David Adams

Zero Carbon Hub

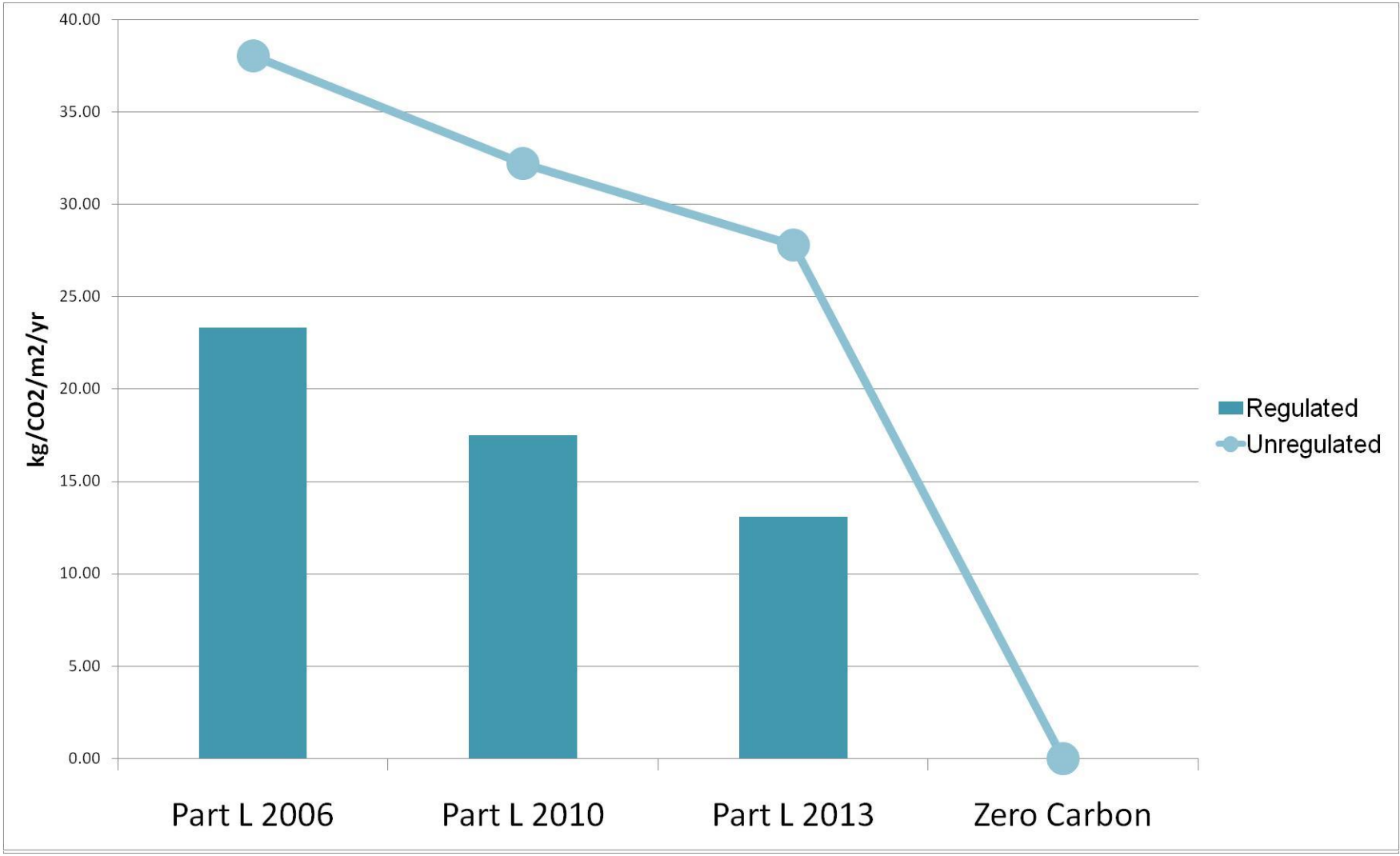
The direction of travel to Zero Carbon new homes from 2016

David Adams
Director

Covering

- Trajectory
- Avoiding cul-de-sacs
- Dates and time line
- What about the exiting stock?

