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Domestic firewood in Wales: where does it come from and how much energy does it generate?

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Firewood and Renewable Energy Reporting

- DUKES (Digest of UK Energy Statistics), November 2013

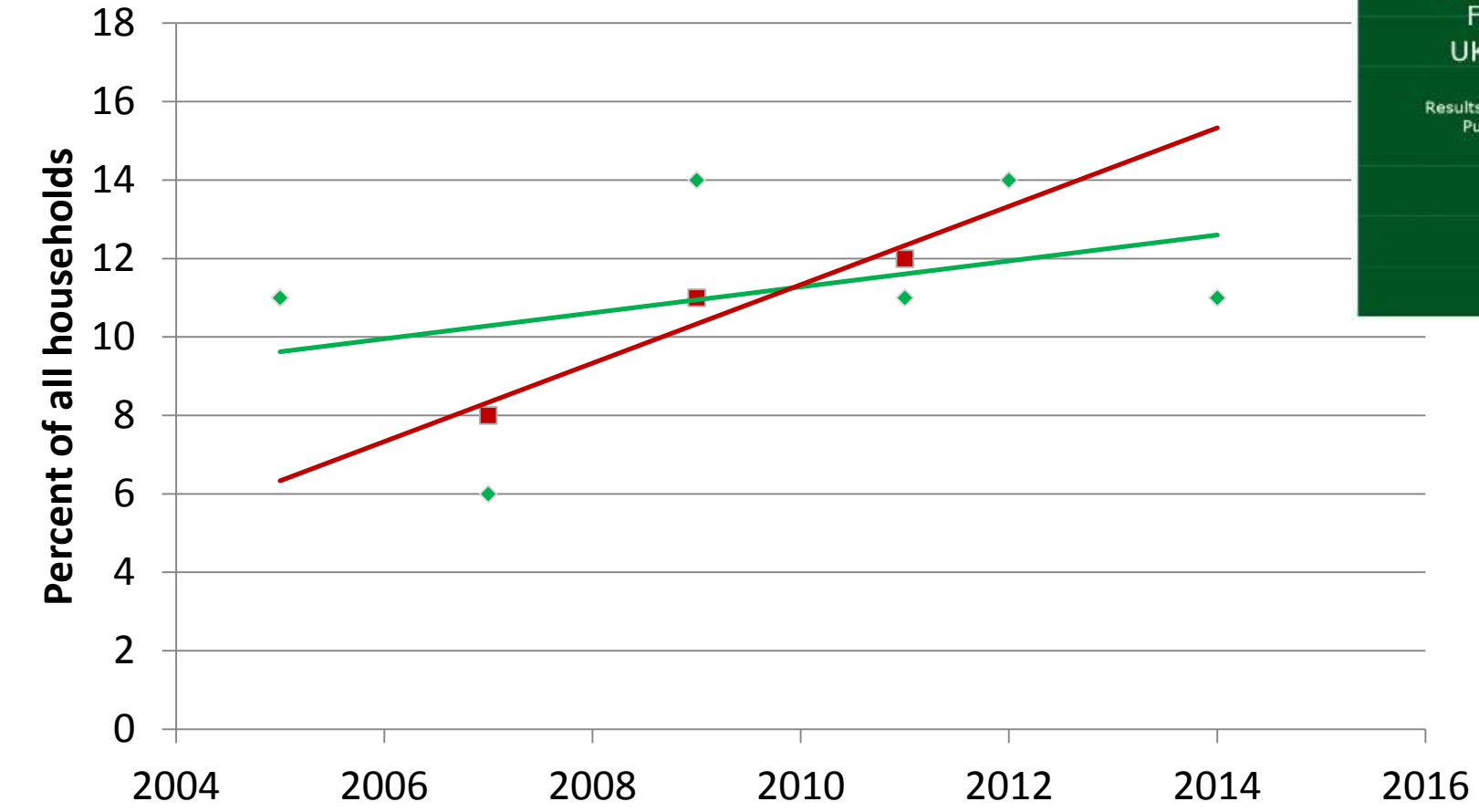
- *"statistics on domestic [fire]wood use is one of a few cases where <u>good data are not available…detailed surveys have been unsuccessful to date</u>"*

