2018 NEXTGENERATION SUSTAINABILITY BENCHMARK REPORT Juntur

GENERATION

9

a

大王

Ŧ

NAVIGATING CHANGE

THE UK HOMEBUILDING SECTOR'S CONTRIBUTION TO A SUSTAINABLE FUTURE



E

Ê

31

Homes England

R



P

j,

🛱 👬



NextGeneration is an annual sustainability benchmark of the 25 largest homebuilders in the UK

NextGeneration enables homebuilders, Government, registered providers (RPs), investors, employees and the public to understand the sustainability of homebuilders' operations and the new homes they build.

NextGeneration works by inspiring companies to report against a range of criteria - developed in collaboration with the industry for over ten years relating to high-quality, sustainable homebuilding. The assessment is primarily based on publicly available information and has been a key driver of greater transparency and accountability within the sector. By showcasing leading firms, NextGeneration aims to create healthy competition amongst homebuilders and ultimately encourage them to deliver more sustainable homes and communities.

NextGeneration member companies benefit from:

- Detailed insight into market trends
- A clear understanding of industry best practice.
- Enhanced assessments and bespoke reports to help improve their performance.
- Networking and knowledge-sharing events, to aid collaboration and create solutions.
- The opportunity to steer the benchmark and develop the benchmarking criteria.
- Demonstrating commitment to sustainability to stakeholders including local authorities and Homes England

www.nextgeneration-initiative.co.uk

Contents

Company rankings p	bage 2
Detailed results p	bage 3
Award winners p	bage 4
Exploring future trends p	bage 7
Value for stakeholders p	bage 9

NEXTGENERATION FACTS





FOREWORD

From Brexit to climate change - we are currently living through unprecedented geopolitical and financial uncertainties. Uncertain times such as these challenge all industries, including the UK homebuilding sector. But the UK cannot afford to derail its aims of delivering 300,000 quality homes in England per year by the mid- 2020s, and thus homebuilders and investors alike are expanding their approach to risk mitigation.

Navigating Uncertainty

To help homebuilders navigate the uncertainty they currently face, the 2018 NextGeneration report highlights 3 key areas of risk and opportunity which they can focus on to solidify their business' future: supporting employee mental health, promoting thermal comfort (or mitigating overheating), and embracing modern methods of construction.

As the impacts of poor mental health in the workplace become clearer, on page 7 we propose three practical solutions to assist current employees and to address long-term challenges such as the skills gap. As the effects of climate change move closer to home in the UK, we outline on page 6 three ways in which homebuilders can prevent, adapt, and mitigate the risks of overheating in homes. Offering a new spin on a much-discussed topic, on page 8 we examine how modern methods of construction can help the industry create a circular economy.

Analysis and Awards

Detailed results and analysis of the benchmark can be found on pages 2 and 3, highlighting areas of strength as well as opportunities for improvement. The awards section on pages 4 and 5 recognises the ongoing efforts of industry leaders to promote sustainability in homebuilding.

Emma Hoskyn

Sustainability

Paul McGivern Modern Methods of Construction (Specialist) Homes and Communities Agency

Julie Hirigoyen Acting UK Head of **Chief Executive UK Green Building**

OUR MEMBERS

JLL













COMPANY RANKINGS

2018 NextGeneration Results



OVERALL ANALYSIS

Lendlease tops the benchmark for the 3rd year in a row with another strong performance in 2018. Barratt Developments plc and Redrow come in at 2nd and 3rd again. Close behind is Telford Homes, who have improved their score substantially for the second year in a row, reflecting their focus on sustainability reporting and futureproofing.

NextGeneration's 2018 rankings indicate a wide range of performance in the homebuilding industry's approach to addressing sustainability and communicating their approach sustainability. NextGeneration members continue to lead with a member average nearly double the overall industry average (75% to 37%), reflecting both the benefits of expert advice and peer learning, and the greater disclosure of sustainability information by members to the benchmark. A lack of transparency leaves external stakeholders in the dark about how well homebuilders are managing sustainability risks and opportunities. We would encourage any developer, listed or non-listed, to engage with initiatives like NextGeneration to learn from industry leaders and enjoy the benefits of membership.

