

GAIN CONFERENCE 2011

10th November



ADVANCED HEATING TECHNOLOGIES

Presented by: Barry Wilson, Worcester Bosch



Agenda



Reasons for Change

Renewable Technologies

Controls





"I don't want to hear warm words about the environment. I want to see real action. I want this to be the greenest government ever"



EU Targets for the year 2020

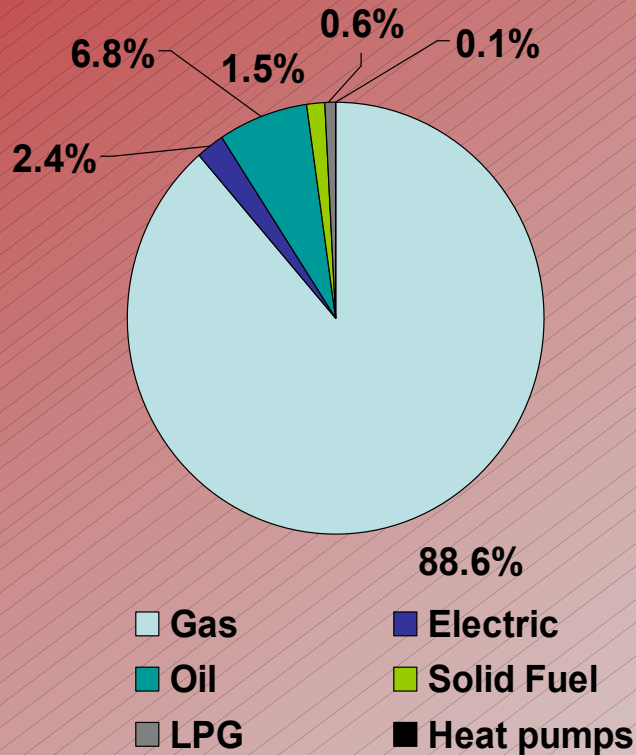
- 20% Reduce of Carbon Emissions
- 20% Energy Efficiency Savings
- 20% Energy from Renewables (UK 15%)

UK Housing Market Data – Existing Housing

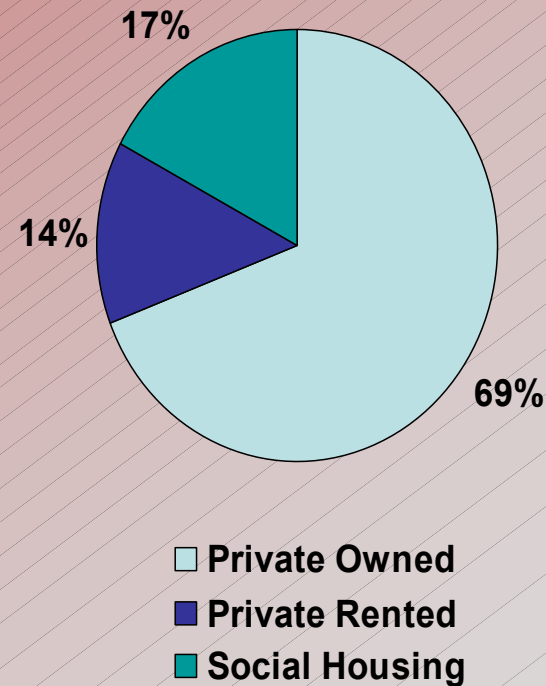
26.6 million homes in UK , 20.7m connected to mains gas