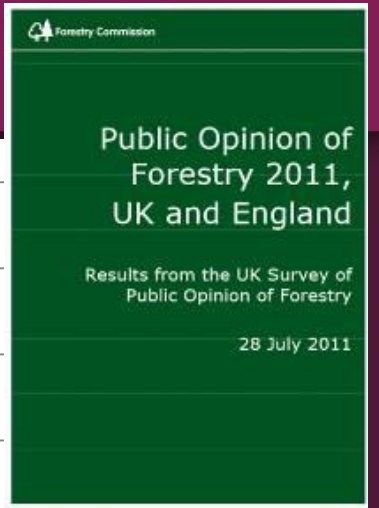
- Current UK figures for domestic firewood are based on:

1. A historic survey undertaken in 1989
2. Revision in 2003 based on a 50% growth rate in sales / installations over a 2-3 year period
3. Anecdotal information from three different sources

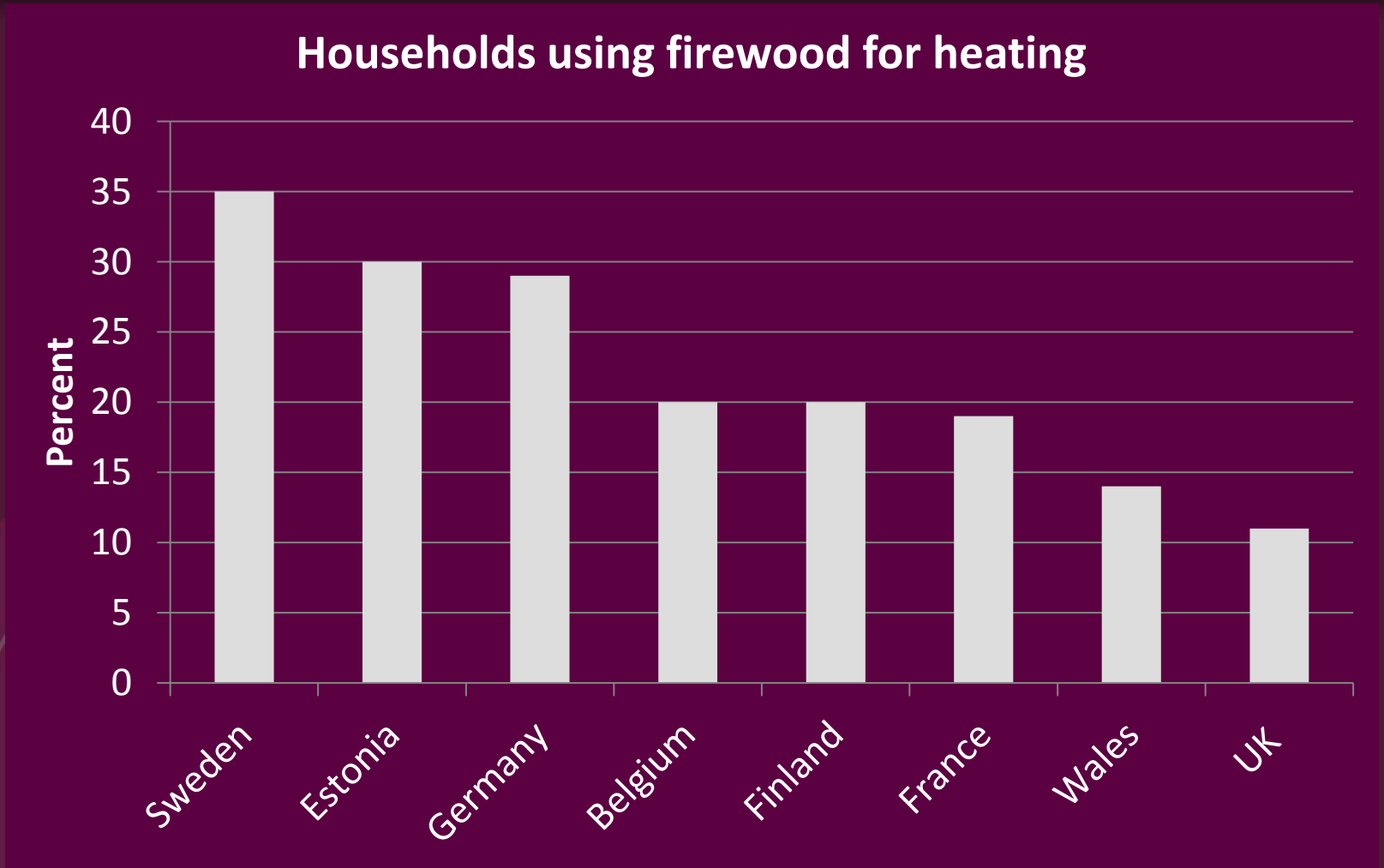
- NOT GOOD ENOUGH!

National trends?





