

The Economic Value of Biomass*

Implications for policy and practice

David Clubb† and Ben Tansey
Rural Development Initiatives

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†now working at the European Environment Agency, Copenhagen
presentation available at www.northwoods.org.uk/presentations

About RDI

- Rural development specialist, forestry-focused
- 22 staff across UK
- Offices in Scotland, NE England and Yorkshire



The research

- No previous study of biomass value
- Important to demonstrate value to policymakers
- Analysed value to NE of:
 - Plant installation
 - Woodfuel value
 - Electricity
 - ROCs
 - Carbon
 - Externalities



Large-scale biomass

- Electricity generation inefficient (<40%)
- Large heat-only is better
- Both have good carbon benefits (>90% improvement¹)
- Imported fuel means no/few local multipliers



Small-scale biomass

- Efficient (>85%)
- Good local multipliers (installation, fuel supply)
- Very rapid market growth



Technology	Sector	Potential (TWh)			Growth rate (% per year)	
		2010	2015	2020	2010-2015	2015-2020
Biomass boilers	Non-domestic	2.8	6.5	16.9	18%	21%
Biomass boilers	Domestic	0.0	1.0	4.7	90%	37%
Biomass DH	Non-domestic	0.5	0.7	1.4	7%	13%
Biomass DH	Domestic	0.5	0.7	1.3	7%	12%

Demand and Supply

Policy	Input (TWh)	Fuel reqd (Modt) [†]
Renewable energy strategy – heat ¹	28 [*]	5.3
Renewable energy strategy – electricity ²	69 [*]	13.1

- 18.4m odt = 27.9Mt at 30%mc[†]
- Total UK forestry output = 8.8Mt ‘green’
- Shortfall of 19.1Mt/yr from domestic supply

1 – Central growth scenario for the UK biomass supply curves

2 – UK RES p.42

3 – Forestry statistics 2009

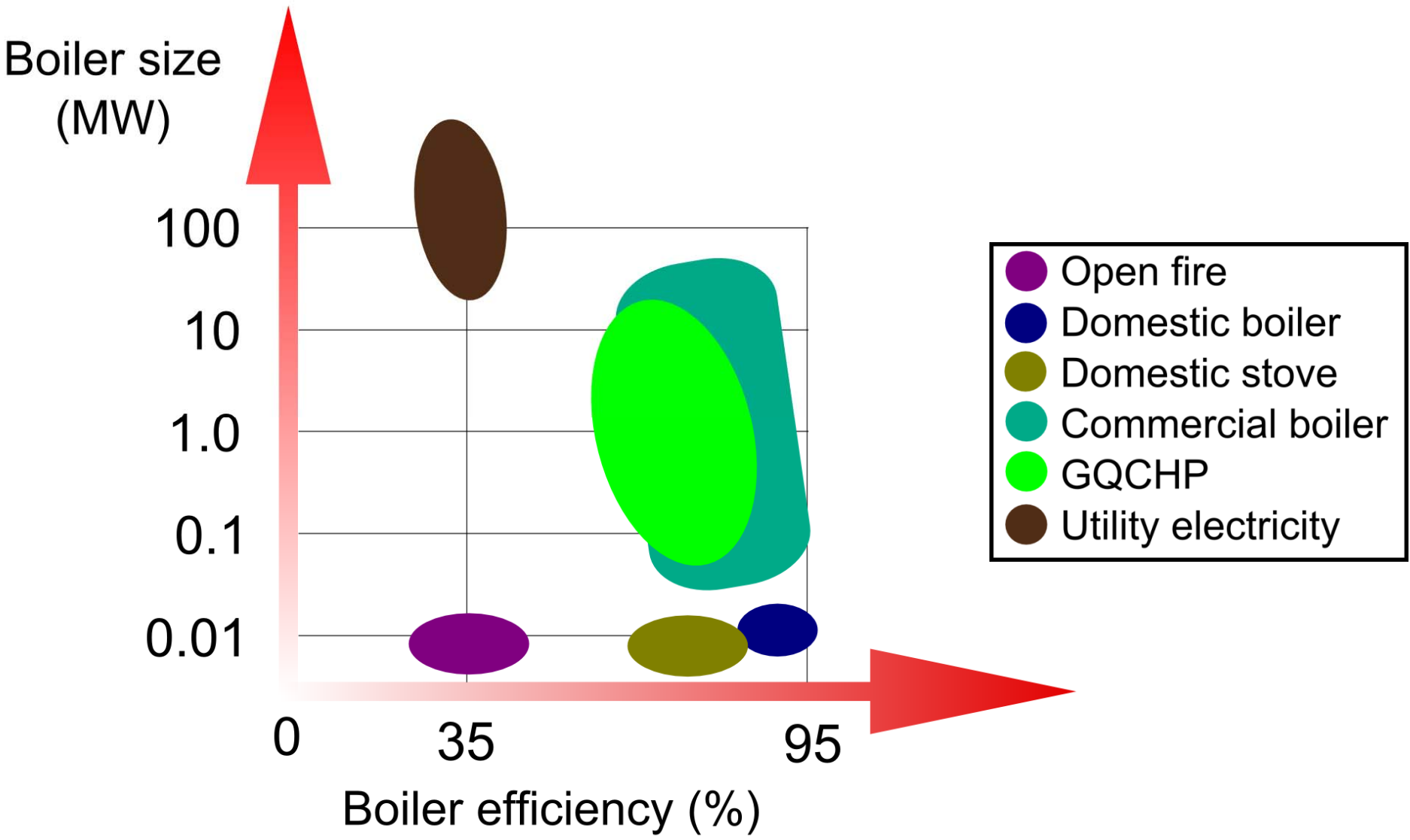
* Assumes 88% (heat) and 37.5% (electricity) efficiency conversion, central growth scenario