Trajectory

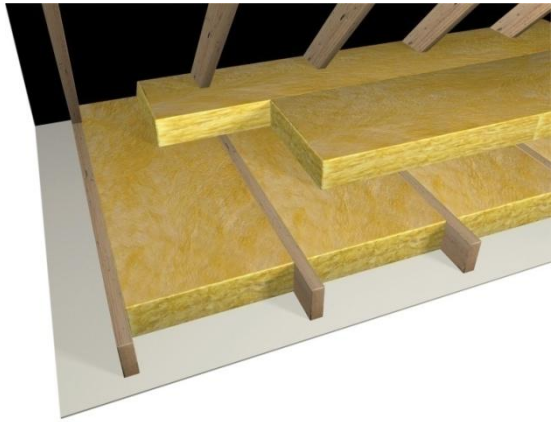

40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
kg/CO2/m2/yr
Part L 2006
Part L 2010
Part L 2013
Zero Carbon
Regulated
Unregulated

ZC Energy Efficiency

Principles

- Backstop performance
- EST Advanced standard
- Passiv Haus

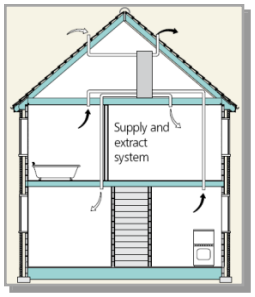
Example – High Fabric Performance



Roof = 0.13 W/m^{2}K

Air leakage
3m^3/h/m^2@50Pa

2016 Energy efficiency

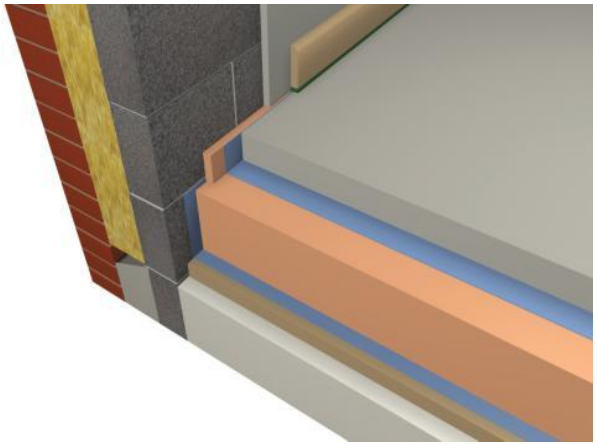