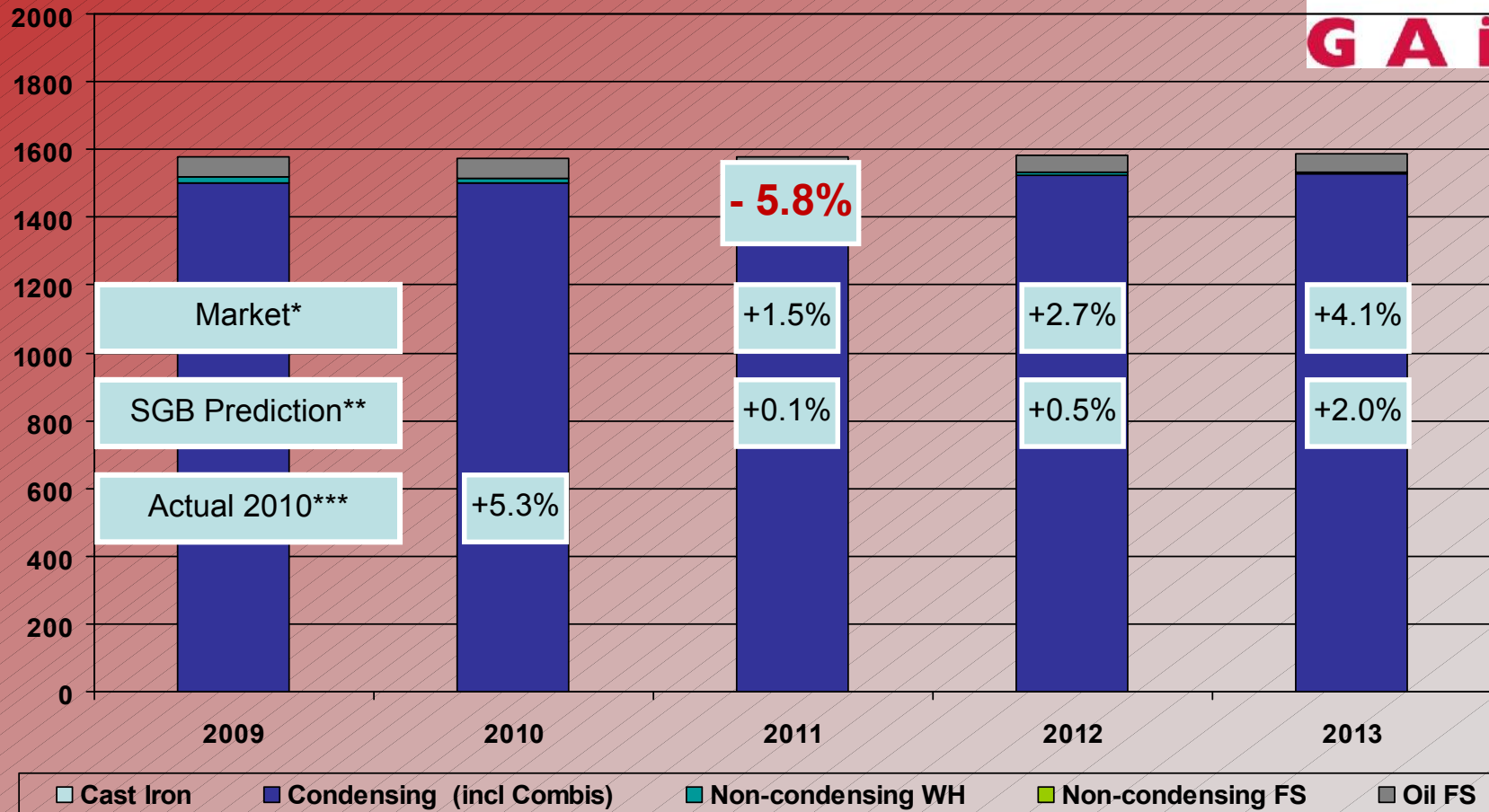
23.3m homes with central heating



% Ownership



Boiler Market Development 2009 – 2013



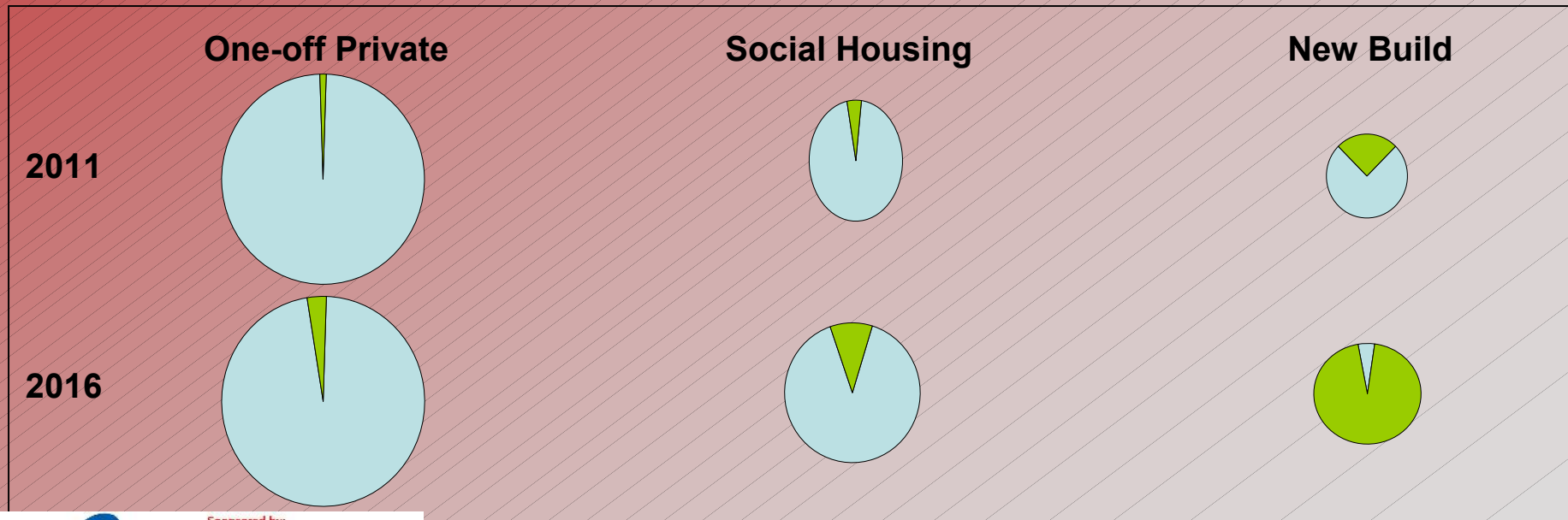
Source: *BRG Consult, 07/2010 (excl. Electric boilers, Commercial Boilers, Solid Fuel Boilers, Heat