† 19GJ/odt (www.biomassenergycentre.org.uk); 1TWh = 3.6x10⁶ GJ

Imports

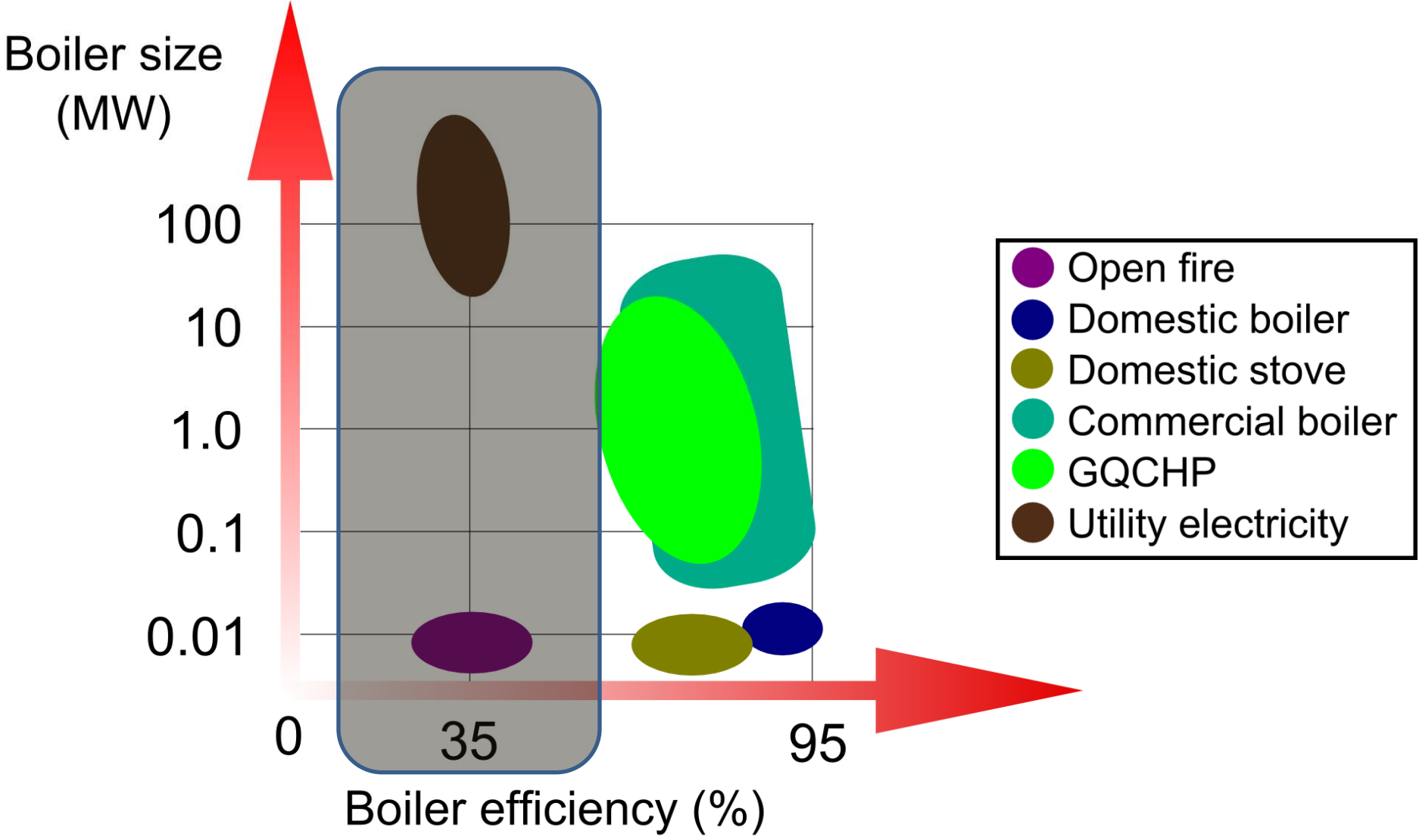
- Currently 45.7Mt net import¹
- UK will have to increase imports by $\approx 40\%$
- Cost of $\approx \text{£}1\text{bn/yr}$
- **We should be maximising forestry output on marginal land to increase value!**



