

HAUSER & WIRTH



NICOLAS PARTY

CLOTHO

A Collaborative Case Study in Sustainable Exhibition Making

FOREWORD

*Clodhna Murphy – Global Head of Environmental Sustainability,
Hauser & Wirth*

You know those times when things suddenly click. When the threads you've been pulling at, the work of artists, material choices, shipping, energy and travel weave together into something whole.

At Hauser & Wirth, we recently had one of those moments.

Guided by **CASI**, a new climate consultancy from the team behind GCC, we did something deceptively simple - we envisaged an exhibition taking place in 2030.

What emerged wasn't a check list. It was a vision to shape our exhibitions: train travel as the default along with electric trucks; lightweight, reusable materials; Passivhaus galleries; carbon budgets embedded like another budget consideration.

Backed up by environmental evidence, the single biggest impact on the carbon footprint of the exhibition was reducing air travel for planning purposes. There are contradictions in this work, the tension of operating inside an industry that transports art across the globe, relies heavily on air travel and builds temporary walls. There are no simple and clean resolutions to that friction.

Nevertheless, our work on this project is a reminder that the breadcrumbs matter. Every conversation, every calculation, every collective resource, leads to the moment of identifying that sustainable exhibition making is achievable and is where change begins.

INTRODUCTION

In October 2025, Hauser & Wirth London presented Clotho, a solo exhibition by Nicolas Party, featuring new treescapes and portraits that explore the inevitability of aging and mortality. Working with **CASI**, the gallery adopted a coaching-led approach to assess and reduce environmental impacts. Rather than a traditional carbon audit, this was a hands-on learning journey for the gallery team. Building on the research conducted by partners, **Parsons Healthy Materials Lab**; **Leerform**; and **Sam Forster**; **CASI** guided the team through carbon estimation, material analysis, and future envisioning exercises – combining training with real-time advisory support. The focus was on estimating the exhibition’s carbon footprint and comparing it to a “Business As Usual” exhibition.

This final report, co-developed by CASI and Hauser & Wirth, integrates these insights and provides actionable recommendations for future practice.



Installation view, 'Nicolas Party. Clotho,' Hauser & Wirth London, 2025 © Nicolas Party. Photo: Alex Delfanne

CHANGE IN PRACTICE

Insights include:

- **Reduced travel emissions:** The studio team avoided pre-opening travel, instead using online meetings and SketchUp drawings - a significant reduction in travel. The artist combined two planning trips into one, saving approximately 3.78 tCO₂e, the equivalent of 2 flights between London and New York.
- **Reduced material use:** The ambitious exhibition build was fully modelled in SketchUp prior to fabrication, reducing material use and avoiding additional shipping emissions.
- **Trialling alternative materials:** A hemp-based crating system was piloted in place of conventional crates. Due to limited comparable data, emissions from this choice are not include, see appendix [here](#).



CHANGE IN PRACTICE

Material Innovation

As a special focus for this exhibition, Hauser & Wirth partnered with Parsons Healthy Materials Lab and CASI to interrogate material decisions. This process included:

- **Material audit:** A comprehensive review including paint and wood with expert sustainability guidance.
- **Designing for disassembly:** With wall builder, Sam Forster, to allow reuse and reduce waste. Identifying local pathways to keep materials out of landfill.
- **Collaborative working:** With the artists' studio and the New York gallery team to rethink sustainable crating.

“It was an uplifting and encouraging experience working with the Hauser & Wirth team. Their willingness to boldly embrace mineral paint over traditional plastic-based options speaks volumes about their commitment to a healthier, more sustainable world and sets a leading example for the art world.”

**—Jonsara Ruth, Co-Founder & Executive Design Director,
Healthy Materials Lab Parsons School of Design**

CHANGE IN PRACTICE

What follows are the practical shifts and lessons that emerged.

1. Paint – shift to mineral-based paint

“We aimed to replace conventional acrylic paint with Keim Optil, a mineral-based alternative free from plasticisers and toxic additives. While early tests looked positive, large-scale application produced a patchy finish and visible wall seams, forcing us to revert to our original paint to meet installation deadlines.

