

NET ZERO ROUNDTABLE

DELIVERING NET ZERO WORKPLACE

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Table of Contents

1	Introduction	4
1.1	Net Zero	4
1.2	Elementa Consulting	4
1.3	LETI	4
2	Roundtable Participants	5
3	Summary of the Roundtable	6
3.1	What are the benefits to you of building Net Zero buildings?.....	6
3.2	What barriers can you see to building Net Zero buildings?.....	7
3.3	How do we as a group achieve Net Zero buildings as a standard means of building delivery?.....	9
3.4	Key Takeaways	10



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  [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 is needed now to meet our climate change commitments.



2 Roundtable Participants

Nathan	Millar	Elementa
Brian	Goldsmith	Elementa
Ronan	Pigott	Elementa
Rob	Harris	Elementa
Peter	Williams	Stanhope + BCO Technical Committee
Adam	Smith	Stanhope
Jack	Pringle	Perkins + Will
Michelle	Anthony	Oxygen
Corbus	Bothma	KPF
Sarah	Mokhtar	KPF
Alison	O'Reilly	Sheppard Robson
David	Benson	MACE Interiors
Martin	Broughton	Exigere
Rachel	Hain	Scott Brownrigg
Patrick	Smith	Mace Group



3 Summary of the Roundtable

To introduce the roundtable, Nathan Millar provided a brief introduction into 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 market.

Environmental impact:

- Removing the wastage between CAT A and CAT B is a real embodied carbon saving opportunity.
- There is much more of a focus in the market of retain and re-use in intelligent ways. This results in carbon and cost savings.

Financials:

- Benefit to business and ROI in the long term
- Tax breaks etc. for doing things better

Differentiate

- How the building promotes positive response and perception is key
- Assisting with pre-lets with the right clients - it's a clear differentiator in a competitive market
- Better engagement with Facilities Managers to better understand how buildings perform against design targets

Clients:

- There are great frameworks out there, which help design to performance.
- Lot of companies have triple bottoms lines and commitment to shareholders. They expect a commitment to low energy - part of their branding.

Design:

- We are entering a re-purpose phase more than ever before. This offers opportunities to push a green agenda

Construction:

- Better engagement and cohesion between design and construction stages
- Greater insight into why materials have been selected on buildings

Operational:

- The focus on Net Zero makes a positive link to operational achievement in practice, which in the past has been very disconnected - Soft issues are incredibly important within this process
- Prop tech gives real time figures that help educate perception against reality.



Occupants:

- Direct benefits to efficiency and output. Real 'big' intelligent data has value in interpreting occupiers' responses. You (Design team/ Landlords/ Agents) must understand your tenants.
- [Gallop website](#) is a useful engagement/satisfaction database.
- For fit-out look at monitoring buildings for better wellness for better productivity. Give occupants control so they can drive change

Future profitability:

- Delivering is to respond to real generational change
- Design for performance is the new trend and is proven, if implemented, to make real change against design to tick box compliance.
- Positive shift change towards promoting intelligent integrated design - value on quality advice and construction.
- There is real will from big firms to drive Net Zero coming from a focus on their triple bottom line. A 180 degree turn in the last 18 months has meant a shift from lowest cost to Net Zero delivery as an occupancy/letting driver

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 that is being seen in the market.

Financials:

- Design for flexibility at reasonable cost - the 10-50-200 year building life scenario.
- Culture focused on waste - strip and new is less risk and more profitable.
- Capital expenditure focus creates a barrier particularly in the design and build market - Can we be more intelligent here?
- Balance bank book with sustainable; This needs measurable long-term operational savings or profitability data.

Planning:

- Accuracy of building physics design is a key factor in achieving and assessing tangible outcomes early. This needs to be done early with a greater focus.
- The planned building must work - Long term impact of early design decisions is integral to the success of a project.

Clients:

- Construction industry does not do a good job in education of clients and helping them set their goals/re-orientate their brief

Design:

- We can run multiple and analytical models, but we do not know what happens on site. One-way traffic. We need to find that link to better inform design.

Construction:

- Translation from design to construction needs to be better - how do we ring fence what is important - value vs value engineering...?
- CAT A to CAT B conversion creates wastage
- Logistical issues met when wanting to re-use existing materials.



Handover:

- Enforcement' can be difficult and switch tenants off - collaboration is the key.
- Some of our EPC/ BREEAM excellent buildings have not performed well in use, largely through handover to asset managers.
- Lack of understanding in measuring in-use and how to optimise systems to perform better.