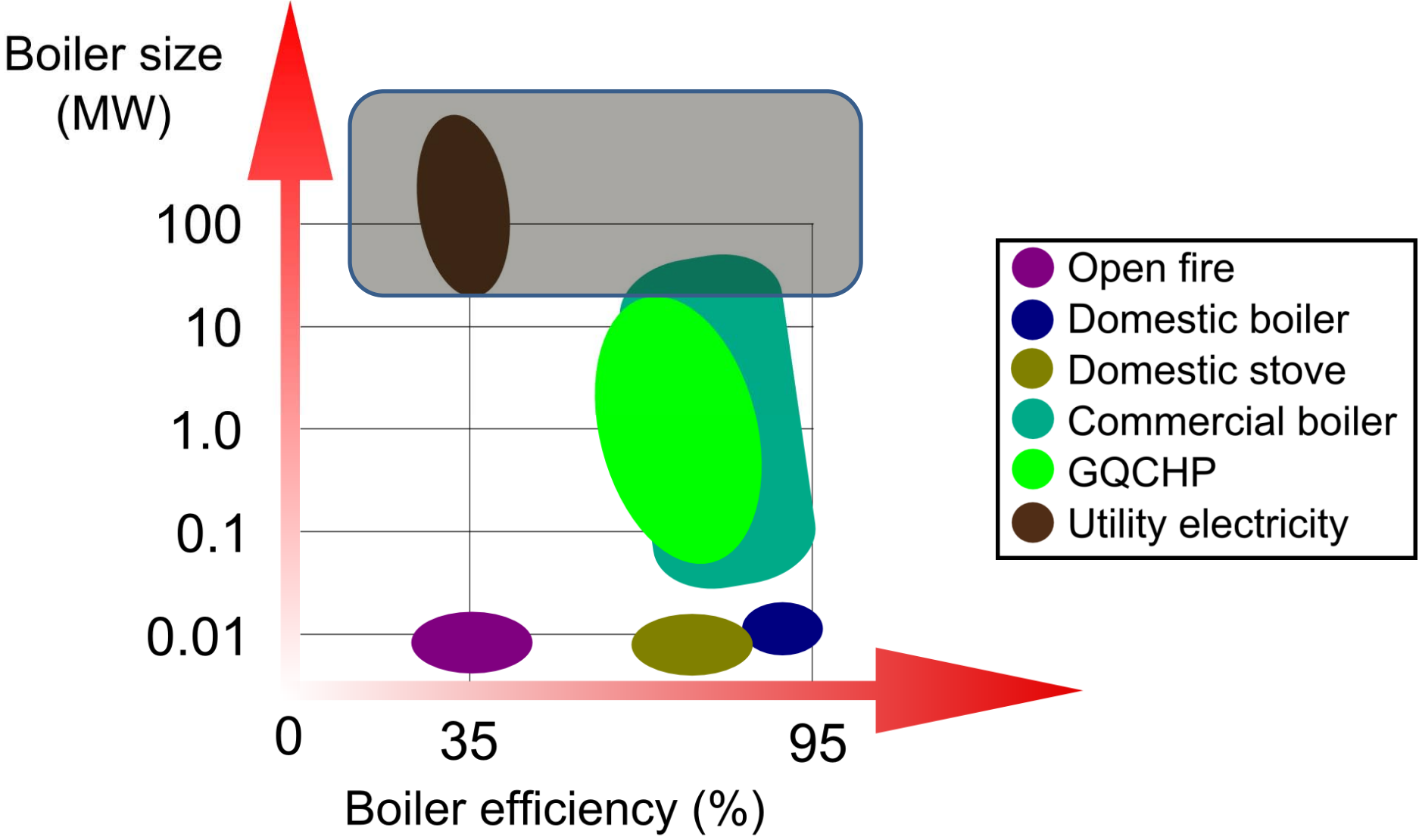


Figures are indicative only