LEADING STRATEGIES

Lendlease: "Creating places for people and meeting their needs today, and in the future"

- Elephant & Castle 1 of 19 Climate Positive developments globally
- 2018 Global Healthy Workplaces Award winner
- Named in 2018 The Times Top 50 Employers for Women

Barratt Developments plc: "Building sustainable values"

- Committed to a net positive biodiversity and ecological impact
 by 2020
- FTSE4Good index Participant
- Only major national homebuilder to achieve 5-star HBF rating every year since 2010

Redrow: "Giving customers a better way to live"

- 2018 Housebuilder of the Year at the WhatHouse? Awards
- 2018 Housebuilder of the Year at the 2018 Building Awards
- 8 awards won at the 2018 UK Property Awards, including Best Residential Development Award



DETAILED RESULTS

STRONGER PERFORMANCE

Two areas where this year's scoring is higher but where the industry still has opportunity to improve:

Strategy

Net positive commitments are on the rise, and most companies have integrated their sustainability vision with their business. Companies could go further by investing in developing their sustainability capacity by extending tailored training to their employees.

Waste

More companies are disclosing data and demonstrating improvements upon their waste generation. Maintaining this positive momentum will be critical to ensuring long-term reduction in waste generation is achieved within the industry.

We found two areas where the industry is improving on last year's performance and is also showing a strong performance generally:

Future Proofing

Innovation is becoming a focus, as evidenced by more companies investing in research to improve their sustainability performance.

Customer and Consumer Engagement

While NextGeneration identified quality as an area in need of improvement in 2017, this year we have seen a significant improvement in customer satisfaction ratings.

WEAKER PERFORMANCE

Three areas which were highlighted in last year's report having stood out as areas requiring further improvement in 2018:

Procurement

As part of procurement, circular economy principles are yet to be embraced by the industry. A first step to realising the opportunities of circular economy is by conducting a whole life analysis of a dwelling, in order to analyse the environmental impacts of every stage of development.

Transport

While more companies are looking at sustainable transport availability when acquiring land, access to public transport has worsened in developments completed over the past year. Encouraging the use of electric cars, the provision of car clubs and other methods of reducing car dependency could address this shortfall.

Water

While some companies demonstrated reductions in water consumption, the industry is delivering homes that are less water efficient. Improvements can be made through restricting water consumption levels in minimum standards for homes.



Figure 2: 2018 Results Breakdown

AWARD WINNERS

Top performing companies in the Sustainability Benchmark are awarded Gold, Silver, and Bronze awards. Beyond helping companies communicate their efforts and accomplishments to customers, these awards enable stakeholders to identify sustainability leaders in the residential sector. PHOTO COURTESY O



2018 INNOVATION AWARD



"LEADERS IN REGENERATION" DIVERSITY & INCLUSION INITIATIVE

This year, the Innovation Award was given to Linden Homes for their many initiatives to achieve Gender Inclusion. The lack of diversity and inclusion, along with the challenges of the skills gap, are industry-wide issues. In recognition of this, Linden Homes have implemented a number of initiatives to attract a diverse range of people into the industry.

GOLD AWARDS



"For Lendlease, sustainability is about creating places for people and meeting their needs today, and in

the future. Our residential projects are going from strength to strength and we've seen some great progress in 2018 as we continue to deliver high quality homes at Elephant Park, as well as at other schemes across the UK such as Cambium in Southfields and Hungate in York. Looking ahead, we've recently been appointed to deliver two of London's largest urban regeneration projects at Euston and Silvertown Quays and we are excited to take our sustainability goals to the next level working with our partners on those projects."