Knowledge gap:

- Connectivity required between base-build and fit out for a complete approach
- Clients and contractors aren't always driving from the front in a knowledgeable way
- Refit is the key right now if we are going to really react to climate change. Primary focus of Net Zero should not only be on new build but refurb.
- Perception often that new ways of working or solutions creates risk
- Is green energy real? Needs a wider infrastructure nationally.
- Need an upskilling of the industry and a common language.
- Occupier surveys are dangerous - depends on education level as data can often be emotive and presented without impartiality.
- How do we translate occupancy surveys and get over perception bias?

Achievability:

- Challenge of converting existing stock to Net Zero – there is no defined route to better.

Clarification:

- Disparity of offerings from designers reacting to deliver of Net Zero achievement.
- Mixed messages.

Policy and Regulation:

- Clarity on policy and associated achievement. Does it go far enough?
- Confusion between planning and building policy/regulations.
- Variety of targets across London Boroughs for example that are not consistent.
- Acceleration of more impactful policy and advocacy on government side required to push the market.

Support:

- Agents make it difficult to be sustainable - Attitude of strip and start again is prevalent.
- There is a real issue getting focused value-based returns. Agents won't provide quantifiable or letting likelihoods with improved quality/sustainable assets.

COVID-19

- Recession will put Net Zero on the back burner. How do we prevent this occurring as an industry?



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

Walk the talk:

- Accountability on delivery of design (LETI) targets
- We must lead the way beyond the conventional understanding.

Financials:

- Re-orientate the costing and procurement process to de risk moving away from the brief in a nonsensical VE process - Must be embedded into the process
- More clarity on green leases that are part of the early base build briefing process
- Leverage tax breaks on cap ex and green incentives.

Added Value:

- Focus on real performance metrics and the associated operational requirements
- Construction industry is poor at selling the benefits! Need to show the added value with real data.

Clients:

- Assist clients in aligning their brief and decisions
- Landlord and agent control with a focus on the reduction of wastage
- Clear market briefing and survey of what they want - define their value drivers
- Illustrate the 10 year+ horizon of their building.

Design:

- We need a new CAT A ceiling-less, raised access floors approach.
- Design for Performance is the best tools to go through tech but also smooth dis-continuity
- Design solutions for future flexibility.
- Definition of the briefing, design and construction process for delivering Net Zero critical. Must start early
- Need to be able to integrate energy modelling early on - more collaboration is important.

Construction:

- Engagement of procurement and construction team earlier? Supply chain and procurement of it is important
- Net Zero agenda needs to be driven by contractor and client side to succeed.

Handover:

- We want to engage with Facilities Management team - these are policy constraints.

Data:

- Value based data driven advice

Collaboration and Information sharing:

- Engage more strongly with agents and re-orientate their focus
- Collection, collation and dissemination of big data for holistic improvement is important
- Navigate the liability of real performance achievement and getting people to talk about their mistakes so people can learn.
- Promote good practice and examples. Encourage clients to do so.
- Need data that is transparent so we can all benefit.



Education:

- Incentivisation schemes - do not force, but a collegiate approach to assist on their journey.
- Most office occupiers are not aware of green agenda and its benefits.
- We need to educate more with the right approach to sell the benefits to investment market.
- Education needed to bring Agents along on the journey.

Thinking differently:

- There is a benefit to an inflexible CAT A which forces intelligent design
- A re-oriented approach to smart cities and wider integrated infrastructure design
- Using prop tech to monitor our buildings, such as air quality, management of heat spots that give tenants ability to hold their own staff accountable.

Changing construction delivery processes:

- Move away from a CAT A market and work directly with occupants to deliver combined spaces. This will remove the CAT A to CAT B wastage

Policy:

- Use building regulations not planning policy to drive delivery

3.4 Key Takeaways

Build the value case

- Education on value is key - learning to sell in language your clients understand is key.
- Triple Bottom line:
 - Profit – Operational cost savings / value added ROI
 - People – Generational shift towards green issues
 - Planet – Carbon emissions savings
- Education needed for investors, contractors and agents.
- CapEX and value drivers need to be better understood.

Collaboration

- Need a strong appetite for collaboration and promote sharing of information
- Everybody has appetite to work together and communicate on what works and what doesn't. We need a mechanism to find how this can be achieved.
- Involve facilities management where possible day one so they can manage the building as you designed it
- Try and take tenants on the journey - look at incentive packages around green fit out

Design

- Modelling needs to be intelligent, appropriate and impactful
- Design for performance - Close the performance gap and right level of detail and input early.



Supply chain evolution

- Reducing waste; decarbonising.
- Evolving CAT A to CAT B conversion is a big opportunity to reduce embodied carbon.
- Don't let Agents drive your scheme.

Data Disclosure

- There will always be clients who do not want to share but we need to make it open to all for those that do.

