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Building Regulations Part L the 2014 changes

New Housing

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January 2014

New housing

- Background to the review
- The changes - new dwellings
- Timetables, transitional arrangements, Approved Documents, SAP
- TAN22 review
- Code pilot second report
- Future thinking and review



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The Building Regulations 2010

Conservation of fuel and power

Approved Document

L1A

New dwellings

Coming into effect July 2014

For use in Wales*



New format Approved Document

Background to the review

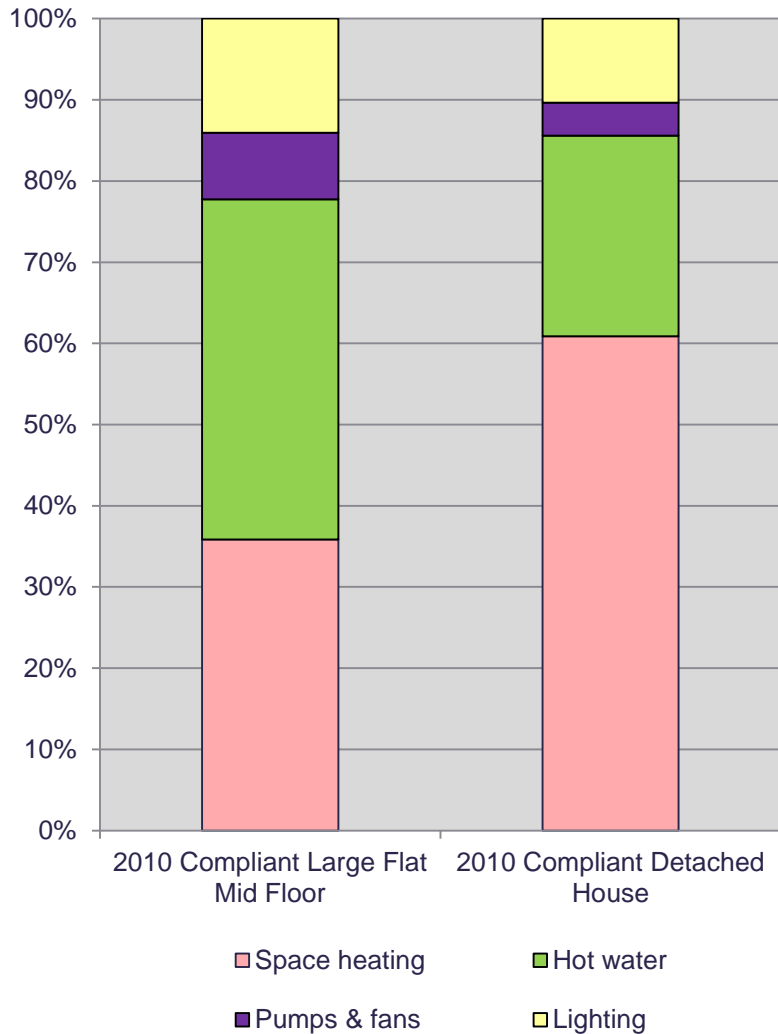
- National planning policy already exceeds Part L 2010
 - New homes to achieve Code Level 3 + 1 additional energy ‘credit’
 - A flat 8% improvement of CO₂ emissions on Part L 2010
- EPBD Recast requires ‘Nearly Zero Energy’ by 2019/21
- WG Programme for Government commitment 55% on 2006 Part L
- Consultation proposals 2015 carbon targets
 - 40% reduction in CO₂ emissions compared to Part L 2010
 - Alternative option of a 25% reduction in (Code 4 - ENE1)
 - Aggregate targets

