

Future Energy Scenarios

Market Profile and Opportunity for Heat Pumps

Kelly Butler
September 2012



Where Heating Fits In Green Policy

Virtually zero carbon buildings by 2050...

£33bn spent on heat across the economy

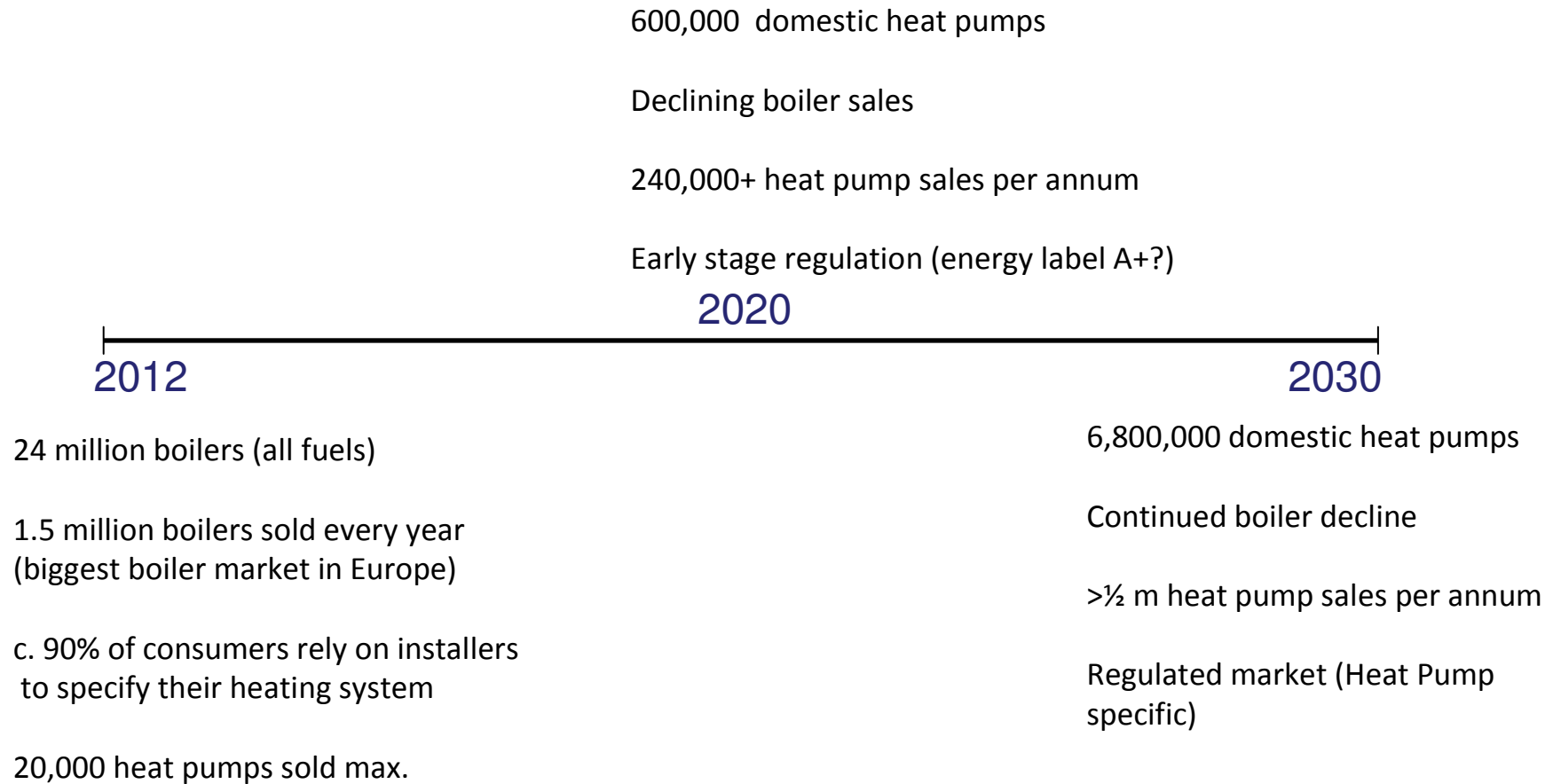
1/3 of overall UK energy demand is heat load

3/4 of heat demand is for homes

£1bn = value of heat lost in buildings 2010/11!!

The Heat Challenge (Current vs 2050)

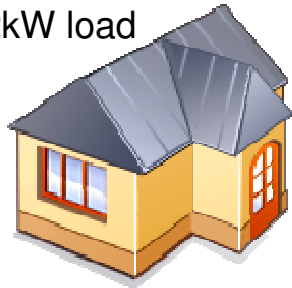
Domestic Heating



The Heat Challenge (Heat Pump Platform)

