

GHA 2019 Policy Workshop

‘Tomorrow’s Housing: Are Current Regulations Fit for Purpose?’

Thursday 24th January at Winckworth Sherwood, London

Chaired by *Julian Brooks - Network and Programme Manager, Good Homes Alliance*

Attendees: 35 delegates including specialists from the following sectors; building consultancy, new-build and retrofit development, supply chain, architecture, urban design, academia, NGOs, trade and professional associations.



Discussion Notes

The afternoon event was held at Winckworth Sherwood’s offices in London and four presentations were given to help set the scene by the following expert speakers:

- Lynne Sullivan OBE - Director, LSA Studio & Chair, Good Homes Alliance
- Julie Godefroy - Technical Manager, CIBSE
- Ian Mawditt - Director, Four Walls Consulting
- George Martin - Chief Executive, Building Performance Network.

This was followed by three roundtable workshop discussions facilitated by the GHA and expert speakers on the following topics:

- **Energy**
- **Health & well-being**
- **In-use performance**

The purpose of the discussions was to:

- Highlight the known shortcomings of the current Building Regulations on; energy, ventilation, overheating, indoor air quality, comfort, and in-use performance.
- Suggest improvements and changes to regulations/policies in anticipation of forthcoming Government reviews in 2019.
- Produce a concise set of notes on the three themes that will inform an industry wide position paper that can be adopted by the GHA membership and presented to industry and Government.

The notes from the workshop roundtables are set out below:

ENERGY

MOTIVATION

The national grid is de-carbonising and to secure energy efficient buildings a kWh/m²/pa metric is required alongside CO₂/m²/pa. The current SAP tool produces results that are relative but are still not a reflection of actual performance in use as the performance gap work has highlighted. Climate change requires SAP to be updated.

BARRIERS

The housebuilding industry is used to the current system and major change will require time for the industry to adjust, the rate of change required to achieve zero carbon/net zero energy new buildings as early as possible is rapid. On site compliance requires further resources to be employed, e.g., number of Building Control officers will need to increase. The use of unaccredited on-site testing is a cause for concern in terms of accuracy. SAP is too easy to fudge for DER compliance. Climate data is not accurate within current SAP tool and needs updating to reflect local conditions. Carbon based fuel factors for electricity use are changing as the national grid de-carbonises, altering the carbon offset from photovoltaic panels and potentially favouring a more electrically (heat pump) based approach. “Value engineering” during construction often erodes design targets and affects in use performance. Sample on site compliance testing is also an area of concern. The compliance with accredited details in construction is an area of concern. Education and training in issues around energy performance/fabric efficiency at a site level is an area of concern.

OBJECTIVE

To improve/change the tools used at design stage to fully reflect issues around local climate, site context, grid de-carbonisation, occupancy levels, in use performance, overheating risk, health and wellbeing. A fresh approach is needed. To improve and tighten compliance testing/checking throughout the design, construction process. Introduce a meaningful commissioning process (e.g. a “soft landings” approach). To integrate Part L & F in design calculations. Introduce standards and criteria for occupant comfort. To futureproof designs for compliance with 2030 and 2050 carbon/energy standards. To introduce absolute limits for fabric energy efficiency. To fix any issues around “fudging” for compliance. To introduce a post completion check for performance (see In Use Performance notes). To introduce a legally binding building energy performance system upon developers/constructors, this would not include unregulated energy use. *Eradicate loophole to secure older Building Regulations for developments upon granting of Planning Permission/ “spade in the ground”, make current Regulations apply as they tighten up,

INCENTIVES

Developers would not wish to be in contravention of legally binding performance standards/targets. Consider introducing a “performance bond” to ensure compliance, repayable after 1 year of occupancy and satisfactory performance. Homebuyers and tenants would look favourably on homes that performed

as they were designed to. Current applicable Building Regulations* change would potentially drive new home numbers up.

CONSUMER EMPOWERMENT

An operational energy use approach that has legal status will assist in consumer understanding/incentivisation.

HOW TO GET THERE

Thoroughly review/change current SAP tool and instigate a fresh approach that is fit for purpose, introduce absolute targets for fabric energy efficiency that can be tested on site, solve the overheating issue and adopt an operational energy performance standard. Adopt both carbon and energy metrics/targets. Consider introducing a thin but increasing wedge from 2020 to 2030 to increase standards and performance, e.g, 15% of new builds to an equivalent zero carbon/net zero standard from 2020, 50% by 2025, 100% by 2030. Alternatively, ramp up standards across all new builds incrementally to zero carbon/net zero by 2030 or earlier. Investigate how the Passivhaus standard could be recognised as an alternative methodology that could substitute SAP. Recognise that Passivhaus certification delivers consistently greater accuracy for energy performance without any significant performance gap and consider either adoption or significant learning from it. Increase scrutiny of on-site quality and compliance and make operational performance targets legally binding.

HEALTH AND WELLBEING

MOTIVATION

Occupants expect comfortable and healthy homes but are not well informed and are often unaware of problems? Health and wellbeing are not being measured or systematically designed for. Where are the mechanisms within current regulations for this? Ventilation systems are often failing to perform and/or are poorly maintained. Excess mortality rates now evident and associated with overheating. Increase in respiratory problems associated with poor indoor air quality, condensation, moulds and ventilation.