> **Richard Cook Head of Residential Europe** Lendlease



"As Barratt Developments celebrates 60 years of building

excellence this year, we are demonstrating our leadership through strong sustainable performance. We have reduced our construction waste relative to build area by 15% over three years and met our 2025 carbon emissions target seven years early. We lead in development quality though our Great Places design guide and our five star customer satisfaction rating, and we are supporting industry guidance on creating net gains for biodiversity on housing developments."

Sarah Pratt Head of Corporate Sustainability Barratt Developments plc



"At Taylor Wimpey we do much more than build homes – we aim to add social, economic

and environmental value to the wider communities in which we operate. We have reduced the carbon intensity of our direct operations by almost 39% in just four years. Almost one fifth of all the homes that we build are designated as affordable and we have increased the number of women on our board to 30%."

> lan Heasman **Director of Sustainability Taylor Wimpey**



"Redrow's purpose is to way to live,

developing thriving communities by valuing people and building responsibly. We are striving to achieve this by constructing well designed, high quality homes that take full advantage of the beneficial characteristics of the local landscape and ecology, positively contributing towards people's wellbeing. The NextGeneration benchmark is an important tool that helps us to target improvement action in the right areas"

Robert MacDiarmid Group Sustainability Director Redrow



"2018 marks the 2nd year of embedding our telfordhomes Building a Living Legacy sustainability strategy,

in support of our purpose of 'developing the homes and creating the places that London needs'. During this period we have built upon the progress we achieved in 2017 and are delighted that this is recognised by the NextGeneration sustainability benchmark. We continue to invest heavily in our people, a predominately SME supply chain and London's local communities, whilst achieving a 100% customer recommendation rating."

> **Andrew Day Head of Sustainability Telford Homes Plc**

SILVER AWARDS



"Linden Homes approach to sustainability is strategic, with clearly defined objectives and targets that appropriately address the sustainability risks and opportunities facing our business and our stakeholders. We recognise that we must balance financial performance with our obligations to all our stakeholders, including clients, customers, employees, supply chain partners and the communities and environment in which we operate. We assess and address sustainability impacts in relation to six fundamental areas: health and safety, our people environment and climate change, communities, customers snd supply chain."

> Marc Thomspon **Director of Strategy and Projects Partnerships and Regeneration Division Linden Homes**

BRONZE AWARDS



Berkeley Group is one of two non-member companies to win an award in 2018. Its score is based only on publicly available information

demonstrating an exemplary commitment to both sustainable development and transparent reporting. Since implementing Vision 2020, Berkeley Group has put in place actions to incorporate sustainability into each part of its business to ensure that it delivers high quality, sustainable homes. The company has committed to becoming the UK's first carbon positive listed housebuilder



Crest Nicholson is one of two non-member companies to win an award in 2018. As per Berkeley Group, its score is based only on publicly available information demonstrating an exemplary commitment to both sustainable development and transparent reporting. Well known for its industry leading "Make Waste History" campaign,

it continues to drive sustainability in UK housebuilding through new market opportunities including the private rental sector and off-site manufacturing.

EXPLORING FUTURE TRENDS





BEAT THE HEAT

Overheated homes are not only uncomfortable – they are bad for our health. And this is not just a concern for the future. A study by the Committee on Climate Change has shown that overheating affects one in five UK homes even at current temperatures, at the expense of the health and wellbeing of residents. Not only that, increased heatwave risks pose reputational risks and may result in costly refurbishments for homebuilders¹.

In 2015, the ZeroCarbon Hub identified the main reasons for the increasing negative impact of overheating to hotter summers (climate change), growing and ageing population (demographic changes), increasing housing densities (urbanisation), and externalities from solutions to other problems such as energy efficiency, air tightness and glazing (construction practices)². A 2018 paper published by DEFRA has acknowledged that current building regulations do not offer any standard or regulation to address overheating, and recommends changes in policy to be considered.³. Here we outline three solutions for homebuilders to actively help prevent, adapt, and mitigate the challenge of overheating in homes.