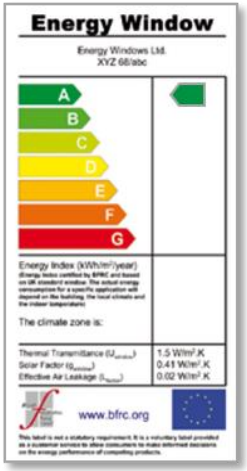
MVHR

85%+
heat recovery

Wall = 0.15 W/m^{2}K

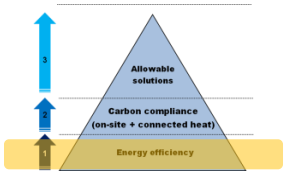
Floor = 0.15 W/m^{2}K



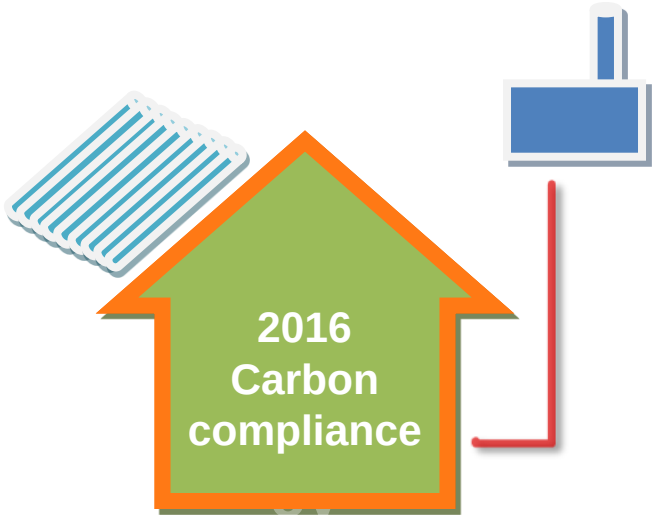


Windows

BFRC band A



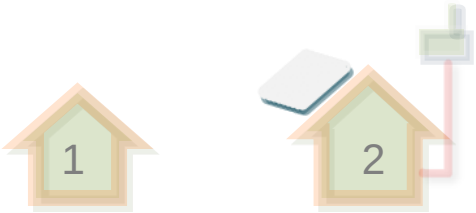
Carbon compliance



Principles

- Minimum energy efficiency & onsite LZC
- Directly connected LZC heat from offsite
- But not directly connected power from offsite

Progress -



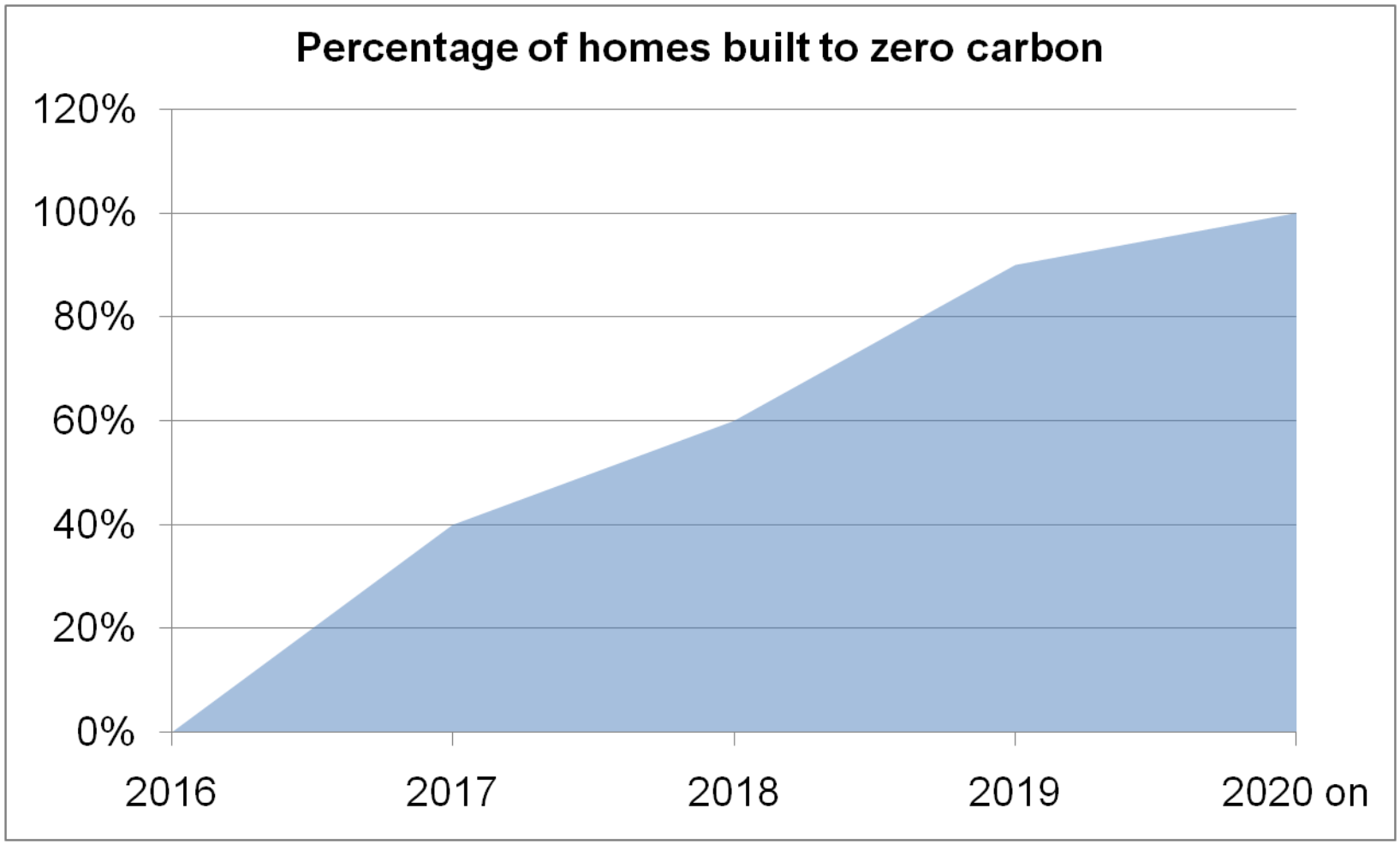
some dates…..