Policy Objective 1

12kW load

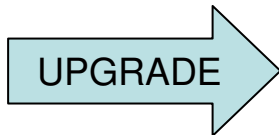


6kW load



Policy Objective 2

Inefficient Heat Generator



Efficient Heat Generator



Key Methods – Incentives and Regulations

Market Objectives

Design/installation capacity

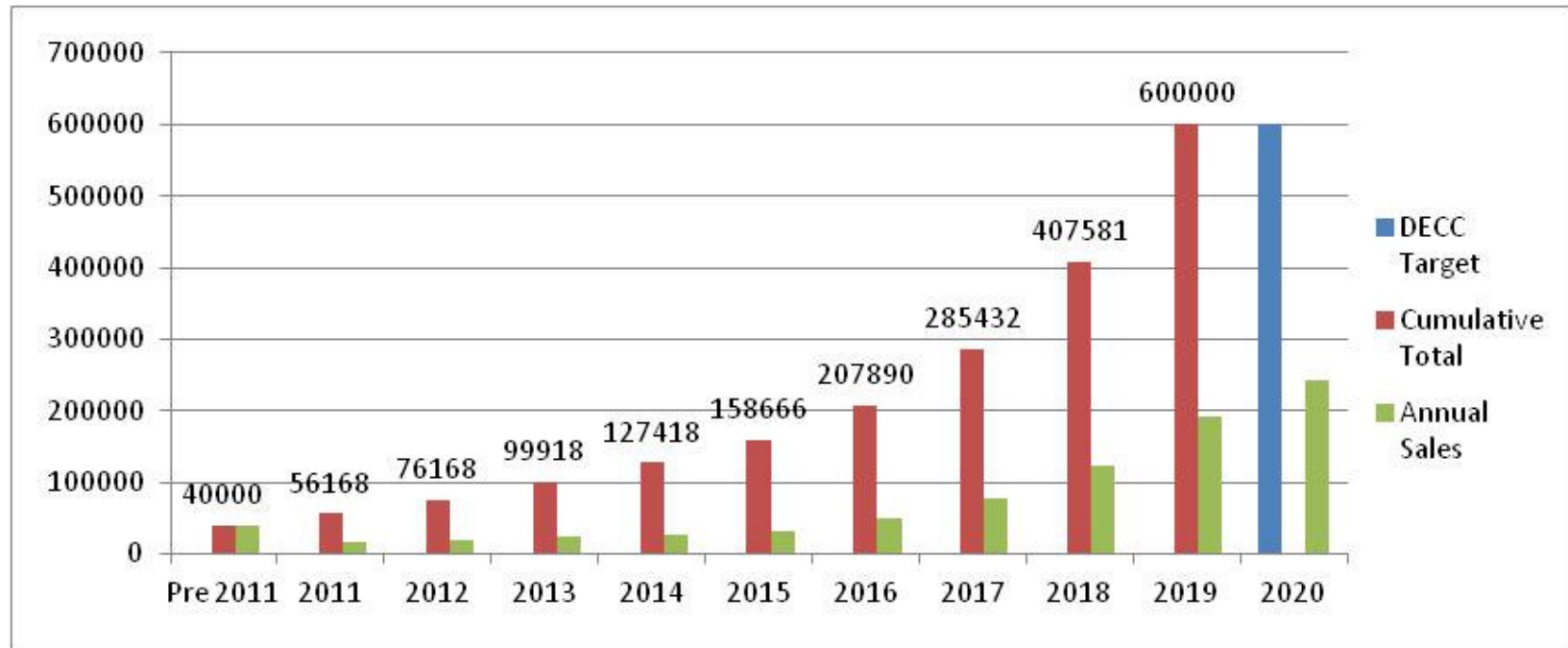
Networks investment

Product Innovation

Consumer education

Tariff innovation

DECC Scenario and Heat Pump Projections



- Growth based on accelerated +50% growth post 2015
- Hard to predict immediate impact of RHI but capacity needs building
- Most installations up to 2020 will be off gas network
- Current main driver for sales is social housing but can shift:
- New build requires rapid ambition in targets
- Private domestic households need finance mechanisms to unlock capital

Heat Pumps – An Off Grid Proposition Now

Comparing systems

Running Cost and Capital Cost Comparisons (3 bed semi, 89m2, 4 occupants)					
	Air Source Heat Pump (SPF 2.6)	Ground Source Heat Pump (SPF 3.5)	Oil Condensing	Oil non-condensing	Electric storage
Running Cost	£697	£591	£1,026	£1,539	£1,144
Capital Cost	£6,650	£10,500	£3,000	N/A	£1,500
Notes:	7kW (£950/kW) No system upgrade	7kW (£1,500/kW) No system upgrade	No system upgrade	An upgrade would be minimum £3,000	2 storage, 4 panels + towel rail

Notional RHI

	Incentive(p) /kWh	Multiplier (kWh)	Duration (years)	Annual Return (£)non RPI	Total Return (£)non RPI
Air Source	10	16,080	7	£1,608	£11,256
Ground Source	16	16,080	7	£2,573	£18,011

The 7 Year Outlook

	Annual Running Costs	7 year running cost	7 year income generated	7 Year net running costs
Oil Condensing	£1,026	£7,182	£0	£7,182
Oil non condensing	£1,539	£10,773	£0	£10,773
Electric heating	£1,144	£8,008	£0	£8,008
Air source heat pump	£697	£4,879	£11,256	(£6,377) Surplus
Ground source heat pump	£591	£4,137	£18,011	(£13,874) Surplus

Payback Potential

	Payback (without RHI)			Payback (with RHI)		
	Oil non condensing	Oil condensing	Electric Heating	Oil non condensing	Oil condensing	Electric Heating
Air source	4.3 yrs	11 yrs	11.5 yrs	Air source	2.1 yrs	3.8 yrs
Ground Source	8 yrs	17 yrs	16.2 yrs	Ground source	2.6 yrs	3.6 yrs



Conclusion

The market outlook is dependent on...

- An attractive Renewable Heat Incentive set against rising fuel prices that expands market beyond off gas
- A successful Green Deal that deals with the housing stock to prepare for heat pump growth
- Planned growth based on 'hot spotting' to manage capacity building and infrastructure development
- Government consistency and **market confidence**



Thank You

Kelly Butler
Marketing Director
BEAMA Limited

+44 7810 837113

+44 207 793 3008

kbutler@beama.org.uk
www.beama.org.uk