Decisions

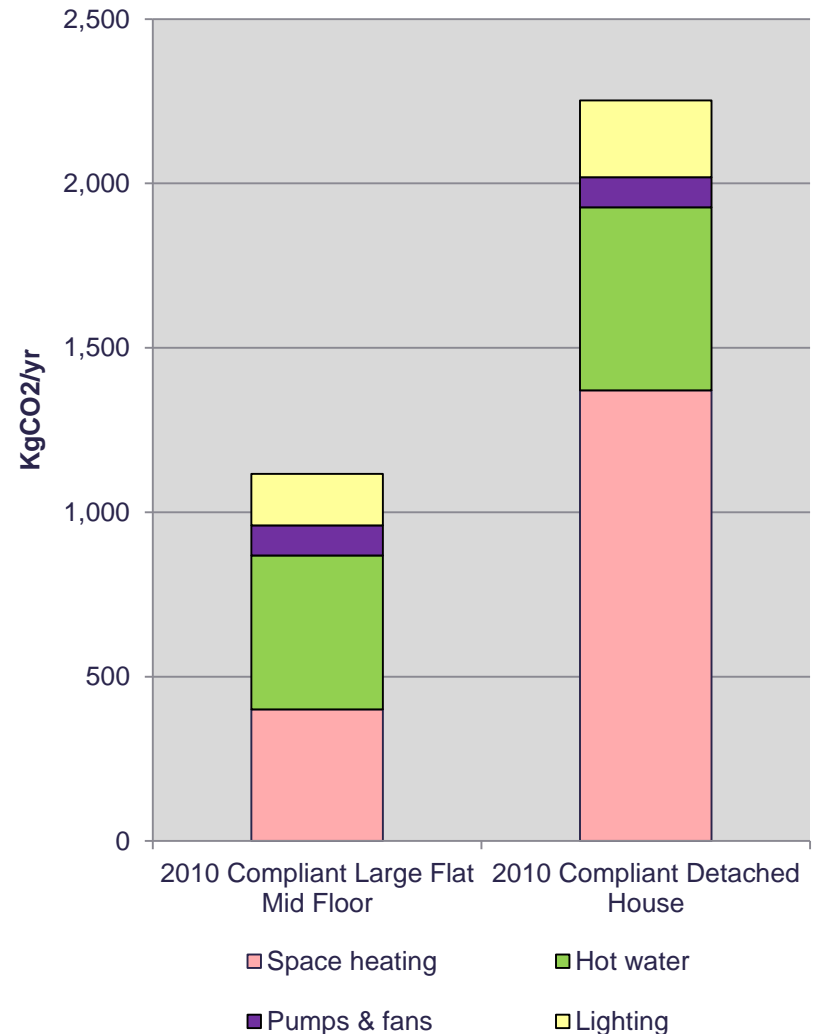
- Viability and cumulative policy impacts concerns raised in Impact Assessment
- State of the market and Welsh government efforts to support the industry
- Decision
 - for 2014 8% aggregate improvement on 2010 Part L in effect transferring the Code requirement to building Regulations
 - Further review in 2016

Wales Building Regulations 2014 Part L – New Housing

Relative proportion of end-use CO₂ consumed (kgCO₂/yr) (2010 compliant gas heated dwellings)



Relative proportion of end-use energy demands (kgCO₂/yr) (2010 compliant gas heated dwellings)



The 'elemental recipe'

- Consultation proposed carbon target for each dwelling based on a common recipe of elemental specifications for
 - Fabric
 - Services
 - PV panels installed on the roof
- At 8% improvement recipe unlikely to be most cost effective but will remain a simple option (see SAP Appendix R)

Wales Building Regulations 2013 Part L – consultation events

Table B1 Elemental Specification	
Element or System	Specification
Opening areas (windows and doors)	Same as actual dwelling up to a maximum proportion of 25% of total floor area[1]
External Walls	0.18 W/m ² K
Party Walls	0.0 W/m ² K
Floor	0.13 W/m ² K
Roof	0.13 W/m ² K
Windows, roof windows, glazed rooflights and glazed doors	1.4 W/m ² K [2] (whole window u-value)
	g-value = 0.63 [3]
Opaque doors	1.0 W/m ² K
Semi glazed doors	1.2 W/m ² K
Air tightness	5.0 m ³ /h.m ² at 50Pa
Linear thermal transmittance	Standardised psi values
Ventilation type	Natural (with extract fans)[4]
Air conditioning	None
Heating System	Mains Gas
	If combi in actual dwelling, combi boiler; otherwise regulation boiler
	Radiators
	Room sealed
	Fan flue
	SEDBUK 2009 89.5% efficient

