Local Authorities and the renewable heat market opportunities

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Introduction

This presentation:

Local Authorities and the opportunities for renewable heat

- Analysis of the policy context
- The Barony Campus project in Cumnock
- The opportunities, the RHI and some delivery issues

Reheat:

Company established in 2011

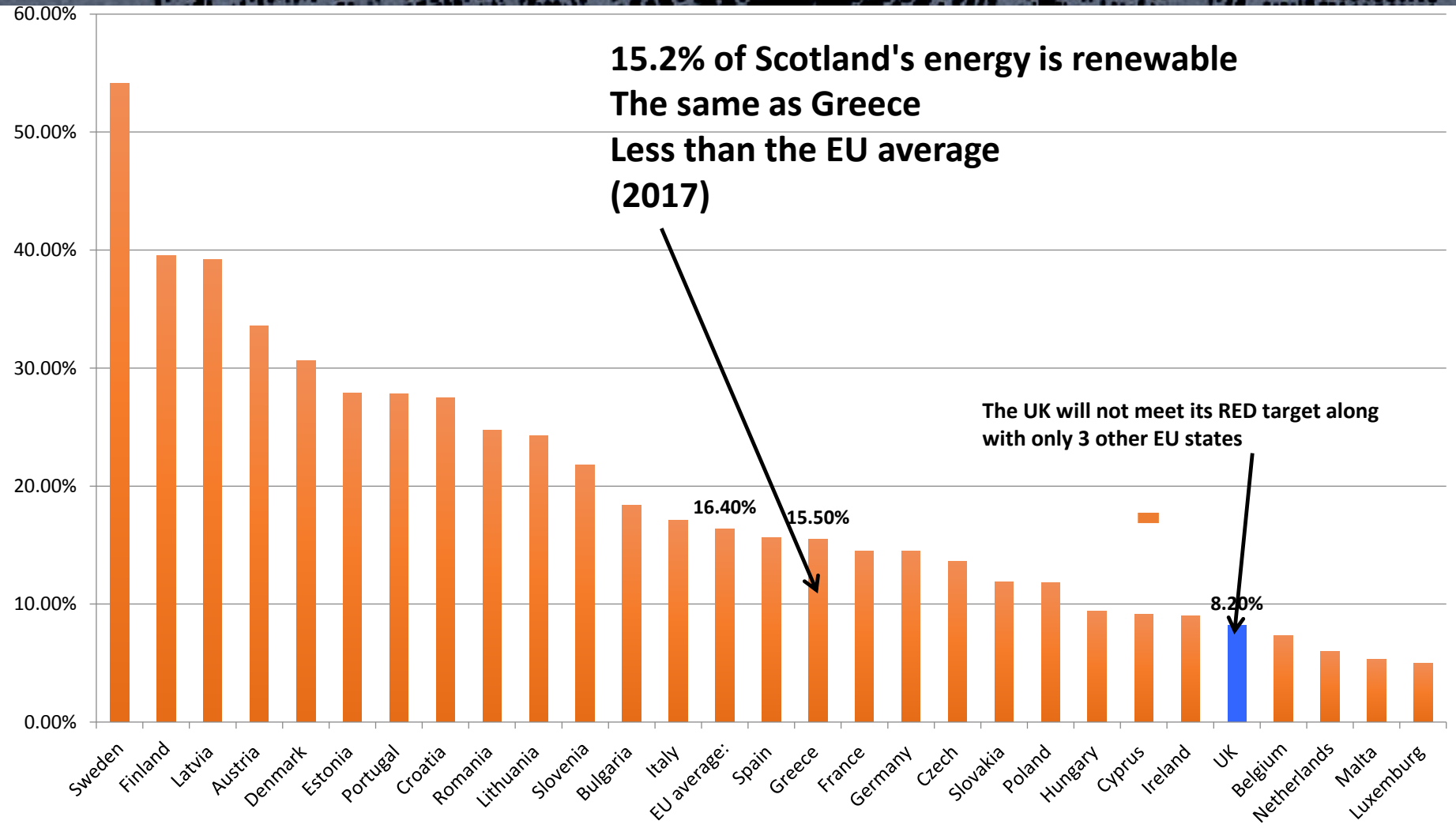
Biomass heating specialists

A hybrid of consultancy and design/installation

Main office in Northumberland, and I am based in Glasgow

We have worked for a range of LA's.

Renewable Energy progress



Percentage of Renewable Energy (EU26, 2015)

Why are the headlines are misleading

News > UK > Home News

Scotland produces record amount of energy from renewables as green schemes generate two-thirds of electricity

Nation beats rest of UK with 68.1 per cent of energy needs met without fossil fuels

Jane Dalton | @JournoJane | Saturday 31 March 2018 19:36 | 29 comments

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Wind turbines near Stirling Castle: Scotland is creeping closer to being self-sufficient in energy *(Reuters)*

UK Renewable Electricity Generation Tops 30%, Scotland Increases By 11%

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June 29th, 2018 by **Joshua S Hill**

New figures from the UK's Department for Business, Energy & Industrial Strategy published on Thursday showed that renewable energy accounted for 30.1% of the country's total electricity generation in the first quarter, up 3% and boasting record wind generation that accounted for over half of total renewable energy generation.

Scottish (and UK) 'success' in renewable energy very is misleading…….

Why? Because heat is missed……
Renewable energy by sector Scotland 2017

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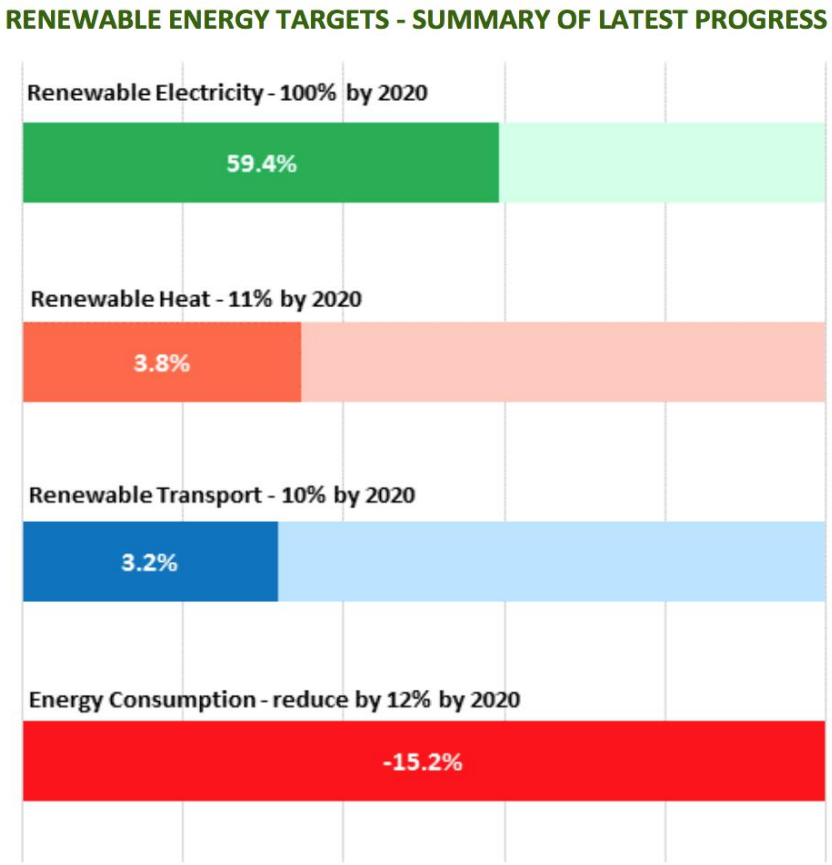