 Sponsored by: 011ff, *** SBGI/OFTEC Association Statistics (Gas and Oil domestic)



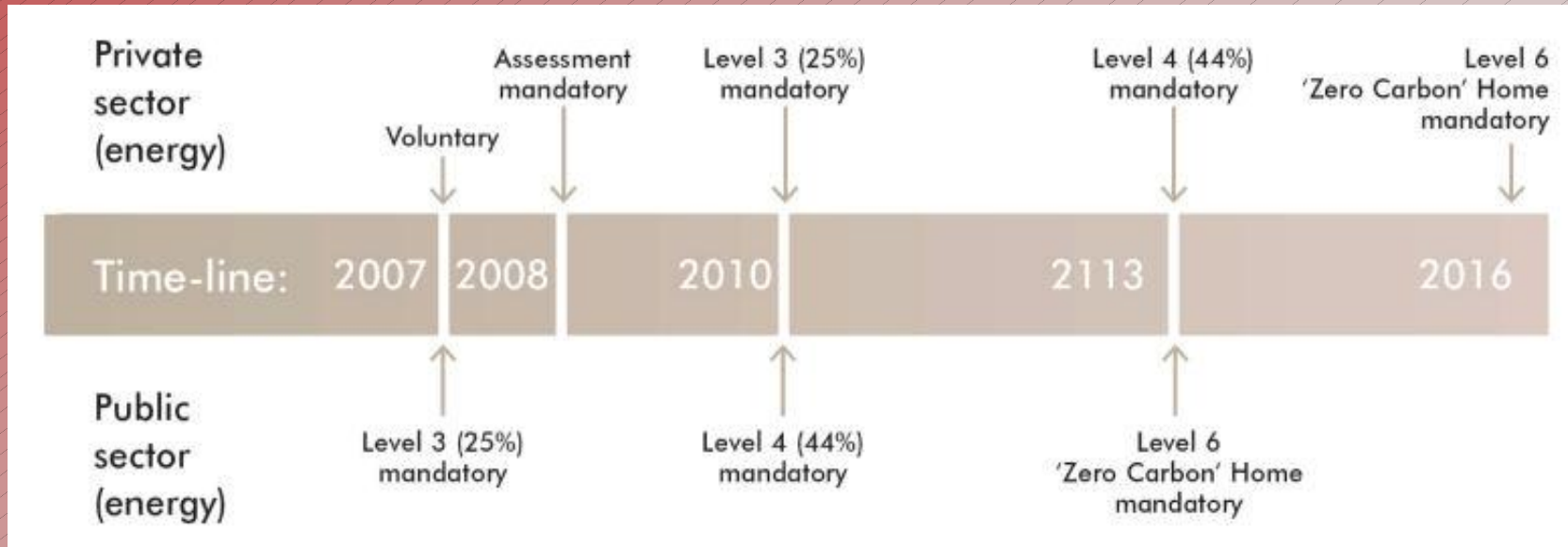
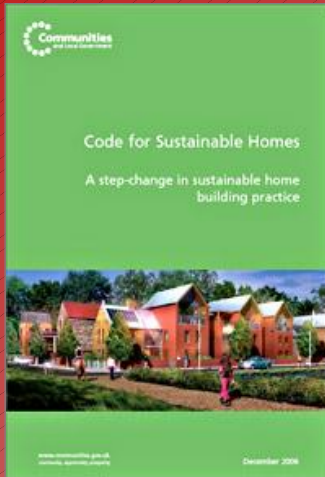
UK Heating Market – boiler units