EU trends


Households using firewood for heating
Percent
40
35
30
25
20
15
10
5
0
Sweden
Estonia
Germany
Belgium
Finland
France
Wales
UK

Our story so far…

- Partnership research between Bangor University, FC Wales/NRW, LlyG, LlyG members & Wild Resources Limited
- 2012 – Kirsten Hails – GoWales

Wong, J. and Walmsley, J.D. (2012) Wales Domestic Firewood Survey 2012, report for Forestry Commission Wales

- 2014 – Simon Atherton – KESS

Llais y Goedwig
The voice of community woodlands in Wales

wild resources limited

woodfuelWALES
tanwyddcoedCYMRU

Coetir Mynydd

BBCW Blaen Brân Community Woodland
www.blaenbran.org.uk

Pobl y Fforest Elwy Working Woods Co-op

Cyfoeth Naturiol Cymru
Natural Resources Wales

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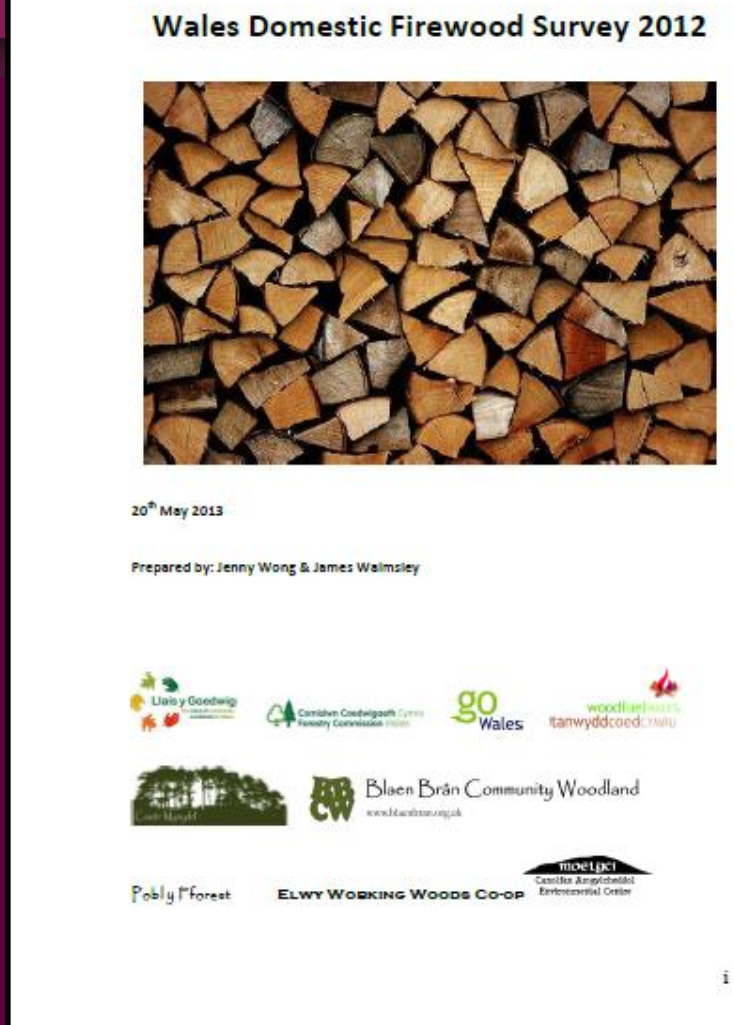
go Wales

2012 report headlines

~ 0.5 million cu metres of solid firewood burnt per year

Sourced from:

- 25% home-grown
- 26% bought
- 18% waste
- 22% collected
- 10% scavenged



Wales Domestic Firewood Survey 2012

20th May 2013

Prepared by: Jenny Wong & James Walmsley

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Coed Morgannwg

go Wales

Blaen Brân Community Woodland

Pobly'r Forest

Elwy Working Woods Co-op

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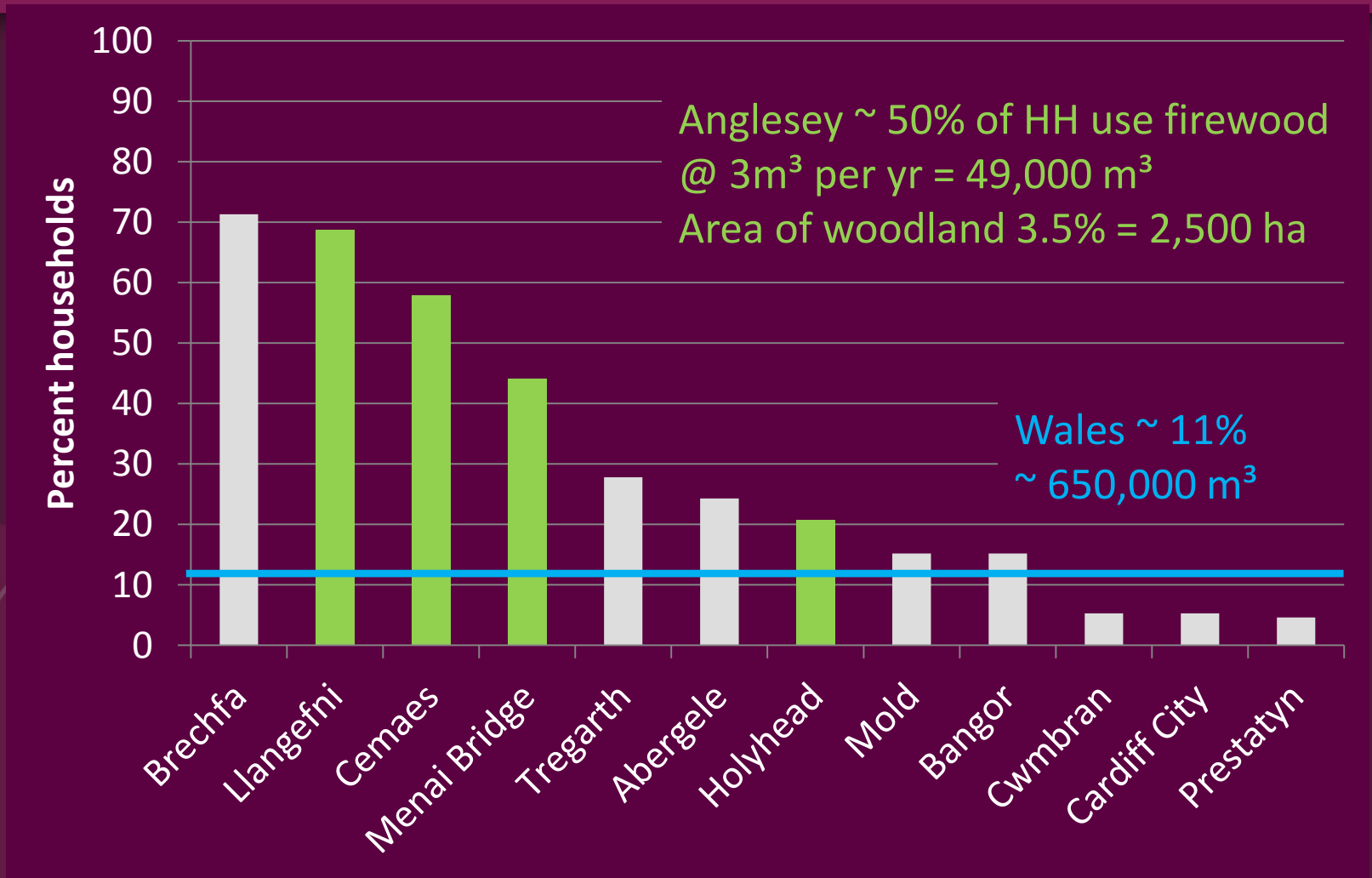
2014: Simon Atherton / Rhys Parry / James Slack

- **National**: Omnibus
- **Dense urban**: Swansea and Cardiff
- **Urban**: Prestatyn, Bangor and Mold
- **Rural-Urban**: Anglesey

Rural-Urban % households using wood heating



Contribution to overall renewable energy generation

- Wales officially produced **2,185** GWh_{elec} from renewables in 2011 (DECC, 2013)
  (Rhyl flats 90 MW offshore windfarm generates ~225 GWh_{elec} yr^{-1})

- Our 2012 survey suggests that in Wales, domestic firewood usage is (at least) 576,400 m^3 yr^{-1}
- Assuming that 1 m^3 firewood = 5 MWh
- 576,400 m^3 yr^{-1} x 5 MWh = 2,882,000 MWh_{heat}
- Domestic renewable energy generation from firewood is estimated at **2,882** GWh_{heat} yr^{-1}

- Huge discrepancies exist between how these two comparable resources are measured, monitored, supported and recognised.