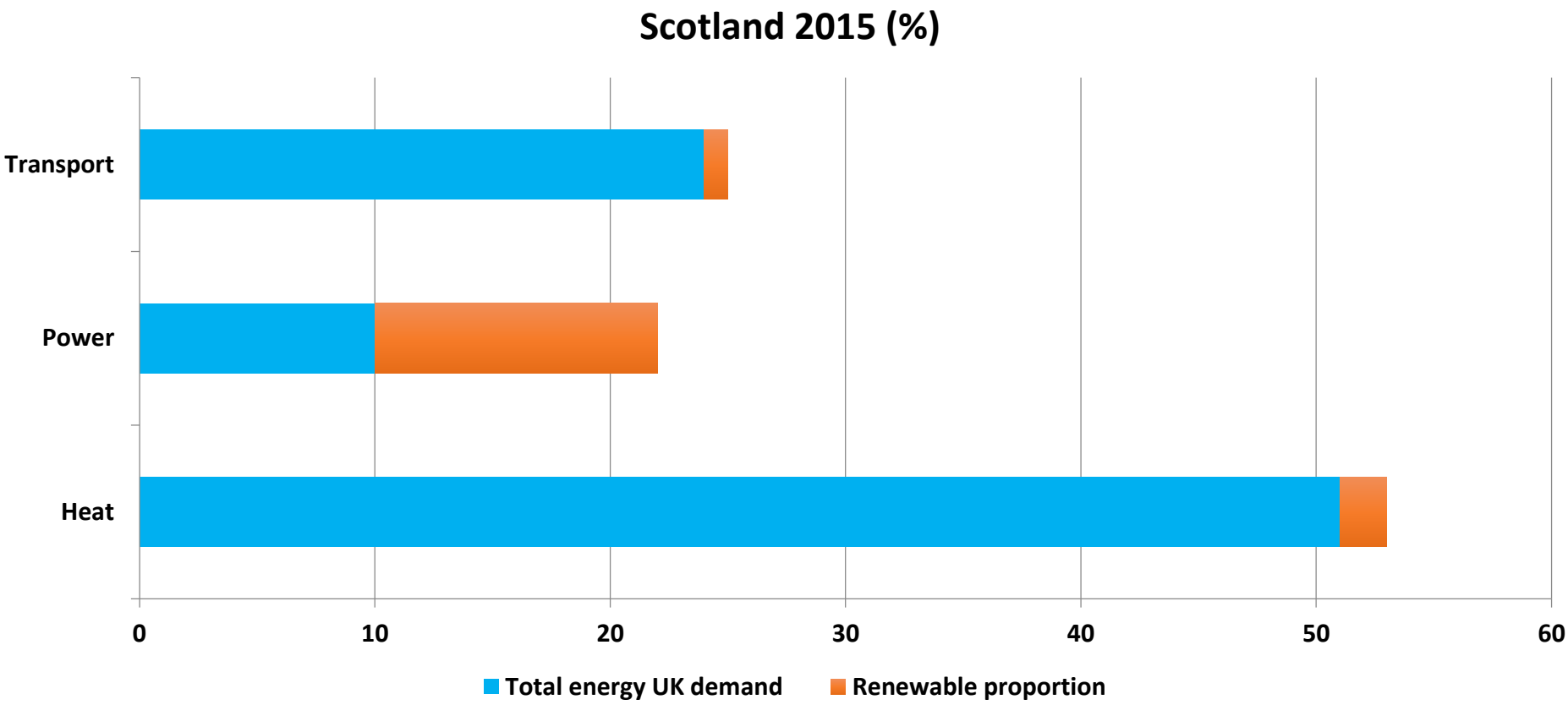
= Electricity 22% of energy use

= Heat 53% of energy use

= Transport 25% of energy use

Progress in renewable heat is the main reason we are below the EU average
Interesting that the graph is misleading

Heat's importance



Power has been easier, we have mains gas, we seem to have biomass reservations

Where does most renewable energy come from?

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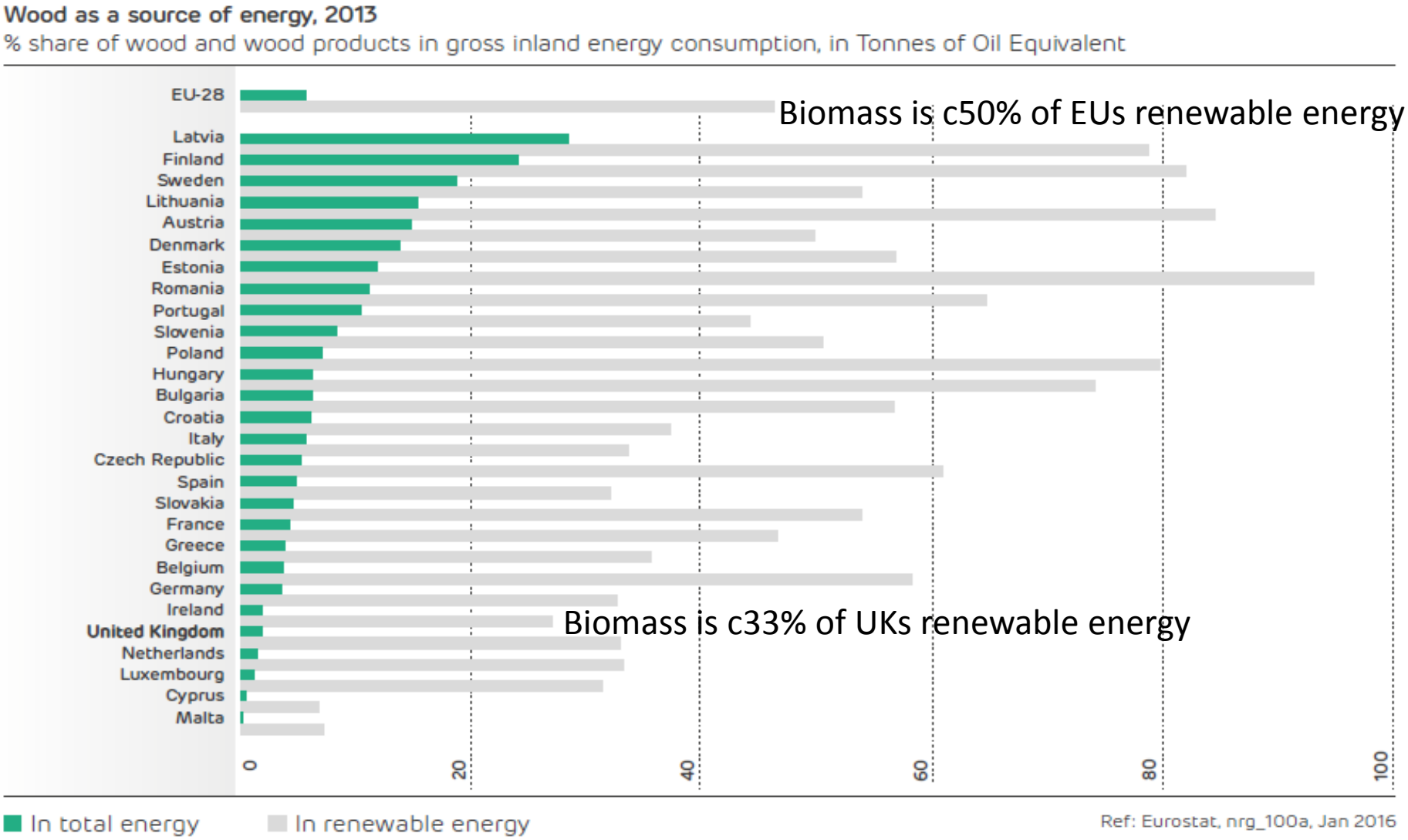
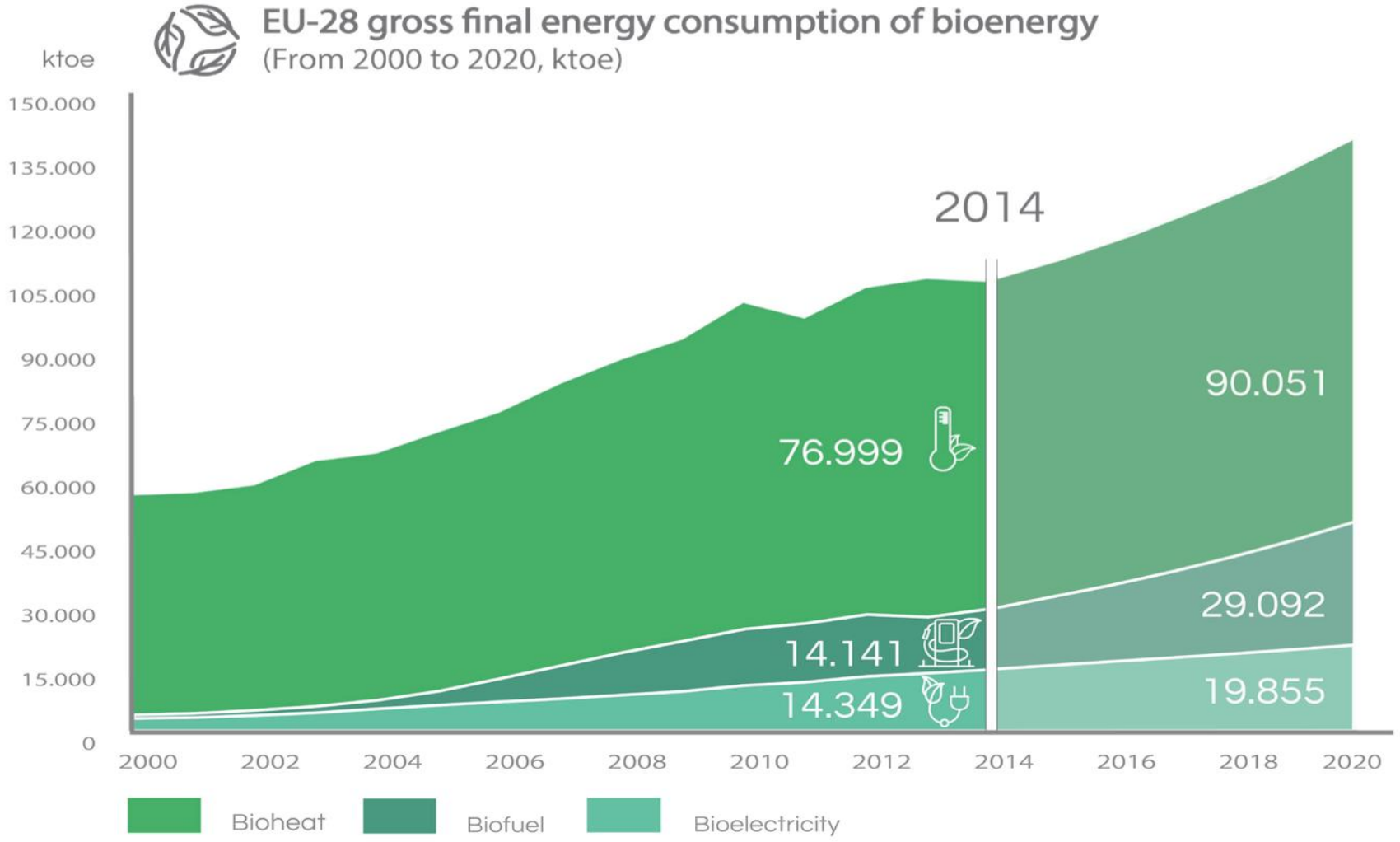