Further testing helped us identify the right primer to ensure proper adhesion and coverage. Our gallery has now been successfully repainted with mineral paint, delivering excellent results, and the team remains committed to expanding its use wherever feasible.”—Sam Clarke, Exhibitions & Fair Manager

Learning: Sustainability is rarely a straight line. Technical setbacks are part of change, and each challenge builds internal confidence and knowledge for future adoption.



CHANGE IN PRACTICE

2. Wall build materials – thoughtful timber and panel selection

“For temporary walls, we prioritised FSC-certified timber, with strategies for de-pinning and resizing to enable reuse; formaldehyde-free OSB panels; and recycling or donation of offcuts wherever possible.

These decisions reduce exposure to harmful chemicals while keeping materials in circulation beyond a single exhibition cycle.”—Gary McDonald, Senior Art Handler / Digital Technician

Learning: Even short-term builds can contribute to circular material flows when disassembly and reuse are designed in from the outset.

3. Plasterboard switch

“We transitioned from British Gypsum plasterboard to a Knauf product containing 22% recycled gypsum and fewer additives. It performs equivalently, is more cost-effective per sheet, and is supported by a manufacturer take-back scheme to enable end-of-life recycling.”—Gary McDonald, Senior Art Handler / Digital Technician

Learning: This shift moves Hauser & Wirth toward lower-impact material specifications. Future builds will now explore higher recycled-content options, including 100% recycled gypsum boards.

CHANGE IN PRACTICE

4. Crating – hemp-based innovation

“Working with Leerform, we piloted custom crates made from Cannabran panels, a composite of hemp hurd and wheat bran. The experimentation resulted in a 95% bio-based composition with no formaldehyde. The construction is probably suitable for onward shipping, and this will be trialled in the coming months.”—Jules Breeze, Head Registrar

Learning: This project challenges norms in art logistics and demonstrates a regenerative alternative to traditional crating, with the potential to be viable for reuse.



FUTURE VISION



The final workshop in the series invited a cross-organisational group from Hauser & Wirth to imagine a fully environmentally responsible exhibition and then work backwards to identify the changes required to achieve it.

RECOMMENDATIONS

1. Shared commitment

Environmental considerations are integrated into planning from the outset, in conversations with artists, suppliers and partners, not added later as constraints.

“This is shared work. From the team to the artist, the shippers, storage, and crate makers: every contributor matters.”

—Sarah Bourghardt, Senior Director

2. Impact visibility and carbon literacy

Participants highlighted the challenge of making environmental impacts understood and visible at key decision-making moments. While commitment to sustainability is strong, the team felt they do not always have clear, comparable data to guide choices.

Improving the visibility of impacts, particularly through ongoing support or reports like these, would strengthen carbon literacy across teams and embed organisational confidence in sustainability driven decision-making.

RECOMMENDATIONS

3. Seeding change, beyond the gallery walls

The group recognised the gallery's influence within the sector. Transparency and communication, even when progress is imperfect, were seen as powerful leadership tools. By documenting learning and sharing case studies, Hauser & Wirth can help shape wider norms and contribute to systemic change across the art world.

4. The value of a 'People's Assembly' approach

Carbon budgets were seen as a key lever. A major outcome of the workshop was formalising a cross-departmental working group to develop viable exhibition carbon budgets, blending top-down structure with bottom-up ownership.

RECOMMENDATIONS

Short-Term Priorities

- Establish a formal working group to operationalise exhibition carbon budgets, starting locally first and with available information.
- Continue research into hemp crates and other lightweight crate materials to better understand the inherent trade-offs.
- Adopt mineral paint, where relevant, as the default specification when repainting the gallery.