Summer 08	Renewables consultation
Autumn 08	Definition of Zero Carbon
Autumn 08	Zero Carbon Non Domestic buildings consultation
Autumn 08	Heat consultation
Spring 09	Beta version of SAP 2009
Summer 09	Consultation on Part L 2010 (25%)
Summer 09	Feed In Tariff consultation
Spring 2010	FIT introduced
Summer 2010	Renewable Heat Incentive consultation
Spring 2010	RHI introduced
2010	Part L 25%
2012	review of allowable solutions
2013	Part L: 44%
2012-15	Detailed regulations / procedures
2016	New homes to be zero carbon (transitional arrangements TBD)

More dates…..

- **Wales -** target changed recently, now zero carbon (Level 5) by 2011. Climate Change Commission being established to drive towards this target
- **Scotland -** Sullivan Report recommends phased approach to net zero carbon (Level 5) by 2016/2017, if practicable
- **Northern Ireland -** Code Level 3 for social housing from April 2008

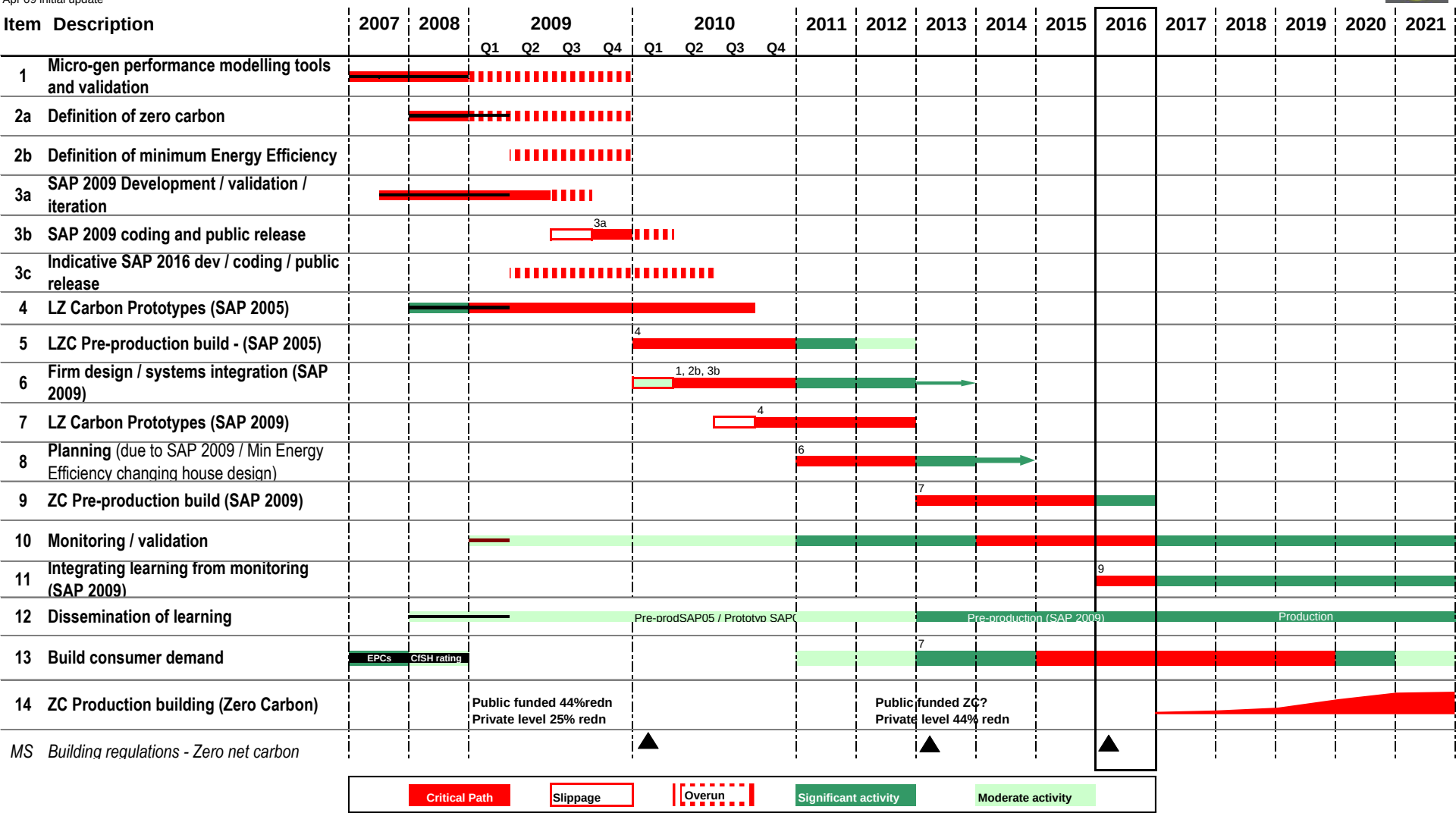
What does 2016 mean?