The applications of biomass = mostly heat



Why is progress so in renewable heat so poor? The role of district heating

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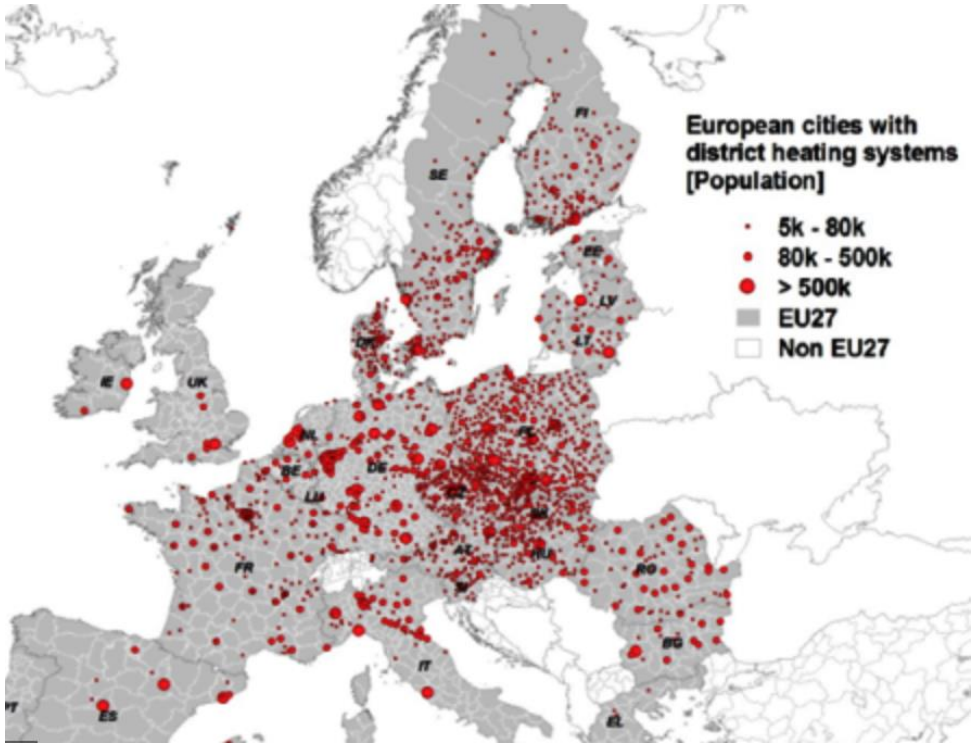
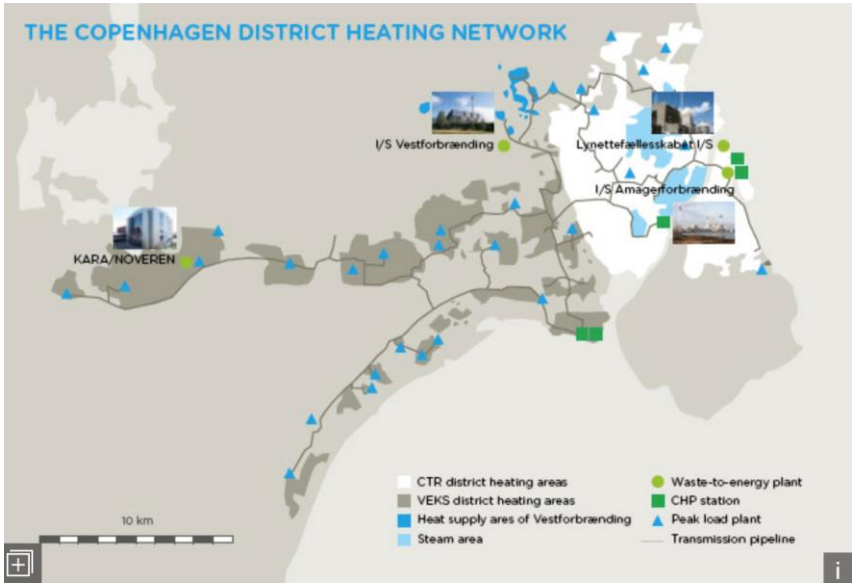
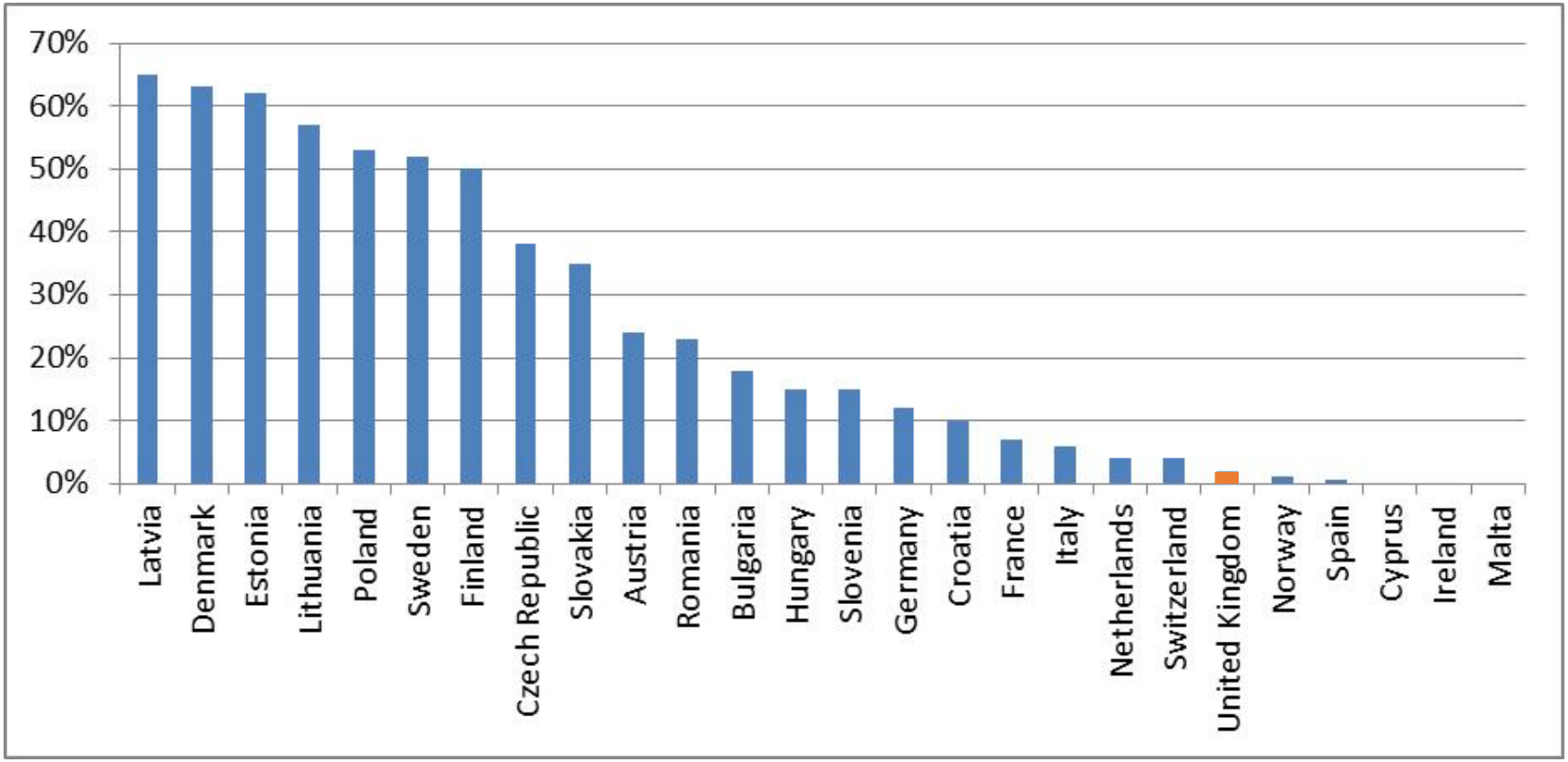