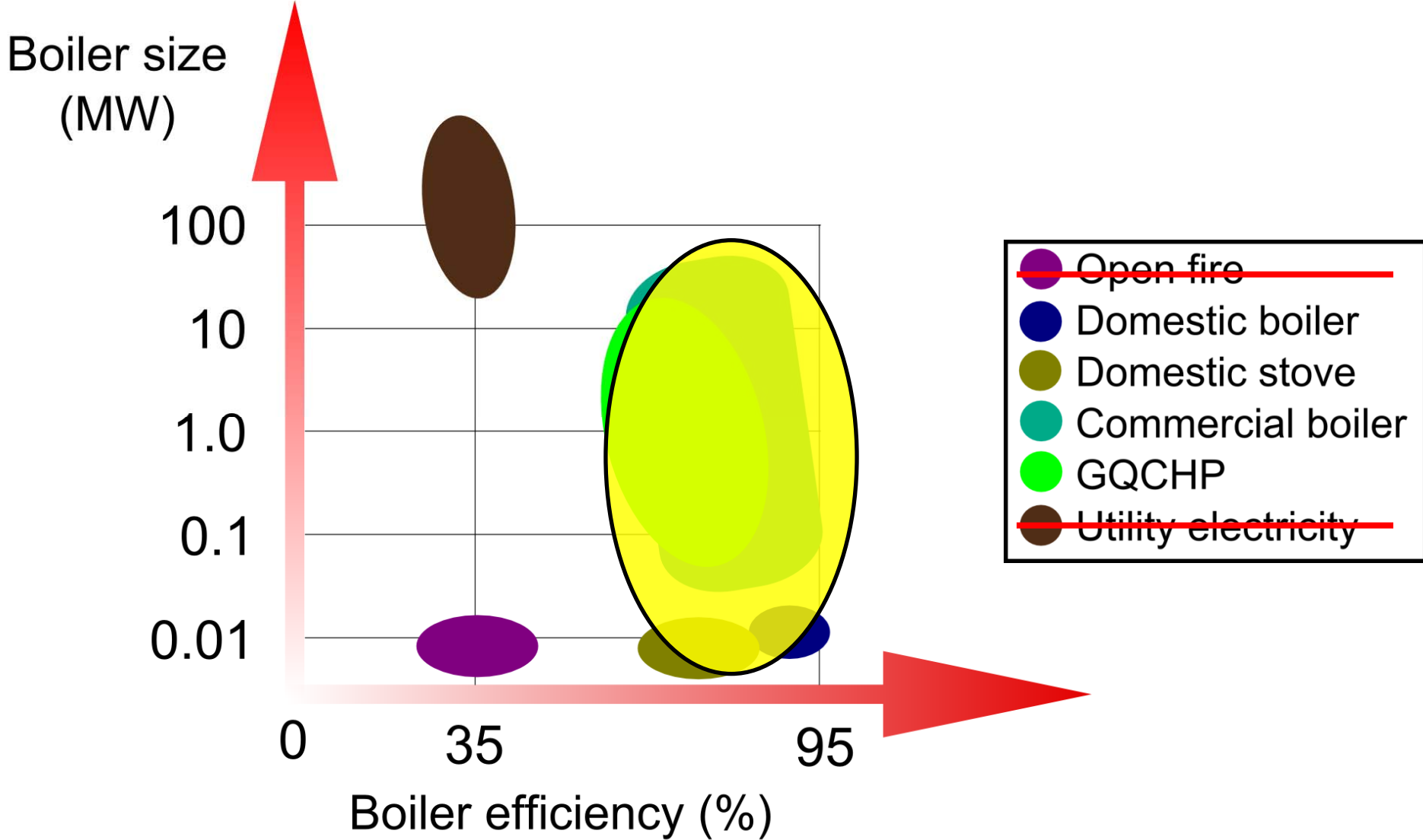
Poor efficiency – don't support?