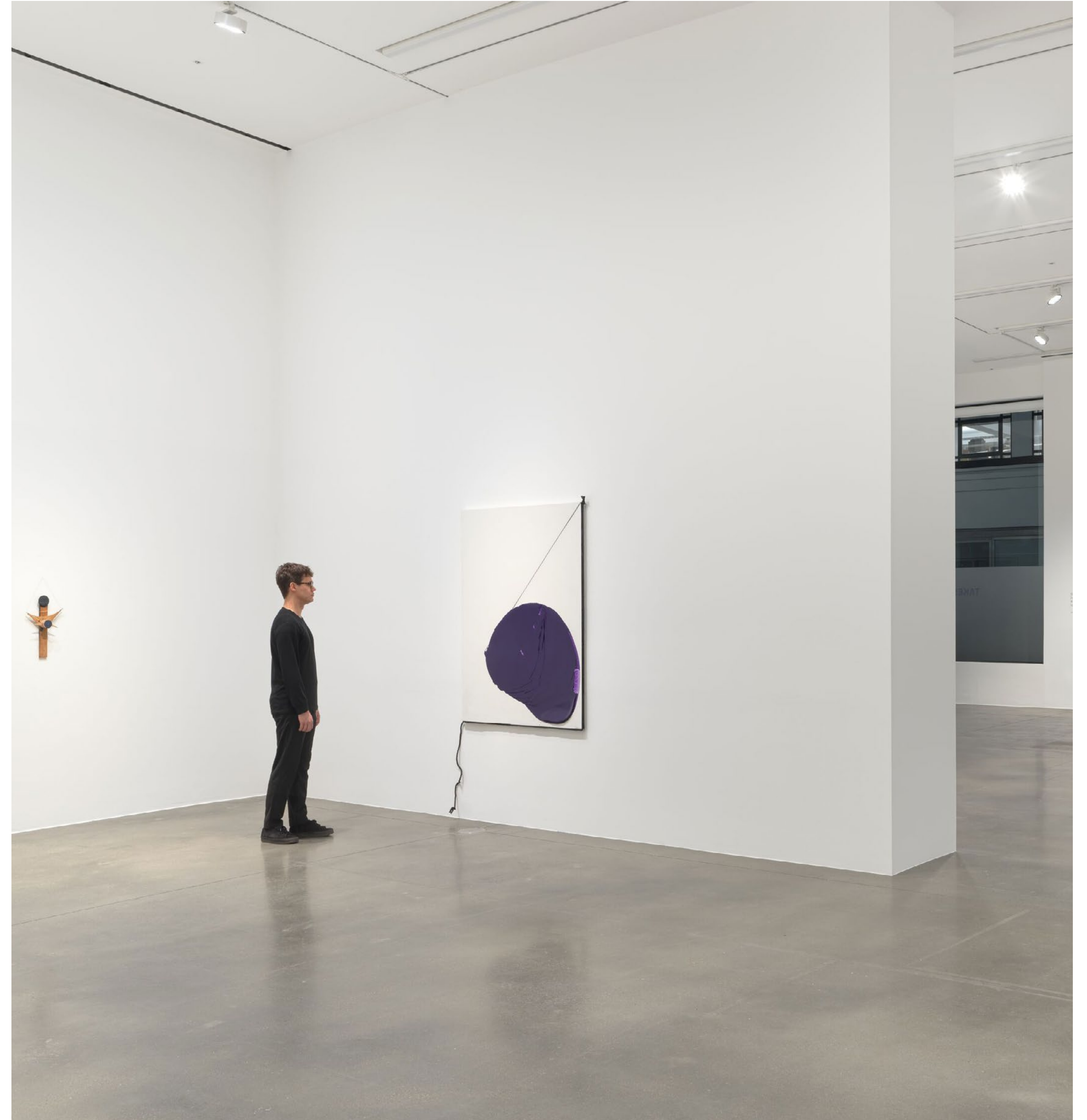
Medium-Term Actions

- Where feasible, promote rail travel within Europe by integrating train options into internal booking systems.
- Integrate carbon budgets into exhibition approval workflows.
- In collaboration with crate makers, influence and trial healthy material choices, modular and reusable crate systems.
- Influence exhibition planning to enable lower-carbon decisions with longer lead times.
- Where feasible, create an inventory of reusable materials and design exhibitions around available stock.

RECOMMENDATIONS

Future Vision

- A one-crate-per-artwork lifecycle system.
- Healthy, bio-based, non-petrochemical materials as standard
- Carbon literacy and budgets embedded at key decision and approval stages.
- Sector-wide shared infrastructure for crates and logistics.
- Exhibition planning designed around low-carbon transport from the outset.
- Passivhaus buildings supported by efficient building management systems.



Installation view, 'Takesada Matsutani. Shifting Boundaries,' Hauser & Wirth London, 2026 © Takesada Matsutani. Photo Alex Delfanne



CONCLUSION

This process made one thing clear: ambition is not the primary barrier to change. The Hauser & Wirth team demonstrated a genuine willingness to rethink established practices and to take shared responsibility for environmental impact.