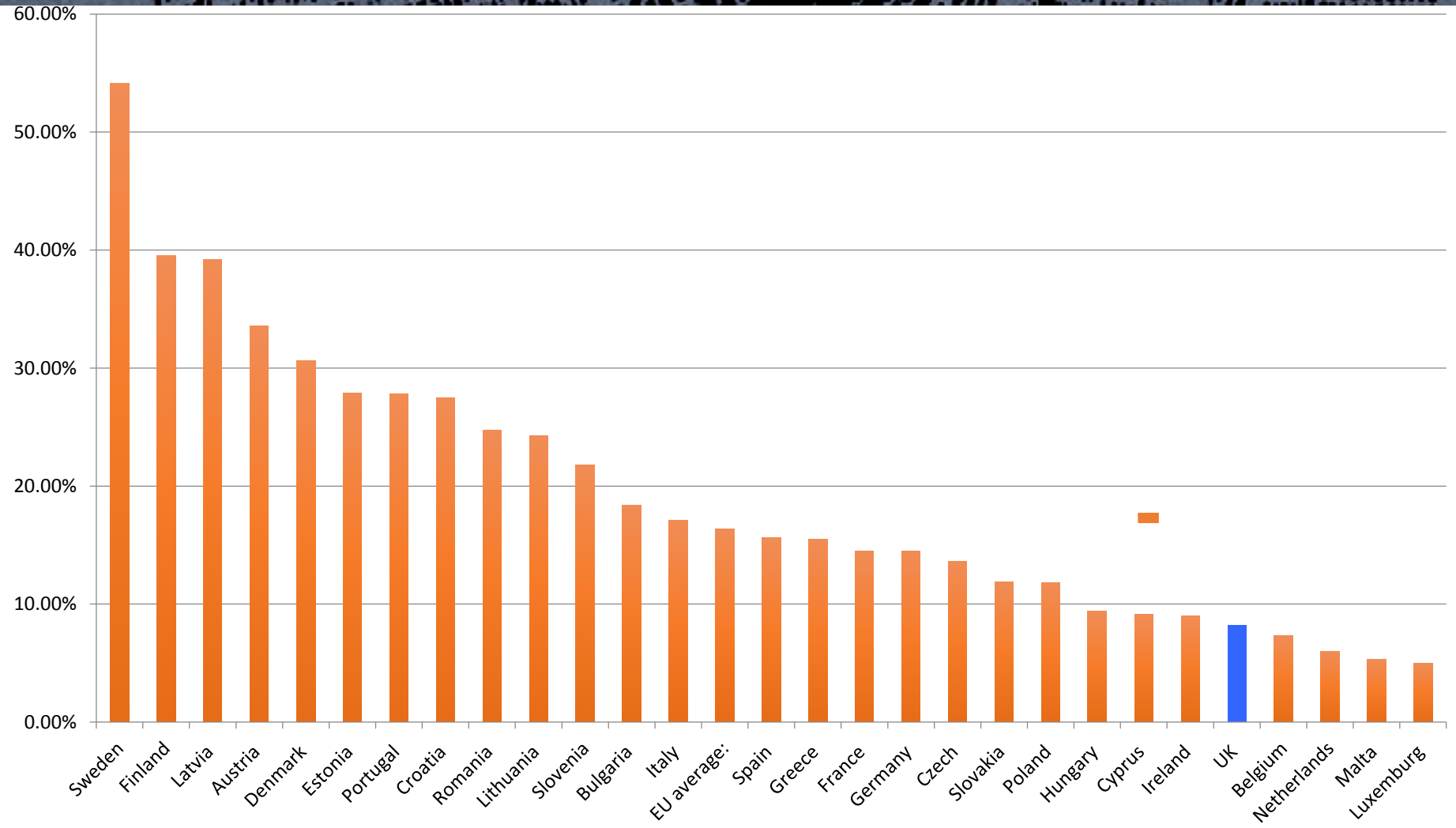


Success in district heating = success in renewable energy



Percentage of Population Served by District Heating (EU26, 2013)

Renewable Energy progress



Percentage of Renewable Energy (EU26, 2015)