CARBON NET POSITIVE | CASE STUDY 1

Overheating in the UK is linked with climate change. Leading homebuilders are setting Net Positive targets as the effects of climate change become clearer (IPCC 2018) and policy pressures mount. While some leaders such as Lendlease, Redrow and the Barratt Developments plc have started their environmental net positive journey, most homebuilders are yet to make this jump to futureproof their business.

A homebuilder can achieve Carbon Net Positive targets through reducing carbon emissions of its developments through carbon efficient construction practices, fabric energy efficiency, renewable energy generation, and carbon reduction projects such as offsetting schemes.



MAPPING RISK | CASE STUDY 2

In recognition of the importance of mobilising companies to meet the country's climate change commitments, the UK Government has endorsed the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) and encourages all appropriate companies to implement them. TCFD provides a framework for companies to identify the financial impacts of climate-related risks (including overheating) and opportunities, rather than on the impact of an organisation on the environment. In other words, by following the TCFD guidelines, companies can capitalise on new opportunities, mitigate risks, and meet investor expectations, all while contributing to international climate change commitments. A win-win.

ADAPTIVE DESIGN | CASE STUDY 3

The passive strategies for preventing overheating in homes through design are well-established: they include orientation to the sun, size and placement of windows, use of thermal mass and careful ventilation design. What is necessary in addition to these is to build in capacity for adapting to future change in climate conditions. The UK Government has also identified the use of dynamic thermal modelling to assess overheating risk in homes⁴ and green infrastructure⁵ as key components to overheating mitigation for property developers. Home designs need to be robustly tested to ensure they remain comfortable in both current and predicted climate conditions. Green roofs, deciduous trees and indigenous planting can combine to create passive cooling through shade and transpiration.

)

()

BUILDING MENTAL HEALTH SUPPORT

The conversation on mental health in the workplace has been active even before the 2017 Stevenson/Farmer review 'Thriving at Work' pointed out the extent of its impact on personal, social and economic consequences. From 2001 to 2017, suicide has consistently been the number one cause of death for 20- to 34-year-old men and women in the UK⁶, and since 2013, the age group with the highest rates of suicide was 45- to 59-year-old men. On top of the heavy human cost, studies show that poor mental health in the workplace manifests itself as presenteeism, costing employers up to £42 billion, and the Government up to £27 billion⁷.

People working in construction are 3.7 times more likely to die by suicide than the national UK average, making suicide more likely than a fatal from a height⁸. Furthermore, a study by the Institution of Civil Engineers and Loughborough University shows that work-related stress, depression and anxiety costs employers £178m per annum in direct and indirect costs⁹.

Contributing factors include long hours, working away from home, men being generally less likely to seek medical help, and concerns about job security.

With economic uncertainties heightened by the approach of Brexit, taking an active approach to promoting employee mental health will not only provide a safer, more efficient and pleasurable environment – it is a necessary step to ensure that talented workers want to join and stay in our industry. Here we propose three practical approaches.

GREEN INFRASTRUCTURE | CASE STUDY 1

Incorporating biophilic design – that is to say greenery, natural materials and natural forms - in workplaces improves air quality, but also, importantly, the mental health of people using the space¹². Studies have shown greener offices lead to significant improvements productivity, cognitive ability, and stress levels¹³. Leading construction companies are starting to incorporate such green designs for their employees working on site, through introducing flowers and greenery in and around construction sites, quiet and green spaces for employees, and WELL Standard elements in temporary offices^{14 15}.

TRAINING AND AWARENESS | CASE STUDY 2

It is no secret that raising awareness is a key solution – but to make a real difference companies need to have a comprehensive workplace mental health plan in place which actively educates employees¹⁰ about mental health, stress management, and mindfulness. Industry leaders go further by extending mental first aid training to employees, and offering therapy with a licensed mental health practitioner¹¹.