The challenge lies in making impacts visible and comparable, embedding sustainability earlier in decision-making, and translating learnings into narratives that support artists and motivate change.

Crucially, this process highlighted that perfection is neither realistic nor required. Progress - documented, shared and continuously improved - is far more powerful than operating in silence. Leadership does not come from having all the answers, but from being willing to test, learn and evolve. By imagining a future sustainable exhibition and working backwards, the team demonstrated that environmentally responsible operations are possible.

The hope is that these learnings extend beyond Hauser & Wirth, contributing to wider momentum towards a healthy and thriving future across the art world.

ABOUT CASI

CASI is a social enterprise providing environmental consultancy, training and implementation support to the global visual arts sector. Developed by the team behind GCC, CASI delivers tailored strategy and hands-on support to organisations seeking to reduce their environmental impact, embed responsible best practice and position themselves as credible leaders in the transition towards a more resilient and climate-conscious cultural future.

casi.earth

Contact

hello@casi.earth



ABOUT HEALTHY MATERIALS LAB

Healthy Materials Lab is a design-led research lab at Parsons School of Design advocating for the critical role of design and construction in improving the health of people and ecosystems. A trusted leader in Material Health, HML accelerates adoption of healthy materials and building solutions in the era of the climate crisis. With a focus on reducing toxic materials and carbon emissions, HML is committed to advancing regenerative, biogenic materials - materials that not only minimize harm but actively restore ecosystems - as a key pathway toward a post-petroleum future.