ZC Hub – Time line

Zero carbon homes delivery time line

Apr 09 initial update



Zero carbon homes delivery time line

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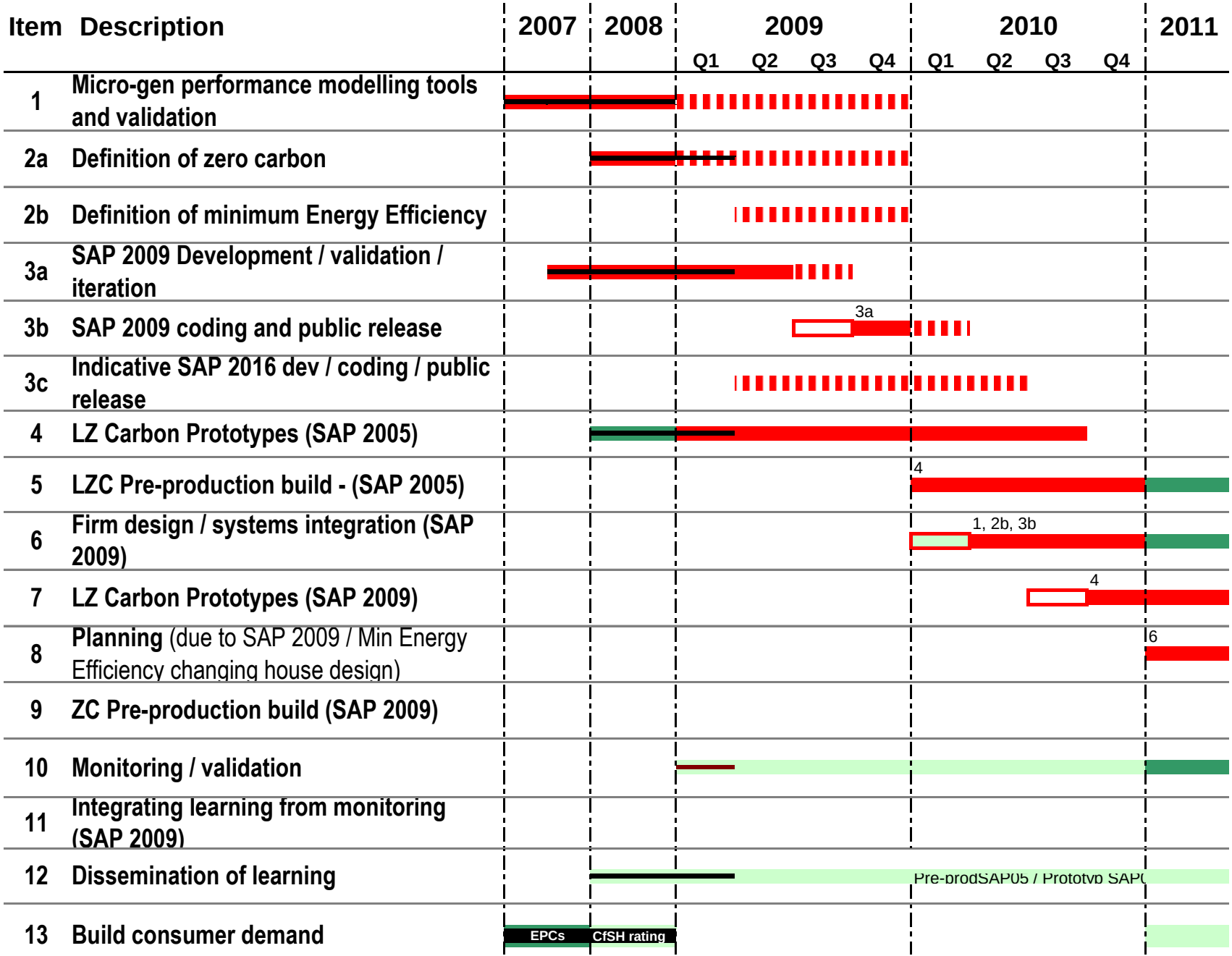


