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Building Regulations Part L the 2014 changes

New Housing

François Samuel **Building Regulations** 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



New format Approved Document

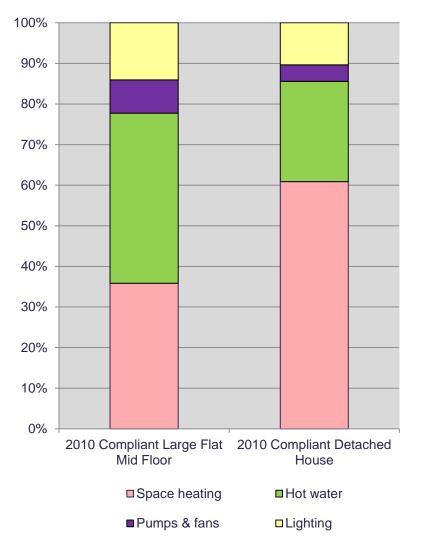
Background to the review

- 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

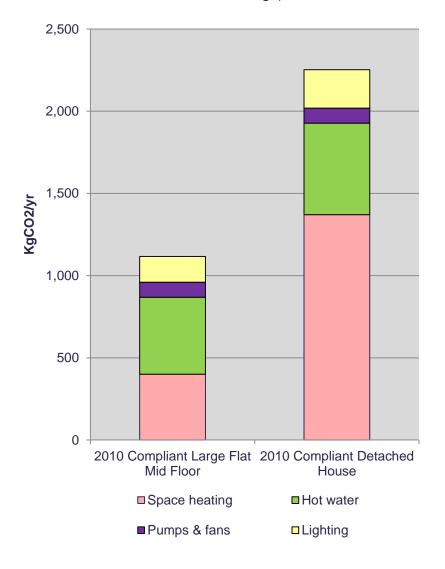
Decisions

- 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

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/m²K	
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/m²K [2] (whole window u-value) g-value = 0.63 [3]	
Opaque doors	1.0 W/m²K	
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	
	Mains Gas	
Heating System	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		0.15W/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	0.15 x exposed surface
transmittance		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 though 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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