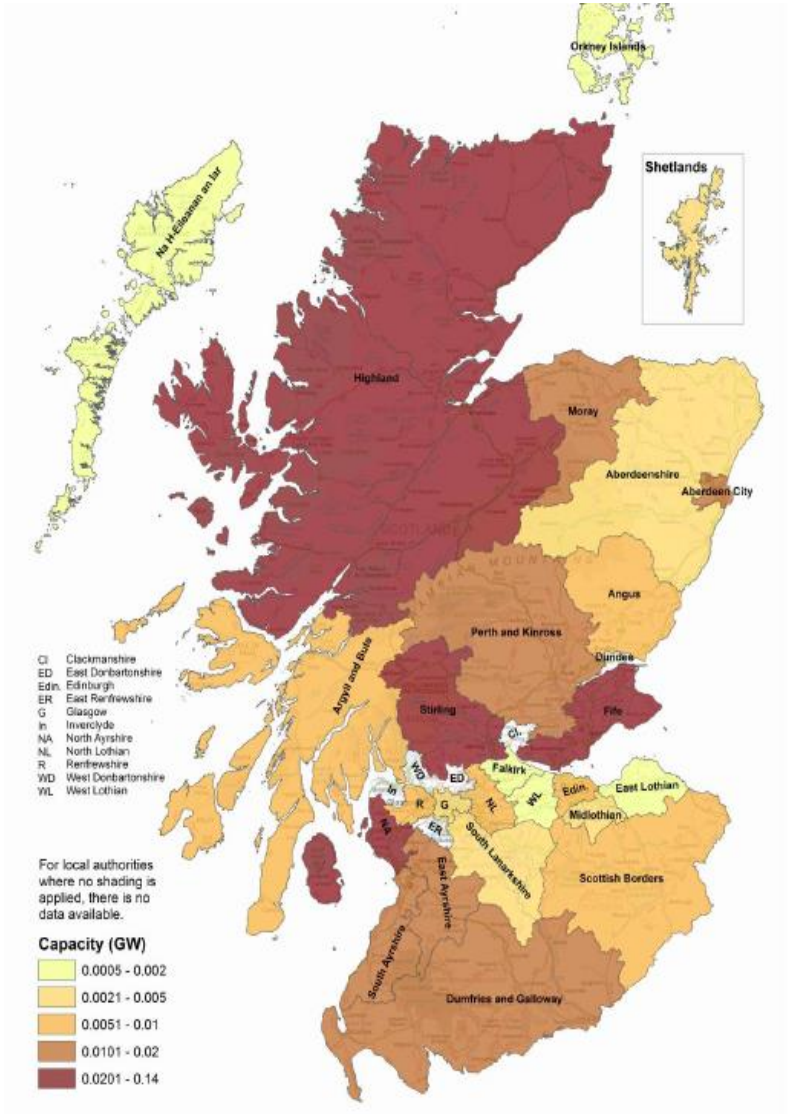
Key Scottish facts

11% Renewable Heat Target by 2020

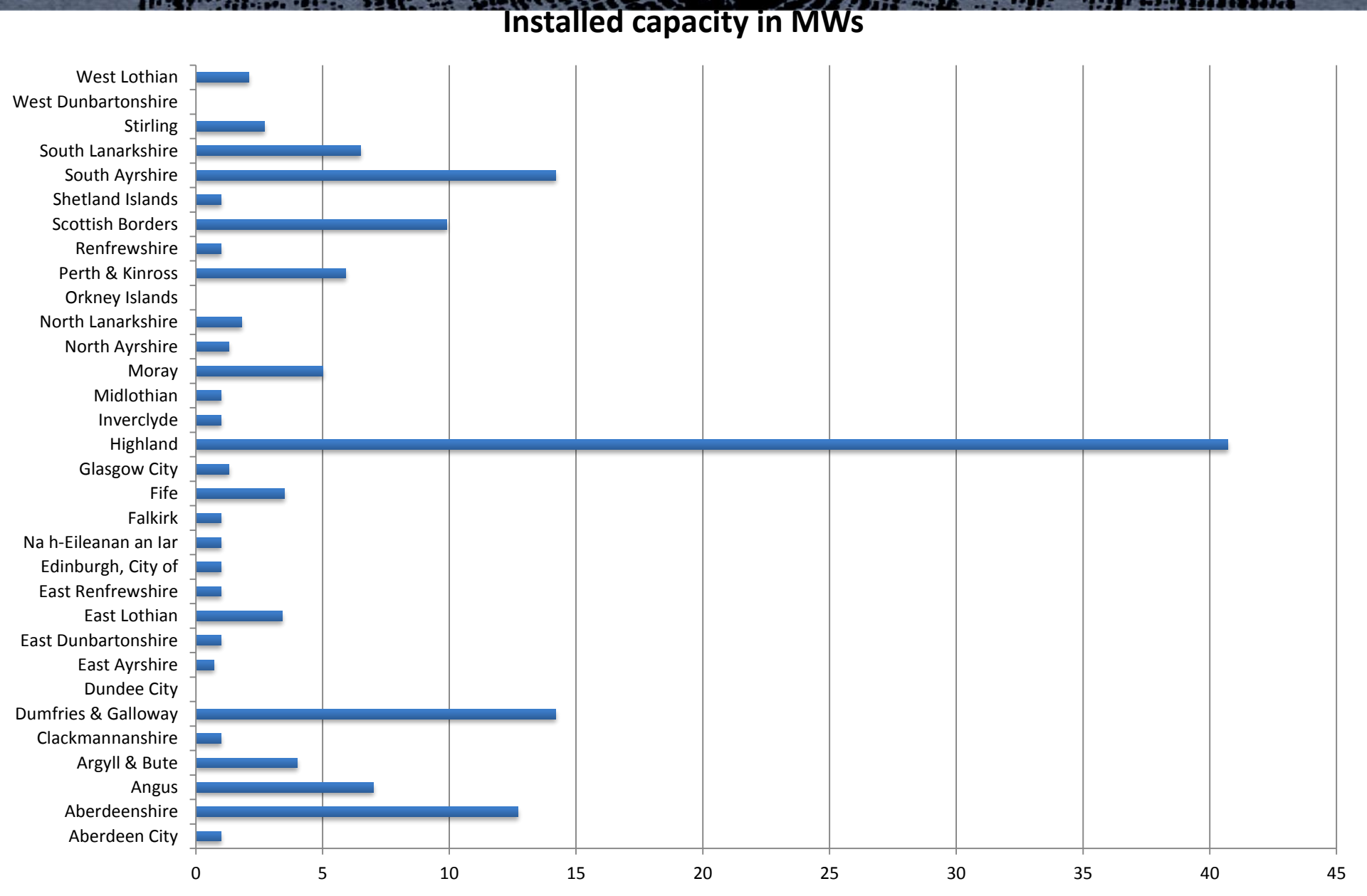
Only about 5% of our heat is renewable

4.8% of that renewable heat is biomass

Mostly driven by the RHI since 2009



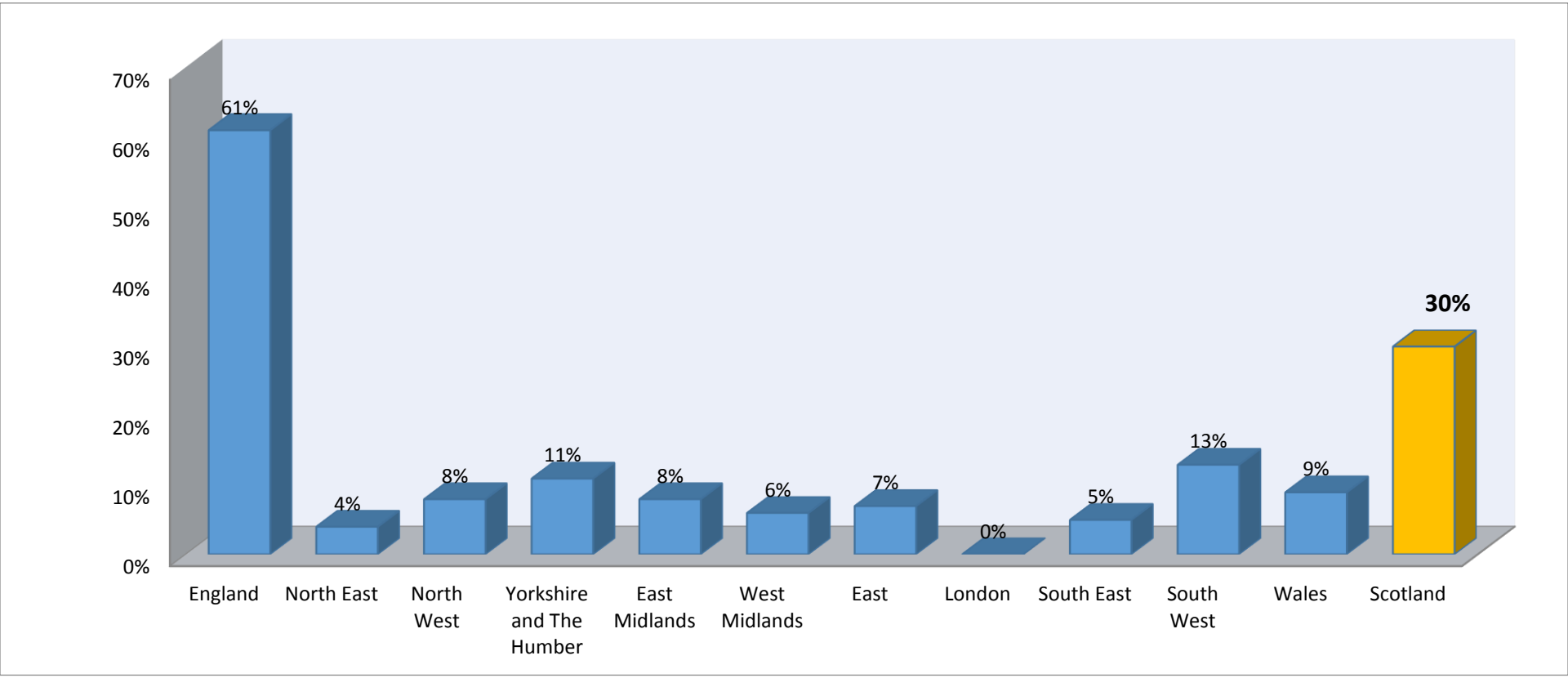
2014 biomass installations Scotland (sub 1MW)



THE RENEWABLE HEAT INCENTIVE

Deployment Data by Region & Nation to 2017

Scotland contains 8.7% of GBs total population
But is has secured 30% of all the biomass installations under the RHI
So it has a large supply chain and some expertise to grow from
Impact of reformed RHI?




