

NET ZERO ROUNDTABLE

DELIVERING NET ZERO HOTELS + HOSPITALITY

June 2020



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Host Office

Elementa Consulting
 80 Cheapside
 London
 EC2V 6EE
 +44(0)203 697 9300

Host Contact:

Nathan Millar
 Nathan.millar@elementaconsulting.com

www.elementaconsulting.com



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1 Introduction

1.1 Net Zero

The Net Zero Carbon agenda affects different sectors in different ways. Elementa Consulting have gathered a cross section of industry leaders and clients from different disciplines to discuss the benefits, challenges, and solutions in building Net Zero Carbon workplace developments.

We assume in these discussions that the metrics for achieving Net Zero in the [LETI Climate Emergency Design Guide](#) are a fair representation of the targets required.

This summary report provides a highlight of the discussions that took place during the Roundtable discussion on Thursday 30th April, focusing on commercial workplace developments.

1.2 Elementa Consulting

Elementa Consulting provide a full range of MEP, sustainable design and diverse consultancy services for projects in the UK and across the world.

We operate in all sectors of the built environment, providing sustainable, energy efficient, performance focused practical solutions for all stages of a buildings lifecycle to provide great environments while reducing costs and carbon footprint.

1.3 LETI

In 2017, Elementa launched the London Energy Transformation Initiative (LETI), which has now grown into a network of over 1,000 professionals within the built environment, that are working together to put London on the path to a zero-carbon future.

In January 2020, LETI released their Climate Emergency Design Guide, which sets out the approach, targets and benchmarks that developments in the UK need to achieve to reach Net Zero Carbon in operation. One of our Associate sustainability engineers, Clara Bagenal George led the delivery of this document, acting as the lead editor and coordinator.

LETI has done the collaborative research and goal setting, the next step is for designers to work towards the delivery of buildings that meet these targets. As it stands today, there is a small handful of developments that have managed to achieve or have come close to achieving this challenging benchmark.

Why is that? And what can we do about changing that metric, to mitigate or even reverse, the current climate emergency and keep up with the rate of Net Zero building design and construction that meeting our climate change commitments requires.



2 Roundtable Participants

| | | |
|---------|-----------|-------------------------|
| Nathan | Millar | Elementa |
| David | Glossop | Elementa |
| Rob | Harris | Elementa |
| Ted | Connell | Elementa |
| Robert | Godwin | room2 |
| Gareth | Veal | Shiva Hotels |
| Mark | Bruce | EPR Architects |
| Kate | Foss | EPR Architects |
| Paul | Gallacher | EPR Architects |
| Richard | Tubb | EPR Architects |
| Mark | Gilhawley | JLL |
| Tom | Mallet | Accor |
| Gillian | Breen | Gleeds |
| Nick | de Klerk | Aukett Swanke |
| John | Harding | Dexter Moren Architects |
| Anna | Hanson | Dexter Moren Architects |
| Will | Aitken | Tower 8 |
| Tim | Wheeldon | Zeal Projects |
| Tamsin | Green | Heatherwick |
| Lisa | Finley | Heatherwick |
| Anthony | Ranger | Nuveen |
| Franck | Bruyere | Nuveen |
| Andrew | Callaghan | Linesight |
| Richard | Laughton | Simpson Associates |
| Chris | Martin | Simpson Associates |
| Richard | Watson | WES Investments |



3 Summary of the Roundtable

To introduce the roundtable, Nathan Millar provided a brief introduction to the development of the [LETI Climate Emergency Design Guide](#), together with a precise of the design requirements that we as practitioners, clients, and constructors will need to put in place in order to meet our Net Zero Carbon commitments.

This provided those gathered a clear understanding of the challenges and opportunities that lay ahead for our industry.

3.1 What are the benefits to you of building Net Zero buildings?

The group initially looked at the benefits and opportunities that building to Net Zero Carbon can bring to developers and the wider hotel and leisure market.

Motive:

- It's the thing to do right
- The right thing to do globally, economically and from a business social responsibility sector
- It is a generational expectation that this will happen and will be closely linked to the future financial viability of both the buildings and businesses

Environmental impact:

- According to the Paris agreement, the rules and regulations say that we should be achieving a 66% emission reduction
- Reduces the impact of the lifespan of hotels
- Traditionally 40% of a hotel's lifetime carbon emissions are emitted before the first guest stays the night. A focus on Net Zero, therefore, will massively reduce a hotel's whole life carbon emissions
- By increasing the move towards refurbishments and repurposing rather than new build, this can result in a massive carbon saving from the construction sector

Financials:

- Refurbishments and repurposing is much cheaper to build due to the existing structural base
- Cheaper lending becoming available for green developments as pension funds see these as lower long term risk and the future of our building stock