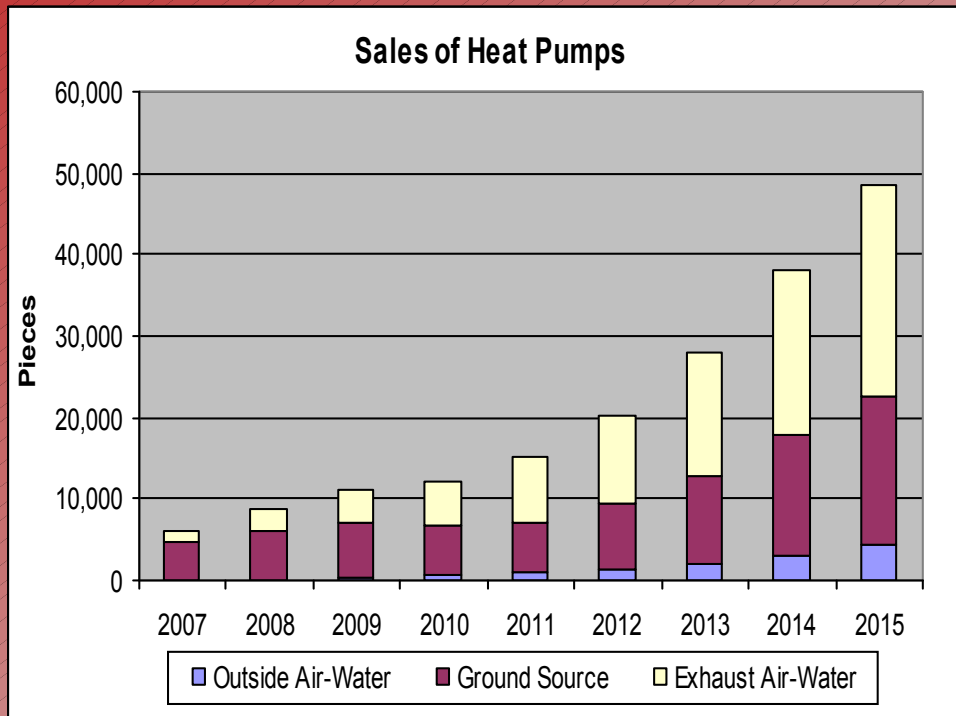
Segments	2010 [tsd]	Trend 2009	Trend 2010	Trend 2011	Trend 2013
New Build	118	↗	→	→	→
Social Housing	350	→	→	→	→
One-off Private	1,160	↘	→	→	→