Market before RHI reforms
2014/15/16/17 = RHI driven
4 Local Authorities
£7 million capex
£8 million opex
7.5MW installed
32 sites
Typically under 1MW

The Future for the GB RHI?

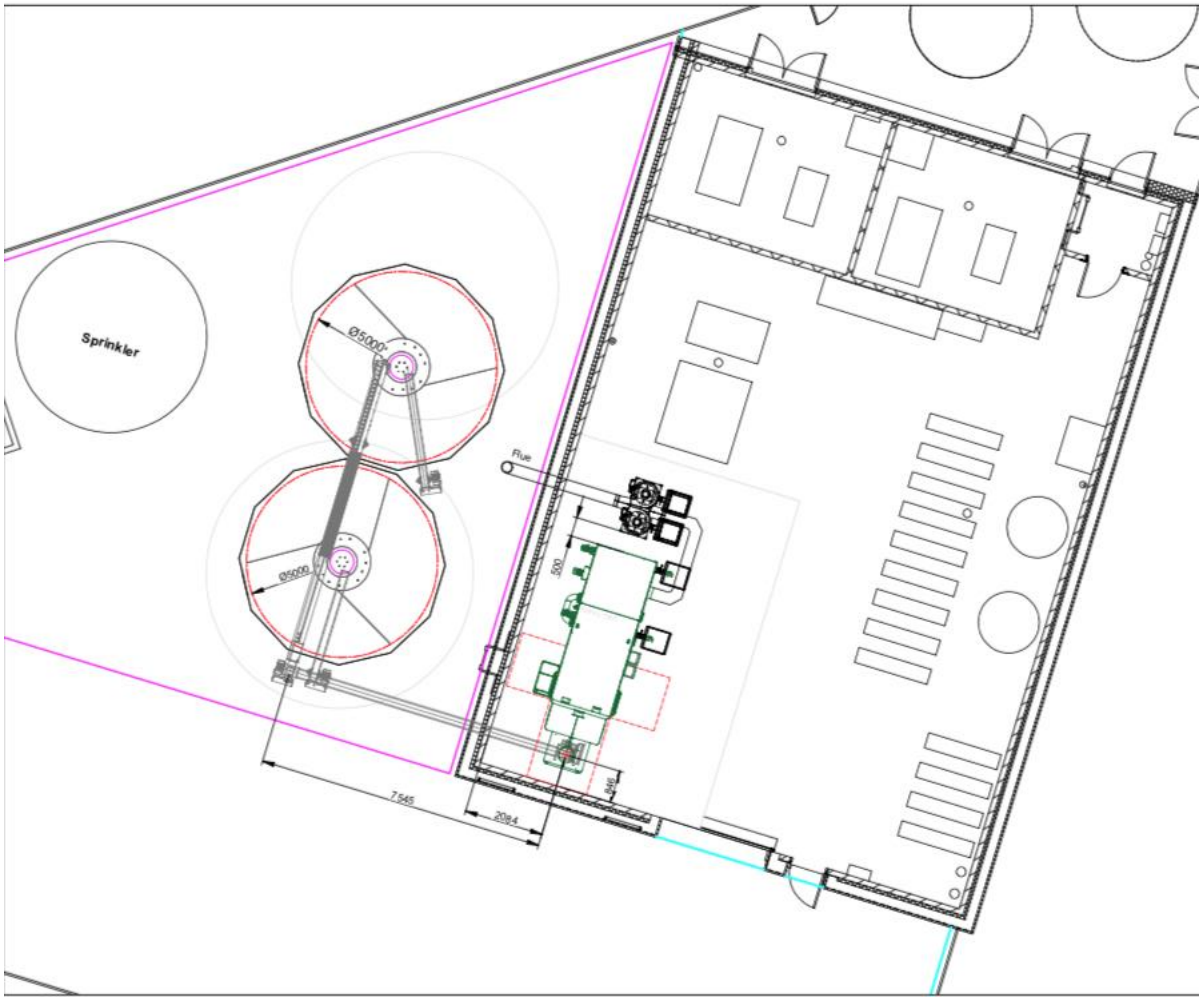
THE RENEWABLE HEAT INCENTIVE
Recent reforms

- 35% load factor and 3p and 2.2p/kWH will drive growth in larger biomass (above 750kW)
- Many less effective ‘installers’ have dropped out of the sector
- Those left are expert
- The fuel supply and O&M chain is extensive and stable
- Slower more sustainable growth?

Barony Campus: Cumnock

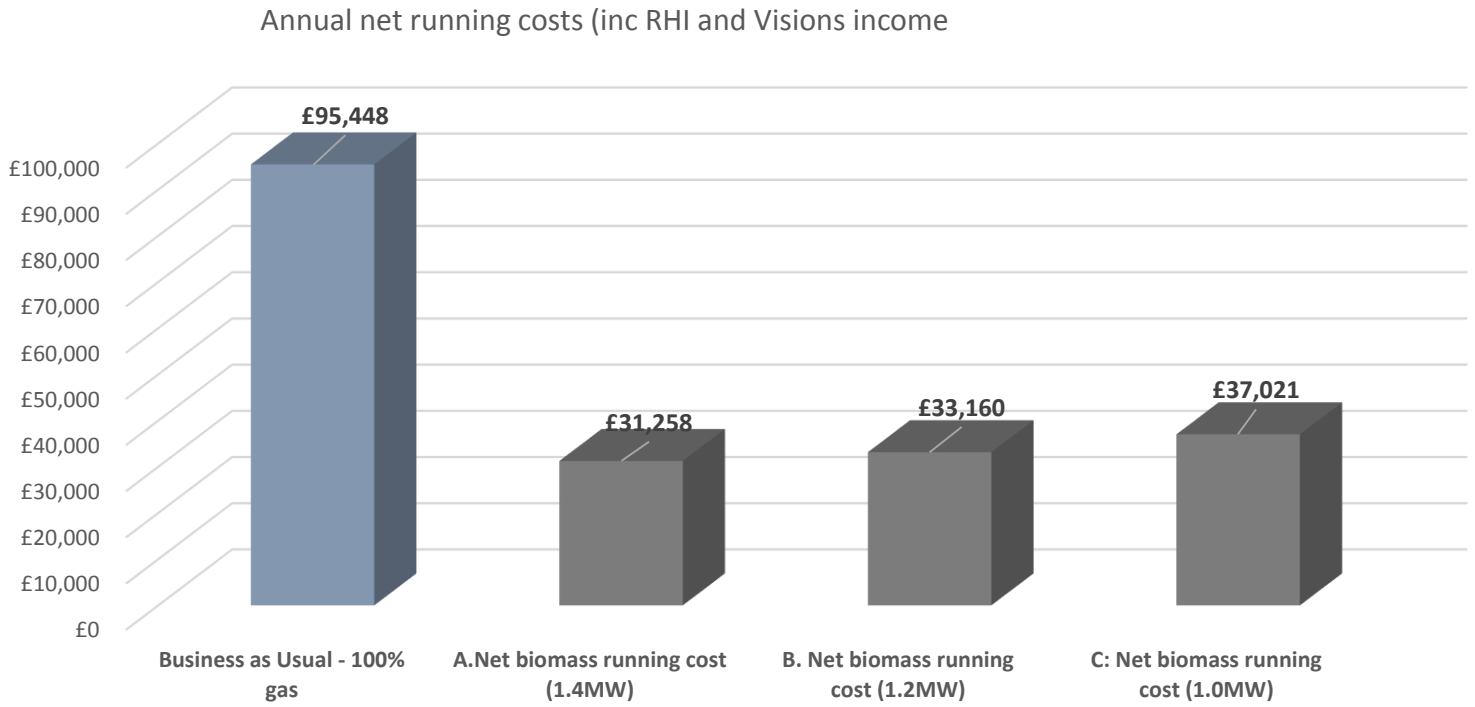
New build schools
2 high schools
2 primary schools
Heated with biomass district heating
Started on site
Complete in 2019
Our role
Technical support to EAC

Energy Centre



1.5kM if heat network
1,200kW biomass
100% gas back-up
Wood chip fuel
Heat sales to a leisure center as well

Carbon and financial



Scenario	Biomass size	Biomass schemes: total CO_2
A	1.4MW	245 tonnes
B	1.2MW	261 tonnes
C	1.0MW	276.5 tonnes

Where biomass works in the Local Government Estate?