BARRIERS

SAP tool not accurate, is too easy to fudge, relies on assumptions, e.g., occupancy rates and is incorrectly being used as a design tool. SAP product database is not good enough, e.g., site context is not taken into account and the test criteria is flawed. There are no standards for designing for comfort within current regulations. Part F & L are requiring more airtight buildings, ventilation is critical and not being addressed properly, from design through to operation. Source control of pollutants is not covered by Part F.

A lack of clarity on who is liable for instances of poor health and comfort-routes to redress from occupants currently exists via the Healthy Homes and Safety Rating System (HHSRS) but how many occupants know this and how does it perform against current fails within Building Regulations?

Unintended consequences from new standards is an area of concern, especially in retrofits. Compliance is an area that needs much tighter control. VOCs are currently not monitored.

OBJECTIVE

group agreed that the current regulations are failing occupants and fall far short of being satisfactory. Ventilation systems need to perform better. Multiple changes, improvements, reviews and new design standards are needed to fully integrate and embed health, wellbeing and comfort within regulations. Supply chain experiences are known and solutions exist, industry can assist policymakers, regulators, testing organisations and legislators to provide the improvements.

INCENTIVES

Public Health England, NHS, Local and National Government should be endorsing and encouraging measures to design and build healthy new homes and retrofits. The supply chain has looked at introducing healthy homes standards but without much success to date. HHSRS could provide better redress. Regulations and standards ultimately need to be introduced to ensure healthy comfortable homes with liability/redress for non compliance defined.

CONSUMER EMPOWERMENT

Occupants need to be provided with more information and guidance as to how homes function and provided with a maintenance schedule/MOT. Awareness of health impacts of homes needs greater exposure.

HOW TO GET THERE

Part F & L need to be reviewed, aligned and merged, as they are interdependent, in order to provide better outcomes. Comfort and health standards need to be developed and integrated within regulations. SAP product database test criteria needs to be reviewed and improved. On-site compliance regime needs to be improved. Post occupancy MOTs for mechanical systems should be adopted on a yearly basis. Air quality monitoring database (as in Scotland) should be included within test criteria for design/compliance.. A new testing standard for summer bypass is required.

Monitoring of performance within homes for IAQ including VOCs to become standard practice. Monitoring data needs to be collected and published to allow for measurement/improvement. New standards to be developed for designing systems, testing regimes, monitoring and measurement. All professional bodies need to widen training and education to address health, comfort and wellbeing. Building Use Studies Surveys needs improvement to address these issues. Occupants should be included in any Building Regulations review. TM59 (CIBSE) compliance should be mandatory for development in urban areas. Introduce quantitative thermal comfort standards.

Introduce toxicity standards for internal finishes i.e. source control of pollutants along with Part F review?

IN-USE PERFORMANCE

MOTIVATION

End users/ self-builders and investors have the motivation, a culture where in-use performance is commonplace will incentivise more homeowners

BARRIERS

Data protection may be a problem, again: need to transform the cultural norm to in-use performance transparency so people willing to give data. Total in-use energy performance includes 'non-regulated' energy so this is a major shift from compliance related only to currently defined 'regulated' loads –Need resource to interpret data; also building performance can change over time (e.g. seals, air tightness changes)

Chair's note: NHS is now offering DNA profiling at a cost, in return for people giving their data to a national database (anonymised)

OBJECTIVE

Group agreed the move to in-use performance declaration is inevitable and desirable. Making the process desirable is key

INCENTIVES

Group felt planning could incentivise (cf Vancouver) e.g. giving early approval/planning gain for very good fabric performance;

Regulation could make an early demand for sampling the performance of a new development (e.g. starting with a sample)

CONSUMER EMPOWERMENT

Builders should be accountable for what they build, this makes sense to the consumer but is not obvious currently in relation to performance. It is a fudge with excuses.

A whole building passport could change this culture: but needs accurate information which the consumer can track, but it would empower the users

HOW TO GET THERE

Skills need to be addressed but need the motivation/push to drive this

Procurement criteria can gear more to accountability for energy and other indicators of performance. Community groups exist where they agree to disclose energy bills (ie total energy use) so they can benchmark their own use against that of their neighbours

Examples:

- Bioregional at Bicester – In Bicester there is an annual disclosure agreement on performance, formed as part of a planning condition. The developer had to agree to (annual; anonymised) performance reporting. The Local Authority developed and set the reporting criteria, with help from Bioregional (consultant for both developer and local authority at the time) and with input from others, e.g. the developer. Data is collected and stored remotely (hourly intervals), requiring metering/ monitoring equipment installed in the homes and someone collating and analysing the data. Some of the data is fed back to the home owners directly on their in-house/ real time information system to influence user behaviour. Other data, especially the annual energy averages, travel and waste data are reported only once a year.
- Swichee at Thamesmead – monitors lots of outcomes and delivers data to cloud (e.g. temperature, RH, occupancy sensors etc) which combined with metering is a very detailed picture. This was put as a proposition to residents and only 5% refused on privacy grounds.

For more information about the GHA and to get involved, please visit www.goodhomes.org.uk or contact us at info@goodhomes.org.uk or 020 7704 3503.