healthymaterialslab.org



APPENDIX

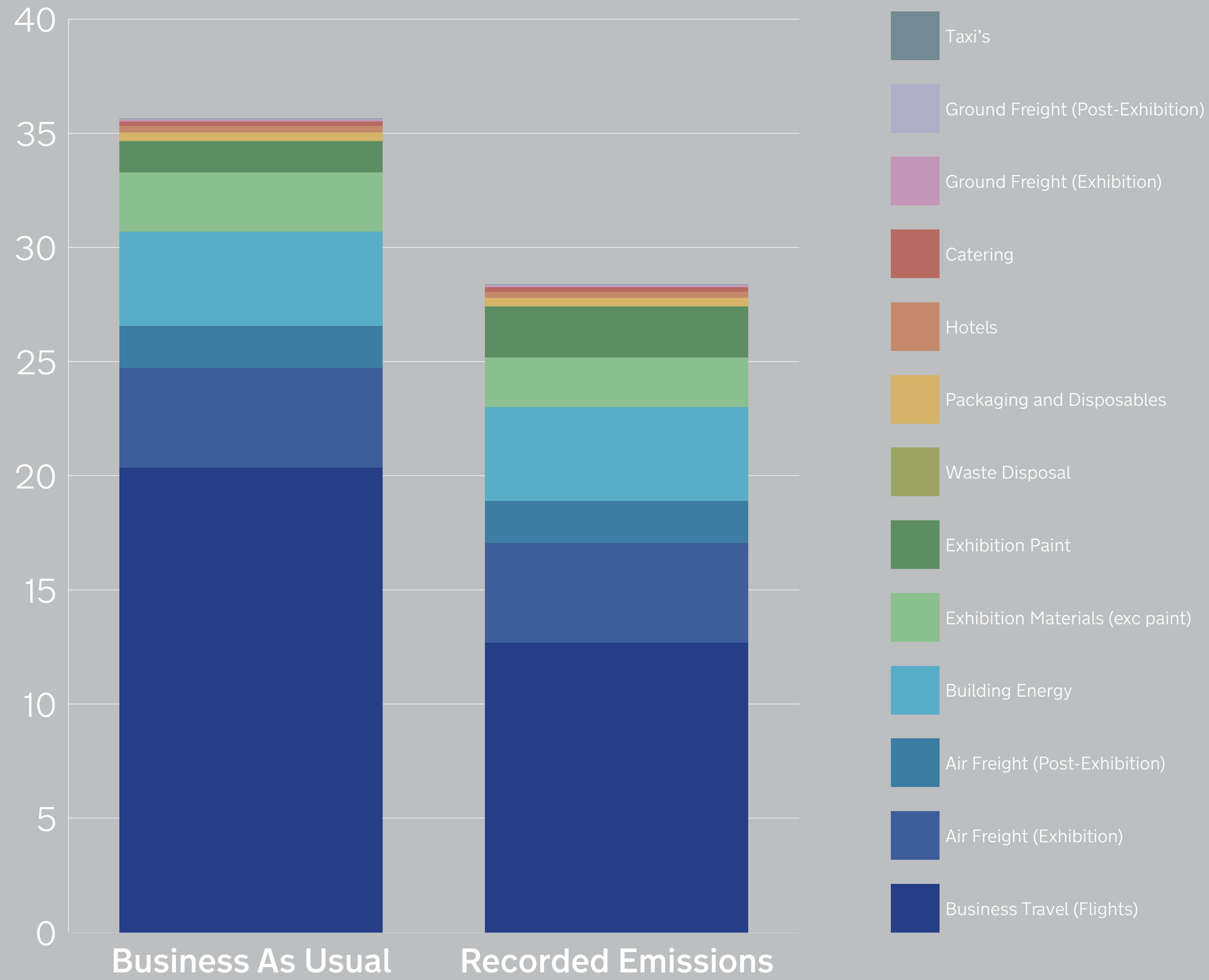
CARBON FOOTPRINT ASSESSMENT

The calculations for the carbon footprint assessment were carried out using the **Gallery Climate Coalition carbon calculator**, supplemented by other carbon factors and data sources as detailed below.

As detailed in the main body of the report, a number of active steps were taken to improve the environmental performance of the exhibition - in particular, reducing air travel for planning purposes, and experimenting with more sustainable/regenerative materials for the exhibition build and transport packaging. In order to estimate the climate benefit of these changes, emissions for a comparative “Business As Usual” scenario were also calculated. This scenario imagined that the exhibition had taken place without the above environmental actions. This comparison is of course approximate and based on multiple assumptions, and is presented not as a declaration of real-life impact but as an illustration to assist with the planning of future action.

	“Business As Usual” Scenario	Recorded Emissions	Difference	Change in tCO ₂ e
Business Travel (Flights)	20.36	12.69	-38%	-7.67
Air Freight (Exhibition)	4.36	4.36	0%	0.00
Air Freight (Post-Exhibition)	1.83	1.83	0%	0.00
Building Energy	4.13	4.13	0%	0.00
Exhibition Materials (exc paint)	2.60	2.17	-17%	-0.43
Exhibition Paint	1.36	2.22	+63%	+0.86
Waste Disposal	0.02	0.01	-26%	-0.01
Packaging and disposables	0.375	0.366	-2%	-0.01
Hotels	0.28	0.28	0%	0.00
Catering	0.19	0.19	0%	0.00
Ground Freight (Exhibition)	0.07	0.07	0%	0.00
Ground Freight (Post-Exhibition)	0.05	0.05	0%	0.00
Taxi’s	0.002	0.002	0%	0.00
TOTAL	35.63	28.37	-20%	-7.26

The saving is the equivalent of 4 flights between New York and London



CARBON FOOTPRINT ASSESSMENT

Included Activities

Business Travel (Flights)

The business-as-usual scenario includes seven return flights between New York and London that were actively avoided in real life.

Air Freight (Exhibition)

The transport of artworks between New York and Luxembourg.

Air Freight (Post-Exhibition)

The outgoing transport of artworks at the end of the exhibition.

Building Energy

During the course of the exhibition, the gallery building consumed 23,330 KWh of electricity. This included usage not just in the gallery spaces, but the total consumption has been included in order to approximate the energy required for back office activities to plan, run and disassemble the exhibition. The carbon emissions were calculated using Scope

2 location-based methodology – in other words, based on the average carbon intensity of the UK electricity grid, as per GCC guidance.

Air Freight (Post-Exhibition)

This mainly consists of CLS softwood, OSB, MDF, plasterboard and ballast. A detailed account of material use was recorded by Sam Forster, and is used as the data source here. The Business As Usual scenario includes some estimates of the extra test materials that are usually required when physically designing a new exhibition. In this case, a digital design method was trialled that did not require these test materials, leading to a saving in resources and carbon.

A small amount of other materials were recorded by Sam Forster (e.g. caulk, fillers) but these would have had a minimal carbon impact and have not been included for simplicity.