IMPACT MEASUREMENT | CASE STUDY 3

NEXT

GENERATION

Ensuring employee health programmes can have measurable impacts is crucial. While the development of appropriate KPIs to measure employees' wellbeing must be tailored to their specific needs, some examples of what to measure include:

- Employee retention and turnover employees leaving work, resulting in the need for recruiting a replacement at a cost
- Presenteeism employees attending work whilst unwell, and therefore not performing at full capacity
- Absenteeism employee absence from work due to ill health

The impact of mental health initiatives can be measured by tracking the above through employee health surveys, analysing HR data, and employee focus groups.

REALISING THE POTENTIAL OF CIRCULAR ECONOMY

Modern Methods of Construction (MMC) are increasingly high on the agenda of homebuilders, with the UK Government championing them as an encouraging way of boosting productivity. Here we propose a fresh angle to MMC, by framing it within Circular Economy principles.

Circular Economy is a concept which offers "an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.¹⁶" With the construction industry accounting for 60% of materials use and one third of waste¹⁷ in the UK, there is an obvious opportunity for this approach to generate value for homebuilders. Furthermore, circular economy principles can help to mitigate increasing uncertainties around supply continuity The UK construction industry has seen increases in key material prices of 6-12% last year¹⁸, and 20% of bricks and brick-making components are imported to the UK, mostly from the EU¹⁹. In this section, we propose three ways in which MMC can offer new ways to achieve a more circular economy. CONTINUED...



• <u>*</u>

OPTIMISING ENERGY | CASE STUDY 1

In parallel with reducing waste generation, MMC offer opportunities for increasing energy efficiency to further contribute to achieving a circular economy. MMC reduce energy required for construction by reducing construction time. For example, Skanska have used off-site manufacturing to achieve a 65% reduction to construction time, and halved labour costs. Reduced construction time can translate to reduced energy demand on site for staff accommodation and services, as well as lighting and equipment. Further studies have found an average 60% reduction in CO₂ emissions with the use of MMC due to reduced requirement for vehicle use in off-site construction²⁵.

BUILDING INFORMATION MODELLING (BIM) | CASE STUDY 2

Building Information Modelling (BIM) is "a process for creating and managing information on a construction project across the project lifecycle"22. BIM has been increasingly used as a more efficient and intelligent way to plan and design by developers, and its data processing technology can also be used to find the most optimal use of a material for as long as possible. For instance, researchers at the University of the West of England Faculty of Business have recently developed a BIM-based model which allows builders to predict recoverable materials from buildings which can be reused at the end of the building's life²³. This kind of model can be used by architects and designers to assess the impact that design decisions have on salvageable materials. Further, Loop by Circology, a platform for builders to sell on unused or reusable materials and equipment, could integrate BIM, effectively allowing companies to predict materials that are going to become available to sell and connecting them to a buyer²⁴.

RETAINING VALUE | CASE STUDY 3

The key purpose and business incentive for a circular economy is retaining value by designing out waste. In this context, studies suggest that utilising off-site manufacturing for construction can halve net waste on average, compared to traditional methods²⁰. MMC allows this through:

- Manufacturing: Materials and products can be standardised and can incorporate more recycled materials.
- Distribution: Packaging is a significant contributor to waste (on average 34% of waste weight²¹). Finished MMC products typically require little packaging, and this can be further improved by using reusable packaging materials such as tarpaulin rather than single use polythene sheeting. Further, reduced weather-proofing requirements due to factory setting decreases the need for packaging, and minimises waste generated from onsite damage to materials and products.
- Installation: MMC suppliers include waste disposal in their tenders as opposed to subcontractors who only quote labour and materials. This means MMC suppliers have a greater incentive than traditional sub-contractors to minimise construction waste.