Imported fuel – less support?

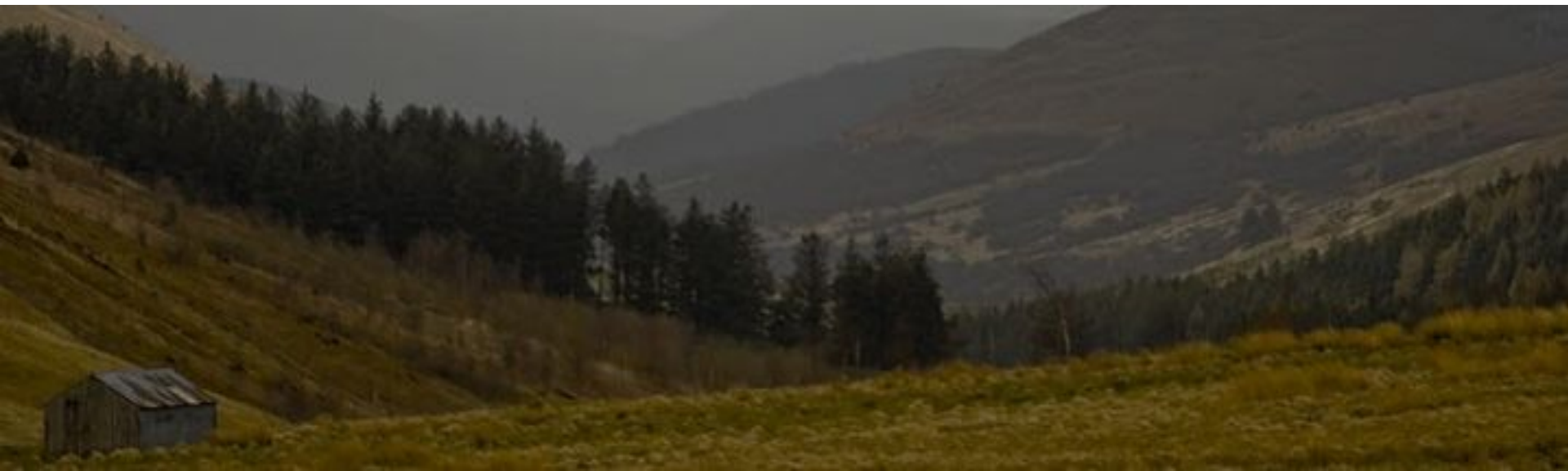


Sweet spot - golden egg of maximum benefit



Conclusions

- Sector worth £39m annually to the region
- Value accrues (90%+) to large-scale developments
- Small-scale sector economics largely unknown
- Biomass adds significant value to the forestry sector
- Imported fuel reduces this economic benefit
- 2 separate woodfuel markets developing



Implications for policy and practice

- Biomass support should focus on high-efficiency use
- Calculate full benefits of small-scale use
- Rapidly increasing biomass demand will increase the floor price of forestry products
- Remember the egg



Ben Tansey
Northwoods Project Director

www.northwoods.org.uk

www.ruraldevelopment.org.uk

Presentation available on the Northwoods website