CARBON FOOTPRINT ASSESSMENT

Included Activities

Exhibition Paint

A low-toxicity mineral paint was initially trialled, but the application was not successful and then needed to be covered over with emulsion paint. As a result, this is one area of activity that had a higher carbon footprint than business-as-usual. However, the lessons learned from the trial then allowed mineral paint to be successfully used in future applications at the gallery, thus helping to reduce the environmental impact of exhibitions in the longer term.

Waste Disposal

No major items from the exhibition build were sent to landfill. 57% of the wood, MDF/OSB, plasterboard and ballast was kept and repurposed; 30% was sent for recycling, and 17% sent for incineration. The slightly higher emissions for the Business as Usual scenario are from the disposal of the extra test materials used in the exhibition build.

UK Government waste disposal carbon factors (2025) were used for this calculation.

The fate of the packing crates is unknown and not included in this assessment (see “Excluded Activities”, below).

Packaging and disposables

This includes polythene and plastic foam for packaging purposes, plus the tote bags given away as part of the exhibition. The packing crates were not included due to challenges with making a fair comparison (see “Excluded Activities”, below).

Hotels

The estimated emissions from 24 room-nights in hotels, associated with the exhibition.

Catering

Food for 95 people at the launch dinner. This was a fish-based menu.

CARBON FOOTPRINT ASSESSMENT

Included Activities

Ground Freight (Exhibition)

The initial transport of artworks to and from framing services in New York, plus the road transport of artworks from Luxembourg to London.

Ground Travel (Post-Exhibition)

The outgoing transport of artworks at the end of the exhibition, to collectors in various European locations.

Ground Travel (Post-Exhibition)

The outgoing transport of artworks at the end of the exhibition, to collectors in various European locations.

CARBON FOOTPRINT ASSESSMENT

Excluded Activities

Crate manufacture and disposal

Specialist crates were sourced for this exhibition from Leerform. These crates were manufactured using boards manufactured by Boardwurks, made from a mixture of hemp hurds, wheat bran and synthetic fillers. A Life Cycle Assessment of the boards was kindly provided by Boardwurks, but methodological differences meant that it would not be possible to use those figures in this report without a significant amount of further research. Boardwurks have now discontinued these hemp boards (in favour of a potentially lower-impact board manufactured from miscanthus grass) so it did not seem like a good use of resources to pursue this further on this occasion. Crate manufacture and disposal has therefore been excluded from both the Business As Usual and Recorded scenarios.

However, it was possible to determine that the hemp-based boards had a similar density to plywood, suggesting that the total weight of packaging transported would be similar in both the Business as Usual and Recorded scenarios. The

transported weights have therefore not been adjusted in either case.

Visitor Travel

Around 12,000 visitors came to the gallery during the run of the exhibition. A rough estimate of the emissions from their travel was created, using the GCC carbon calculator (which uses data based on average local travel distances and methods for other London galleries). This suggested visitor travel emissions of around 1.76 tCO₂e. This has not been included in the total because it is a very rough estimate, and also because responsibility for these emissions is shared between a number of different parties: the gallery, local transport operators, the local authority and the visitors themselves. According to GCC's best practice guidance, it is important to estimate, record and aim to reduce these emissions, but with the understanding that tackling them will require pursuing a joint approach with other local partners.

CARBON FOOTPRINT ASSESSMENT

Excluded Activities

Staff Commuting

Calculating these emissions would require conducting a staff survey of travel methods, which fell outside the capacity of this project. As with visitor travel, this is a source of emissions where responsibility is shared between multiple actors, and needs to be tackled in partnership with staff and other local bodies.

Well-to-Tank emissions

These are not counted by the GCC carbon calculator and thus have been excluded from this project. These “upstream” emissions tend to add a small amount to travel, transport and energy footprints, and so excluding them may slightly underestimate the impact of these areas.