Differentiate

- It's a differentiator for you as a designer/contractor if you can deliver it. If you get ahead it's difficult for others to catch up. It is also a clear differentiator as a landlord and an operator if you are delivering this as part of your brand as a fully integrated piece

Clients:

- ROI economic impacts can stack up as owner-operators with strong business models showing that green hotels are effective at driving revenue

Design:

- Net Zero encourages a focus on design simplicity and to an extent economy

Construction:



- Development costs and construction programme time can be managed effectively and economically if the right decisions are made at the right time
- Contractors can see the change coming. Those that want to be ahead of the curve will steal a march. If contractors are not doing these projects they will be left behind.

Operational:

- Running costs are lower which is important from an operators perspective

Policy and Regulation:

- The London Plan and other government regulations globally are moving closer towards the Net Zero agenda. We are heading to a new norm for baseline cost assessments that we must be aware of

Future profitability:

- Long Term investment and viability benefits
- If companies are not doing it, there is a chance that they will be left behind and miss out on future work opportunities

Marketing

- It creates positive reputational associations among many members of the public
- Recognition of a global cultural shift
- Proven to be very profitable from a marketing perspective

3.2 What barriers can you see to building Net Zero buildings?

Having discussed the benefits and opportunities that delivering Net Zero Carbon buildings can bring, the group moved to discuss some of the barriers they have experienced.

Motive:

- Sometimes seen as a box-ticking exercise rather than a real desire to build sustainably
- Building in urban environments can make implementation more difficult, resorts have much more opportunity and are more environmentally focused
- There needs to be a better understanding of the investment period. Short term investments have less incentive to prioritise sustainability. If the investment periods increase to 20-40 years and closer relationships built around the lifecycle of the building (invest, design, construct and operate), stakeholders automatically have more buy-in as to how the building performs long term and the added value of a more sustainable strategy.

Financials:

- Increased capital expenditure is a concern and is a key barrier
- There is a perception of green overpricing
- 5-10% uplift in PassivHaus – 10-15-year payback
- Harder to balance the books
- It's expensive to rebrand and refit, although getting it wrong now will cost in 15 years at primary plant replacement time
- Ultimately, it's about money - Capital costs are going up so need to generate more revenue or offset somehow. Need to hit 10% ROR
- Even if there is a desire to build Net Zero among all parties, if there is not an identifiable return on investment, it is a less viable option to pursue.
- For short term investments, there is a very restrictive internal rate of return of around 10%. This impedes sustainability spending and raises concerns about who is going to maintain the



effectiveness of the design in the long term. It does, however, force short term decision making. Not good if an owner-operator but the usual developer norm.

- 75-80% of hotels standing by 2050 already exist. So the focus needs to be on refurbishing existing assets successfully

Planning:

- The common perception is that Net Zero adds complexity in the design process and more bureaucracy
- It can create delays, shifting the supply chain and managing risk premiums

Clients:

- Can be hard to convince due to increased cost
- The economic drivers for the hotel industry are short term customers who look at the location, price, and brand. Although sustainability feeds into brand, many customers do not consider this. Therefore, convincing operators of the economic benefits can be harder than other sectors whose drivers are more long term operational cost and carbon savings.
- Struggle to get the bigger stuff done due to capital cost as they may not want to hold the asset for the long term. Need a shift in mentality

Design:

- Everybody needs to be on board with the sustainability agenda including marketing and placemaking.
- Clients do not want to be test cases

Construction:

- Timber is a common construction material source in Europe. The UK recognises the constraints that timber has in its acoustics and fire qualities which us currently creating a barrier to its use.

Handover:

- Stricter controls at handover stages are integral to assess performance in use to greater understand the benefits / ROI of Net Zero building

Knowledge gap:

- We have an intrinsic problem with doing anything differently, it scares people. No one wants to be a guinea pig. Contractors often steer projects to what they know best rather than what's right in the project context. This needs to change along with the supply chain. Leaders here will steal a march

Policy and Regulation:

- We all have a responsibility but ultimately it should come from governments through legislation. Policy and regulation guidance including financial instruments are not there yet.
- Changes in policy due to the government's 4-year cycle affect progress and costs.

3.3 How do we believe the COVID-19 pandemic will affect the pursuit of Net Zero?

Demand:

- The potential shift in customer demographics – As many businesses have transitioned to online video conferencing systems instead of traveling for meetings, this could lead to a decline in commercial custom. But there is also a likelihood that there will be much more leisure custom, specifically UK residents choosing to holiday closer to home.



