, procurement, contracts
4. Training

Social / Environmental Impacts



Benefits

- Sustainable woodland development
- Stimulates local rural economy
- CO2 emissions reduction
- Ash is a fertilizer

Impacts

- Fossil fuel use for resource management, processing and wood fuel transport

How are we doing?

- 10 -20 projects £1-2m, £100-£200k revenue
 - Project portfolio needs progressing
- Focused facilitating body
 - Steering group for strategy , need a delivery body
- Network of specialist local SMEs
 - This is growing
- Informed clients/customers
 - More work to be done

Conclusion

- There is a lot of potential for biomass projects in Warwickshire
- Estimate total market size £140m, fuel supply £6.8m year
- 20 projects in the pipeline + 25 other opportunities
- This is only 1% of the potential
- Drivers are there to move the market on

Warwickshire Biomass Market



Thank you for listening.

If you have any further questions my contact details are:

bernard.perkins@encraft.co.uk

M: 07802 207380