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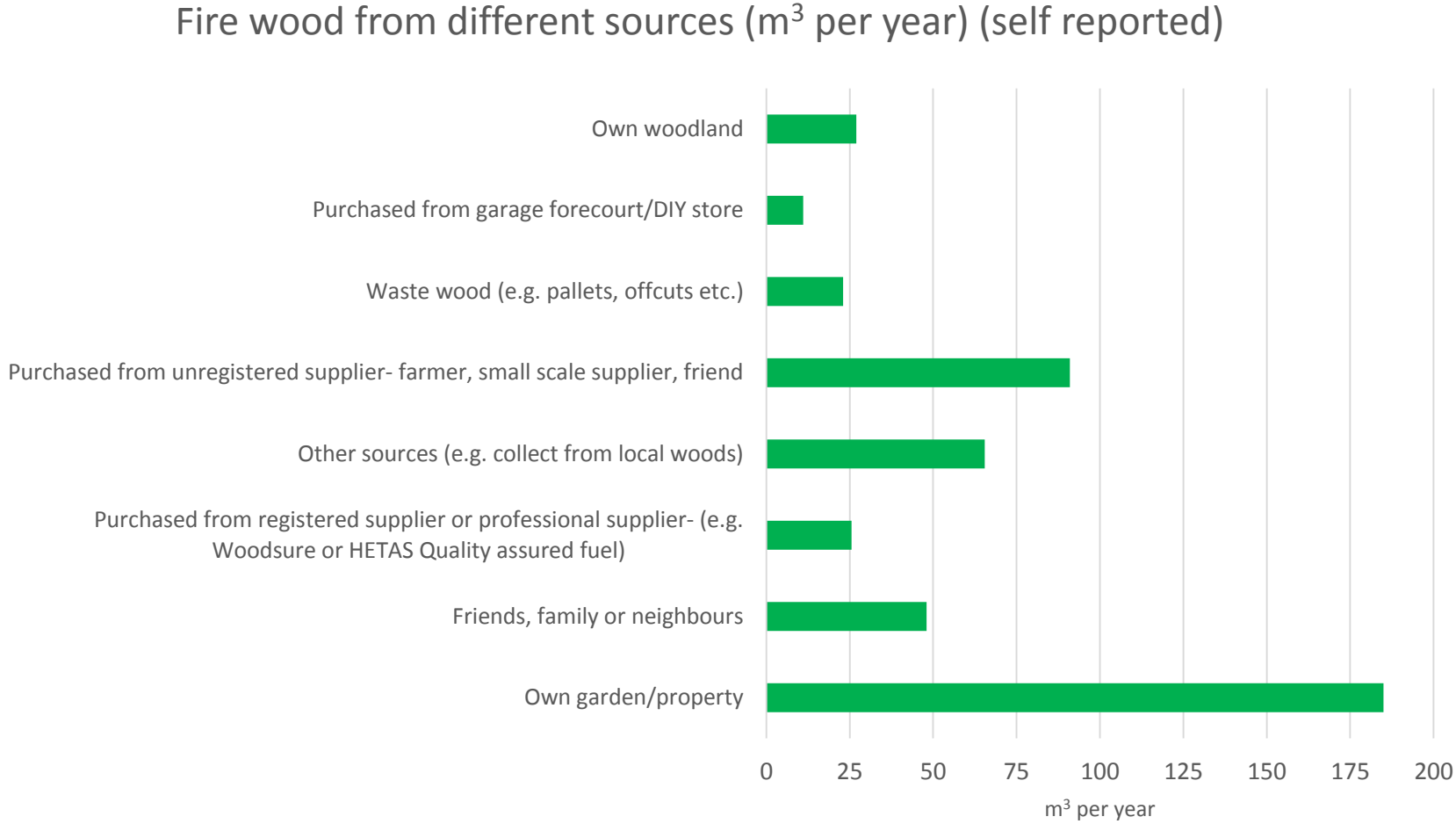
Sourcing: Slack (2014) 154 households on Anglesey



Further surveys in 2015

- DECC Omnibus early 2015 – 17,000 HH across GB: 1,154 wood fuel users (7%)
- Forestry Commission & Natural Resoures Wales Omnibus April
- Simon's MRes thesis
- Further work in Bangor University

Concluding remarks

- Substantial number of households in rural areas use firewood
- Cumulatively, this firewood generates substantial amount of heat energy used for heating and hot water
- Households typically employ a range of sourcing strategies
- Firewood markets offer opportunities for Agroforestry but they need careful consideration – either ‘value-adding’ for niche markets e.g. aromatic ‘fruit’ firewood, and/or for on-farm energy requirements

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Thanks for listening!

- MSc Agroforestry
- MSc Environmental Forestry
- MSc Forestry (distance learning)
- MSc Tropical Forestry (distance learning)
- MSc Conservation and Land Management
- PhD Forestry, Agroforestry