Key opportunities:

1. Retrofit (new build can be costly – back-up)
2. Combined heat bills above £40k to £50k perfect = 1,000MWh +
3. Aim for circa 1MW installed and above
4. RHI now ideal = 2 ½ year window
5. Large nearby properties and district heating

So….

- Social rented high rise
- Schools
- Leisure Centres
- Civic offices
- Sheltered Housing

Some costs

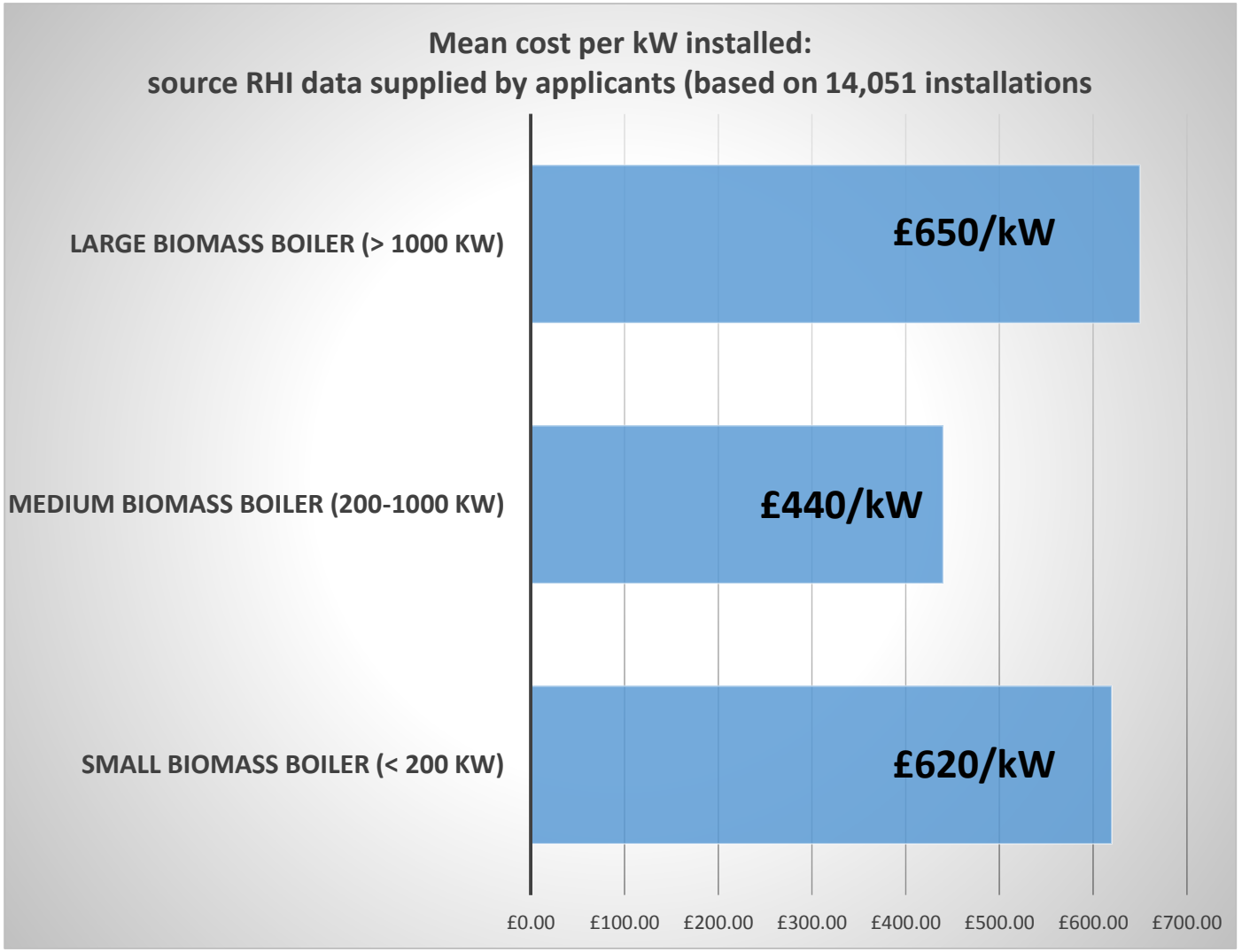
Fuel costs

Gas = 2p/kWh

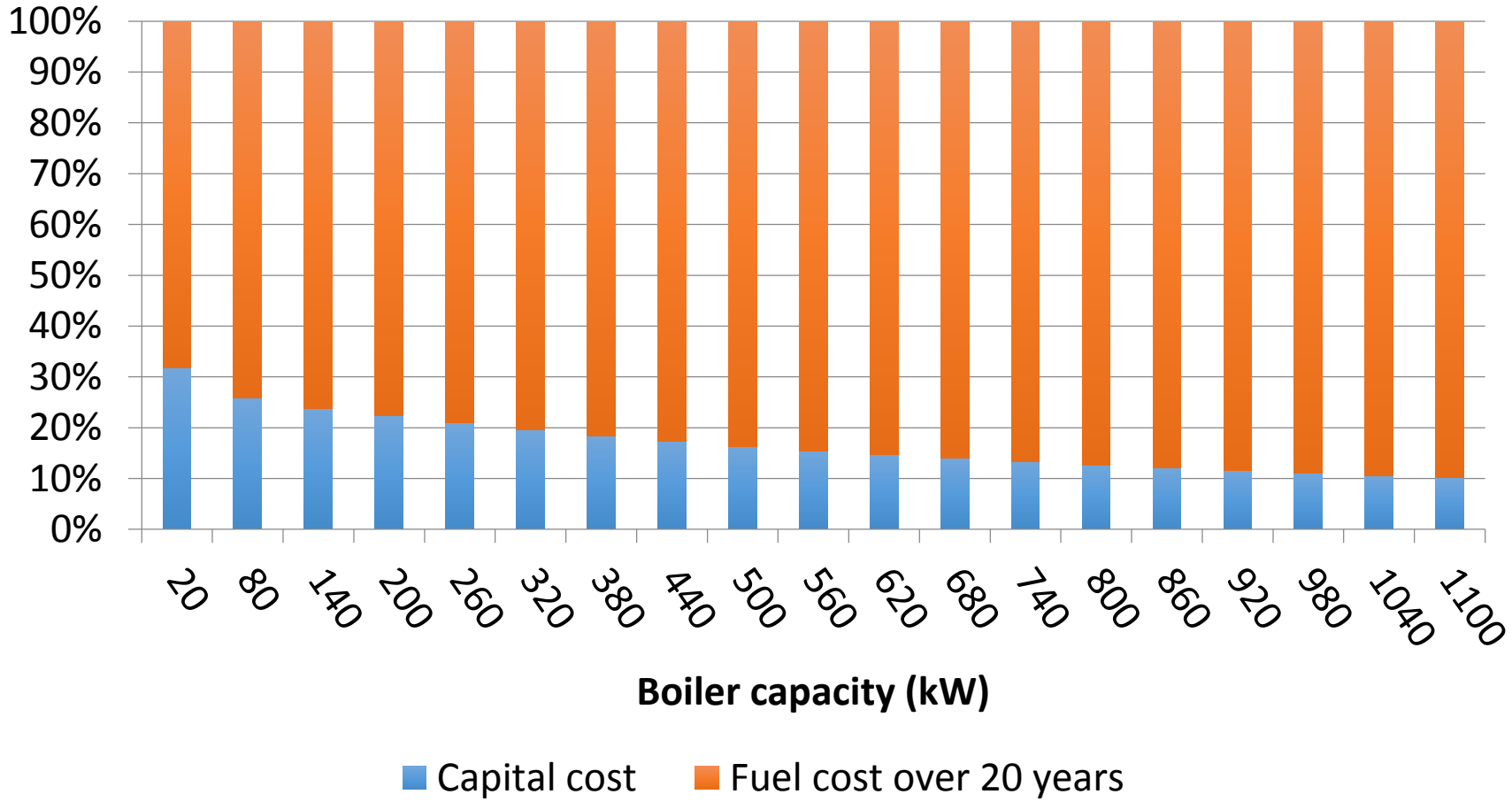
Wood = 3.2p/KWh

Oil = 4.5p/kWh

RHI = 3.1/kWh



CAPEX V OPEX



Credit : Forever Fuels

Some conclusions

Renewable heat and biomass has enabled continental Europe to deliver RE on a large scale
Scotland has a solid base of biomass heat to grow a larger sector
Investment should be driven by the right solution under DBO arrangements
And of course it still saves carbon