- Brands and the reason to visit have become more important. Location, quality, experience, and sustainability will be key drivers. With lower room uptake hoteliers and operators will need to differentiate. If you can stay in a healthier and more sustainable environment in the same location what would you go for?

Attitude:

- What has been interesting is more focus is on the people. Change in conversation. Drives the team to think about performance.

Planning:

- COVID and Net Zero need to move as one, they are not mutually exclusive.

Clients:

- For operators in existing buildings, the gap is the non-ability to have the resources committed to it. There is currently a lack of cash flow.

Design:

- There is now a greater focus on resilience and passive buildings
- There will be a short-term balance. The concern of fresh air and circulation. Will need to spend to do this but the positive moving forward will be about resilience and how resilient they can be?

3.4 How do we as a group achieve Net Zero buildings as a standard means of building delivery?

Walk the talk:

- Imperative on all of us to push the agenda.
- 80% of existing hotels will still be around in 2050. The other 20% are yet to be built. We have 30 years to build that 20% as Net Zero. That's the goal while increasing the state of play in our existing stock where the most benefit will come from. Design, construction, and operation.

Financials:

- Focus on true revenue paybacks in creating a brief
- Being able to demonstrate payback is key.
- If we can prove a cost-benefit, we can change.
- Look for budget cost shifts and focus on the correct cost norms (or new norms!)
- PassivHaus trust says Capital costs can payback in 15 years.
- District heating solutions that are out there in London specifically - need to be utilised better to bring down the capital cost.

Added Value:

- Demonstrate the value of Net Zero - refurb projects creating case studies to showcase this benefit
- Programmes focussing on the repurposing of existing materials. By looking at every aspect of a building to identify opportunities to reuse existing materials and assets. This adds value in the form of creating a story around the brand, increasing positive PR opportunities as well as reducing waste and carbon emissions.

Clients:

- If we can outline the day to day benefits to guests and staff, they will listen.
- Present the existing building refurb and new build options which allows the client to underwrite options between refurb and new build.



- Always encouraged to reduce energy. In new hotels, the brand is key. The client has to build harmony into the operation of the hotel.
- They need a genuine narrative of how the building operates - the details. They want to build a 21st century brand and committed to meeting these targets.

Community:

- Working without our neighbour's key in our considerations too. We need their buy-in and community feel. Need to show the supplementary benefits that impact all?
- Neighbourhood relationships are important.

Planning:

- Needs a much more focused team effort and must be part of the briefing
- LETI gives a baseline so people know what Net Zero looks like.

Design:

- Need to get the basics of the design right - more integrated from the beginning
- We need to focus on design skills to get the fundamentals right.
- One of the good things in London. The Air Quality issue and electrification of systems.
- Design side transition of concrete to steel? As a studio, architects and engineers are thinking about material selection and challenging their ingredients and composition. Need to think more radically. Thinking about things from early stages and setting the groundwork and approaches.

Construction:

- Modern methods of construction will be key to achieving it and readily achievable with repeatable hotel buildings
- Promote refurb and re-use strategies to reduce carbon
- With the huge amount of embodied carbon construction work. It is unfortunate that we, in the UK have restrictions against the use of timber.
- More focus should be put on modern methods of construction to give more control and accurate carbon data.
- Supply chains need to upskill and clients need to use those that engage

Handover:

- provide a soft landings approach, regular check-ins to ensure design development and operational metrics are on track.

Data:

- Often the cost of low and zero-carbon tech is the space rather than the plant. Inherently low carbon tech is less dense. Data of occupied hotels to optimise design is key. Evidence is half the battle.
- The International Tourism Partnership has developed a tool to help hotels measure and report on carbon emissions in a consistent way. Over 24000 hotels globally are using the tool, which allows anyone easy access to the carbon and energy footprint of hotels worldwide.

<https://www.tourismpartnership.org/carbon-emissions/>

Differentiate:

- We need to re-orient the brand to embrace sustainability as a differentiator which will eventually become a standard requirement. Don't be left behind and don't tokenise

Collaboration and Information sharing:

- We must bring developers alongside and involve them in the early design and planning process



- A much greater understanding of material selection needed between architects, designers, and the supply chain. This will help reduce costs while still optimising building performance and reducing environmental impact

Education:

- Show the industry what's good and increase the proliferation of education around Net Zero and best practice sustainable strategies
- Need to convert the private investors

Policy and regulation:

- Need stronger legislation
- Need tax breaks for sustainable projects

3.5 Key Takeaways

- Looking at the design process and get the right people in from day one
- Communicate clearly on targets
- Changing mentalities not so much tick boxing
- Not different but revised approach
- External drivers: legislation, financial instruments, and policy
- Challenging brand standards - a key issue in operations - energy standards
- Need to think more radically - rethink afresh in terms of approach