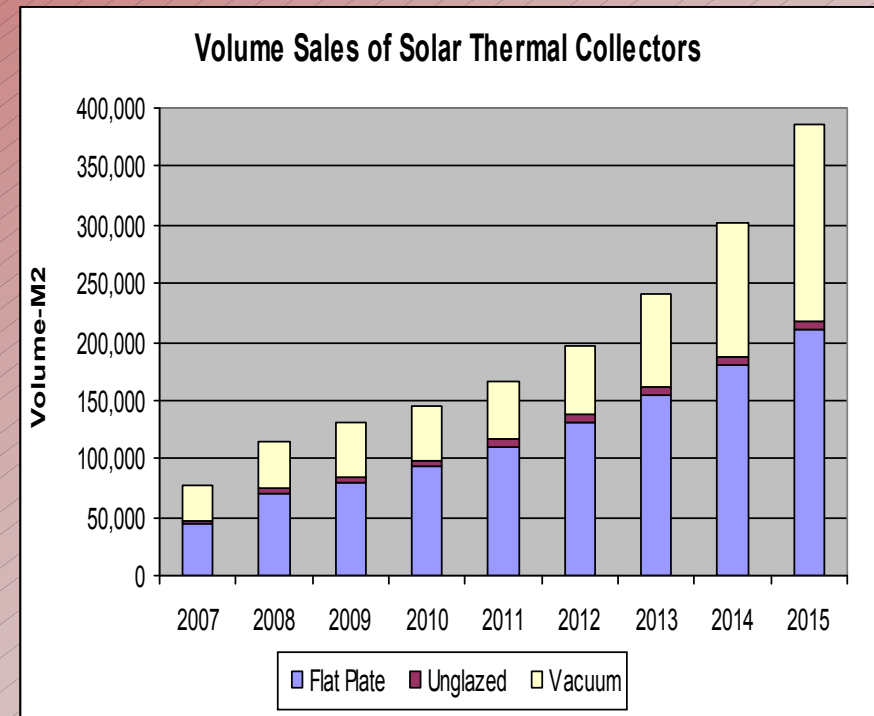
Code for Sustainable Homes



UK Heat Pump & Solar Market



Source: BRG Consult March 2011



Source: BRG Consult March 2011



Advance heating technologies



Ground Source Heat Pump



Air to Air Heat Pump



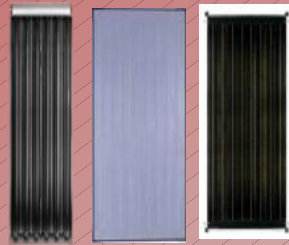
Greenstream Heat Recovery



Micro CHP



Air to Water Heat Pump



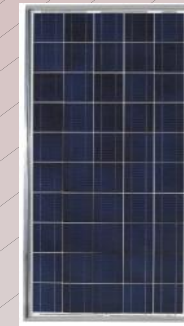
Solar thermal:
flat plate &
evacuated tube



Greenfloor Heating



Hybrid boiler/
heat pump



Solar PV

Intelligent Controls

Programmable Room Thermostat

- Keep a property 'ticking over'.
- Maintain a living space at different temperatures throughout the day.
- Consistently using small amounts of energy can be much more efficient than trying to heat the living area from cold twice a day as traditional controls do.



Intelligent Solar Module

- Make the most of a solar installation.
- Supplied by boiler manufacturer's for specific use with their equipment.
- Ensuring maximum input is obtained from the solar collectors, with the boiler input automatically being reduced.
- Hot water will always be available and heated from the most efficient source.



Intelligent Controls

Intelligent Thermostat

- Additional energy saving possibilities of up to 10%.
- Accurately matching the boiler's output more precisely to the level of demand.
- No more difficult for an end-user to operate than a 'traditional' thermostat.



Weather Compensation Controller

- Offering increased energy efficiency of up to 10%. (12% saving in case study)
- Featuring pre-set parameters which can be adjusted by an Installer if necessary.
- Reduces the boiler's output as outside temperature increases.
- Perfect for keeping a boiler in 'condensing mode'.



Thank you for all your support



Gas



Greenstar CDI
27-42kW (Combi)



Greenstar CDI
30kW (System)
30, 42kW (Regular)



Greenstar i
junior
24, 28kW
(Combi)



Greenstar Si
25, 30kW
(Combi)



Greenstar i System
12, 15, 18, 24 kW



Greenstar Ri
12, 15, 18, &
24kW
(Regular)



Greenstar
FS Cdi
(Regular)



Greenstar
Highflow CDI -
440 and 550

Oil



Greenstar wall
mounted
12/18, 18/25
Regular



Greenstar Utility
18/25, 32/50,
50/70 kW



Greenstar
Danesmoor
18/25 kW



Greenstar
Heatslave
12/18, 18/25,
25/32 kW



Greenstar
Camray, Camray System,
Camray Utility, Camray Utility
System 12/18, 18/25, 25/32 kW



Greenstar Camray /
Heatslave External
12/18, 18/25, 25/32 kW