Thanks for listening

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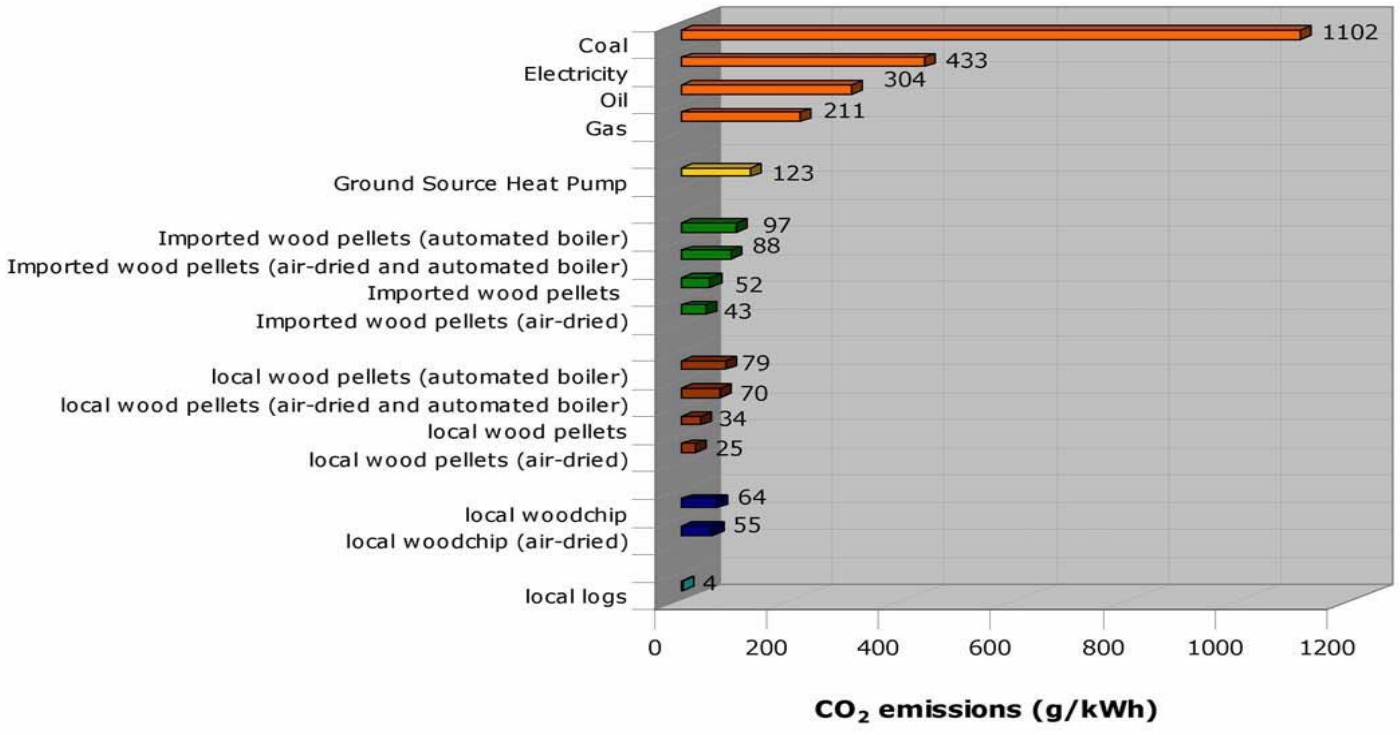
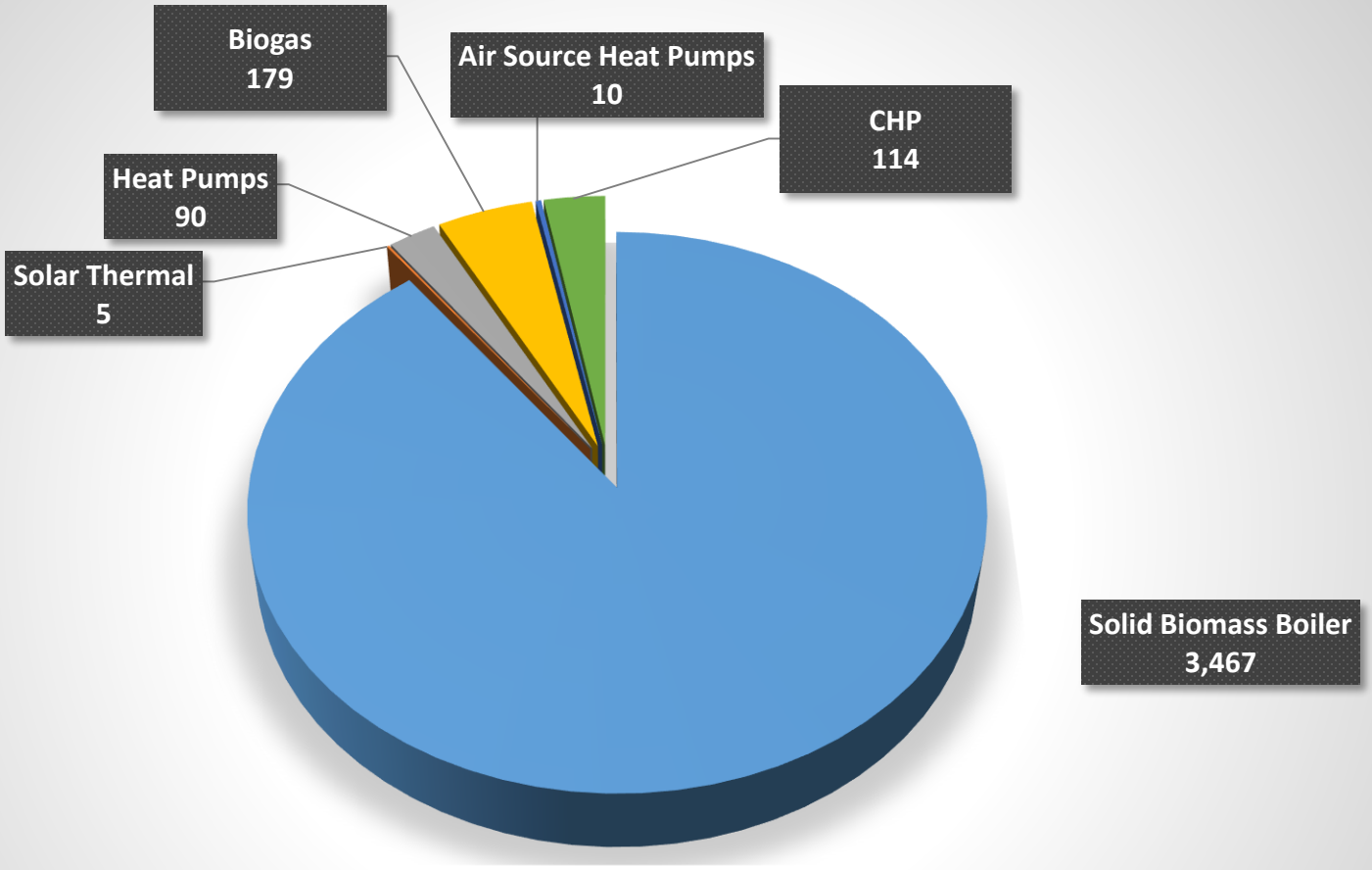


RENEWABLE HEAT INCENTIVE



MW of installed capacity RHI accredited installations:
Nov 2011 to Dec 2017= 3,864MW

Solid Biomass Boiler | Solar Thermal | Heat Pumps | Biogas | Air Source Heat Pumps | CHP