ZC Hub – Work groups

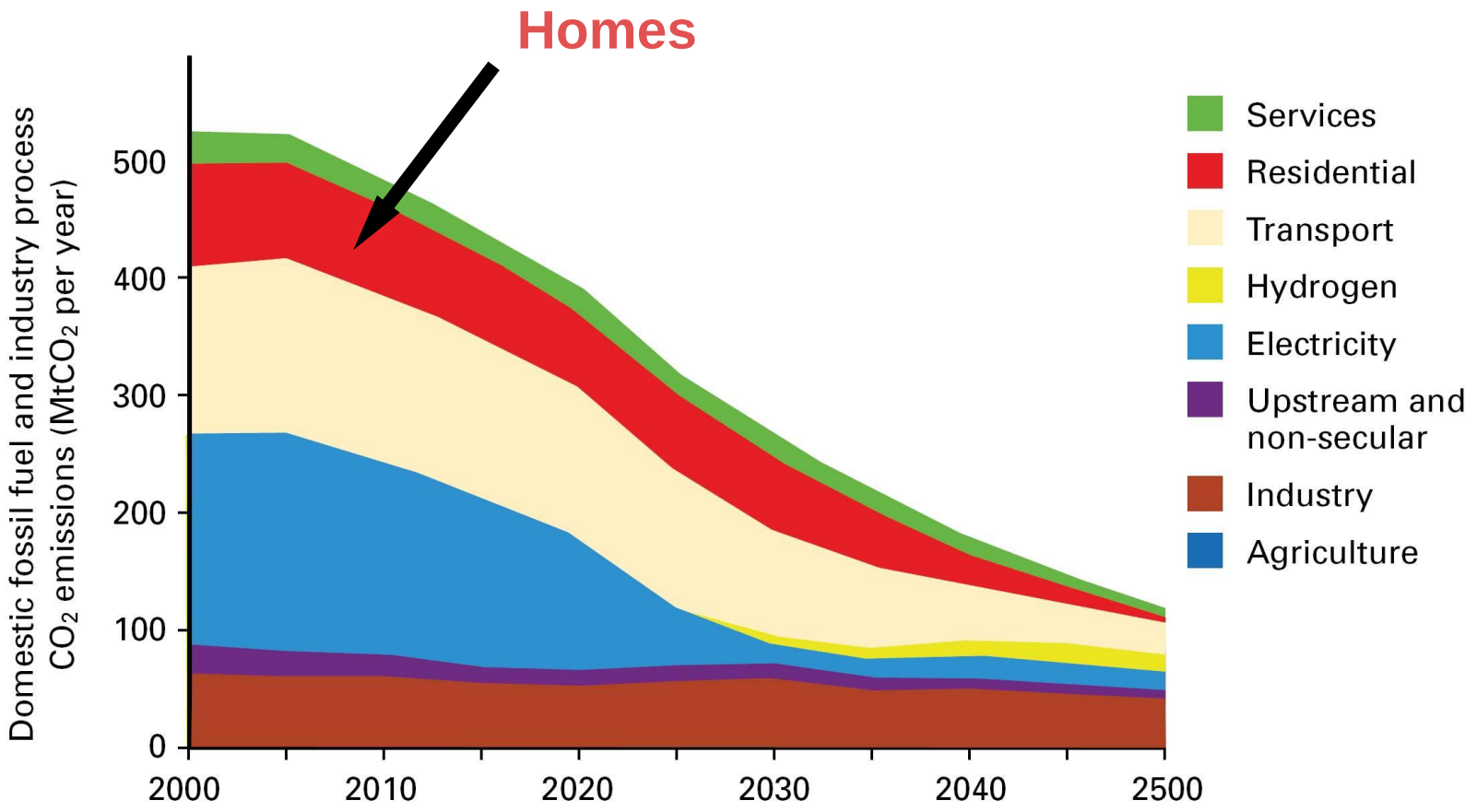
Include:

- Costs of zero carbon Homes
- Time line to zero carbon
- *Carbon compliance assumptions (SAP)*
- *Post Occupancy Evaluation Protocol*
- *Allowable solutions verification*
- *Minimum Energy Efficiency*
- *Distributed energy*
- *…….*

Existing homes…..

UK CO2 emissions by sector

Figure 1.2: UK CO_2 emissions by sector to 2050 on an 80% emissions reduction path[9]



Heat and Energy Saving Strategy (HESS)

Box 1.2: Indicative pathway to 2050

2015 All lofts and cavity walls will be insulated, where it is practical to do so and the householder wants it. Capacity to deliver more substantial measures in volume is developed and proven.

2020 Up to 7 million homes will have had the opportunity to take up more substantial 'whole-house' changes. These packages will go beyond the simple loft and cavity wall insulation measures to include things like solid wall insulation or small-scale renewable energy generation.

All homes to have smart meters.

2030 Our aim is that all homes and other buildings will have received a package that covers all of the cost-effective measures available for that property at the time.

2050 Emissions from buildings are as close to zero as possible.

What it means to housebuilders?

- New build will become increasingly differentiated from existing
- Find ways of marketing benefits to homebuyers
- Find ways of making zero carbon pay
- Technically more difficult
  - New detail designs / designs
  - Construction practice becomes critical
  - New applications of old products
  - New products
- Selling ‘an easier option’ for homeowners than existing…?

What it means to suppliers?

- New construction techniques
  - Detail design
  - Product selection
  - Whole house design
- Relative competitive performance of products
  - SAP
  - Actual performance
- Understanding the “whole house implications”
- Supporting house builder learning
- Developing the supply chains
- …. business opportunity and risk

Thank you

David Adams