REFERENCES

- Zero Carbon Hub, (2015). Overheating in Homes: the Big Picture.
- Mayor of London & AECOM, (2015). Creating Benchmarks for Cooling Demand in New Residential Developments.
- DEFRA, (2018). The National Adaptation Programme and the 3 Third Strategy for Climate Adaptation Reporting.
- 4 HC EAC, (2018). Heatwaves: adapting to climate change.
- 5. DEFRA, (2018).
- 6. ONS, (2018). Deaths registered in England and Wales.
- 7. Stevenson, D & Farmer, P, (2017). Thriving at work.
- 8. ONS, (2018). Suicides in the UK: 2017 registrations
- Health&Safety at Work, (2018). Research puts £848m price tag on 9. construction's occupational health failings.
- 10. CBI, (2016). First aid for mental health
- CCS, (2018). Spotlight on... mental health.
- International WELL Building Institute, (2018). Mind. 12.
- 13. CCS, (2018). Greening the Grey.
- 14. CCS, (2017). A green space for the workforce and visitors.
- 15. CCS, (2018). Biophilia in temporary construction offices.
- 16. WRAP, (2018). WRAP and the circular economy.
- UKGBC,. Practical how-to guide: Build Circular Economy Thinking Into Your Projects.
- 18. Federation of Master Builders, (2018). Material Prices Continue to Rocket.
- RICS, (2018). Modern Methods of Construction: A forward-19. thinking solution to the housing crisis?
- BuildOffSite, (2013). Offsite Construction: Sustainability 20. Characteristics
- BRE, (2002). Construction site packaging wastes; A market 21.
- 22. NBS, (2016). What is Building Information Modelling (BIM)?
- 23. Akanbi, L.A., et al., (2018). Salvaging building materials in a circular economy: A BIM-based whole-life-performance estimator.
- 24. Innovate UK, (2016). Results of Competition.
- 25 BuildOffSite, (2013).



VALUE FOR STAKEHOLDERS





- Compare performance against peers
- Demonstrate sustainability credentials to local authorities, investors, staff and customers
- Capture cost-saving opportunities

NextGeneration encourages companies to:

- Reduce household energy bills through energy-
- Improve quality of life through quality housing
- Provide exemplary levels of customer

ST NUTHORITIES & COMMENT **NextGeneration rewards** homebuilders who:

- Build a range of housing types and mixed tenure communities to serve local people
- Create jobs, improve skills and provide
- Engage with communities through engagement and consultation

NextGeneration helps investors to:

- Identify companies who are managing short and long term
- Create opportunities to generate long-term
- sector leaders with management and potential for future growth



INVESTORS



In a world where we need to stay below 1.5 degrees (IPCC 2018), it is more important than ever for housebuilders to be producing homes that are fit for purpose, both now and in the future. NextGeneration provides a robust benchmark of the housebuilding industry, and, crucially, helps companies consider where they must focus their efforts in order to be sustainability leaders."

Julie Hirigoyen, CEO, UK Green Building Council

The NextGeneration Initiative plays an important role in improving the sustainability of the UK's homes by providing a rigorous and independent benchmark of the ambitions and performance of homebuilders. JLL are proud to be part of this initiative and look forward to working with homebuilders to deliver better homes for residents, communities and for the environment." **Emma Hoskyn, Acting UK Head of Sustainability, JLL**

Homes England

50 Victoria Street Westminster, London SW1H 0TL 0300 1234 500

JLL

30 Warwick Street London W1B 5NH 020 7399 5822

UK Green Building Council

26 Store Street London WC1E 7BT 020 7580 0623

www.gov.uk/homes-england

www.jll.co.uk

www.ukgbc.org

🖕 Evolution 100 Silk is an FSC certified recycled paper and board range manufactured using 100% post consumer recycled fibre

© 2018 JLL. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, including photocopying or recording, or by any information storage and retrieval system, without permission from the copyright holders.

The findings, interpretations and opinions expressed in this report are those of the authors and do not necessarily reflect the opinions of member companies of NextGeneration. We take reasonable steps to check the accuracy of data presented in this report, however, no warranty is made as to the reliability or completeness of this report and it should not be relied upon as the basis for professional or financial advice.

Designed by JLL, Upstream Sustainability Services