Different fuel types

- The fuel factor currently provides some relief in the carbon target for those who have to use more carbon intensive fuels than gas
 - Gas is not available
 - Gas is not the preferred option
- At 8% single recipe not practical
- Current approach retained

Capital costs for gas homes (above Planning Policy for Wales)

	Incremental cost (£)	% uplift on 2010 base cost
Detached (gas)	659	0.5%
Semi-detached (gas)	(2)	(0.0)%
Semi-detached (oil)	698	0.8%
Semi-detached (LPG)	(91)	(0.1)%
Semi-detached (ASHP)	1,046	1.2%
Mid-terrace (gas)	(634)	(0.8)%
Apartment (gas)	(314)	(0.4)%
Apartment (electric)	(255)	(0.3)%

Energy demand limits

- The CO₂ target is performance based and allows design flexibility
- However, we also wish to **minimise energy demand** – helps address wider policy issues of energy security and fuel poverty
- It helps future-proof the homes i.e. less likely to require more expensive retrofit upgrades later
- Current approach to minimise demand is to follow limiting fabric standards as guidance in the Approved Document and limiting service efficiency as guidance in the Domestic Building Services Compliance Guide

Proposed changes to energy demand limits

- Important to focus efforts on long-lived building fabric
- There is a risk that in stretching the fabric standards, having them as guidance only may not achieve the aim of a “fabric-first” approach
- Mandatory limiting fabric performance values - A new requirement, regulation 26A, will be introduced that requires new dwellings to achieve or better the target performance rate for the fabric of the building envelope. i.e. the Backstops have become mandatory
- Not implementing the performance-based FEES approach

Proposed improvement to energy demand limits

2. Make the limiting fabric standards more stringent

Limiting fabric performance values	
Roof	0.15 W/m ² .K (0.20)
Wall	0.21 W/m ² .K (0.30)
Floor	0.18 W/m ² .K (0.25)
Party wall	0.20 W/m ² .K
Windows, doors	1.60 W/m ² .K
Air permeability	10.0 m ³ /h.m ²
Linear thermal transmittance	0.15 x exposed surface area (W/K)

SUMMARY

Main changes

- 8% aggregate reduction in CO₂ emissions compared to Part L 2010
- CO₂ target recipe Appendix R
- Fuel factors retained
- Mandatory limiting fabric standards
- Improvements in the limiting fabric and building service standards

Timetable

- Regulations made Jan 21 2014
- In force 31 July 2014
- Usual transitional arrangements (as 2010)
- Draft ADs published February
- SAP within next 2/3 months

TAN22 Review

Part L now matches ENE 1

Review nearing completion looking at Code criteria and how they might be addressed through other policy levers e.g. water efficiency through Building Regulations.

Code pilot second report (to be published)

14 RSL Code 4 and 5 schemes

- fabric efficiency choices
- thermal bridging verification
- technology confidence
- end user experience
- Skills gaps and opportunities
- Monitoring projects - initial results, monitoring continuing

Future thinking and review

EPBD Recast target 2019/21

What does 'Nearly Zero Energy' mean?
Is cost optimality a constraint?

NHBC foundation reports

Overheating

MVHR

Co-heating tests

Behaviour change, consumer reaction and acceptance of low carbon housing

ZCH Performance gap work

Future thinking and review

Viability and impact always a consideration

On-site improvements/Offsetting

Any change to thinking on natural ventilation, can fabric be pushed further?

Would Allowable Solutions work for Wales?



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