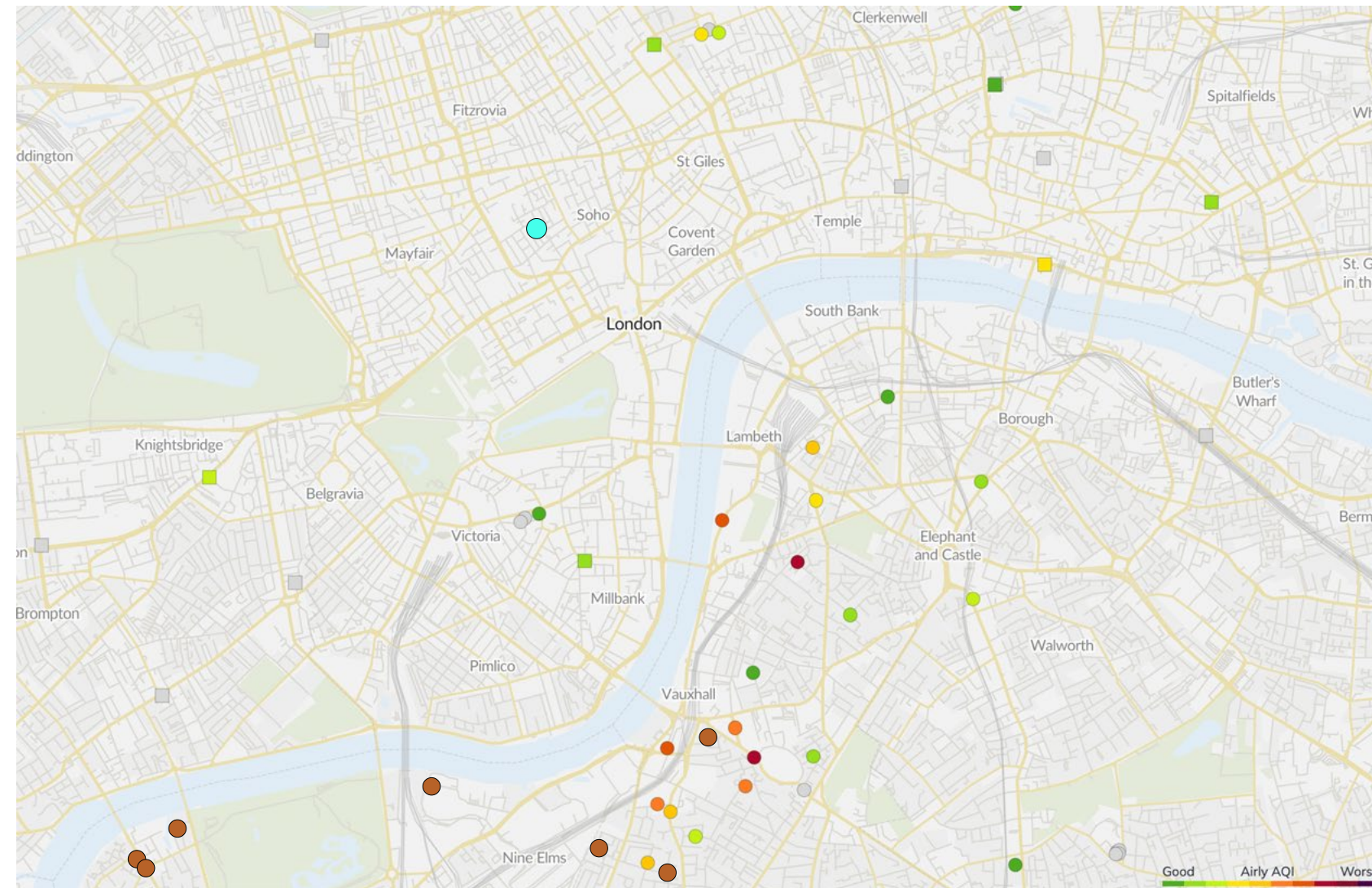
All of the above results were calculated in line with the World Resources Institute Greenhouse Gas Protocol. All carbon footprint calculations are based on average emissions factors and should be treated as illustrative models to guide future decision-making, rather than definitive accounts.

Disclaimer

The carbon analyst (CASI) has exercised due and customary care in preparing this report but has not, unless explicitly stated, verified the information provided by the companies and other data sources used to develop this report. No other warranty, express or implied, is made in relation to the contents of this report. Any recommendations, opinions, or findings stated in this report are based on the facts and information provided to CASI or as otherwise available in the public domain as they existed at the time the report was prepared. Please be aware that any changes in such facts and information may adversely affect the recommendations, opinions, or findings

HEALTHY MATERIALS LAB GUIDING FRAMEWORK

Hauser & Wirth: London Healthy Materials Lab Guiding Framework



● Hauser & Wirth ● Brownfield Sites ●●●●● Air Quality Monitoring

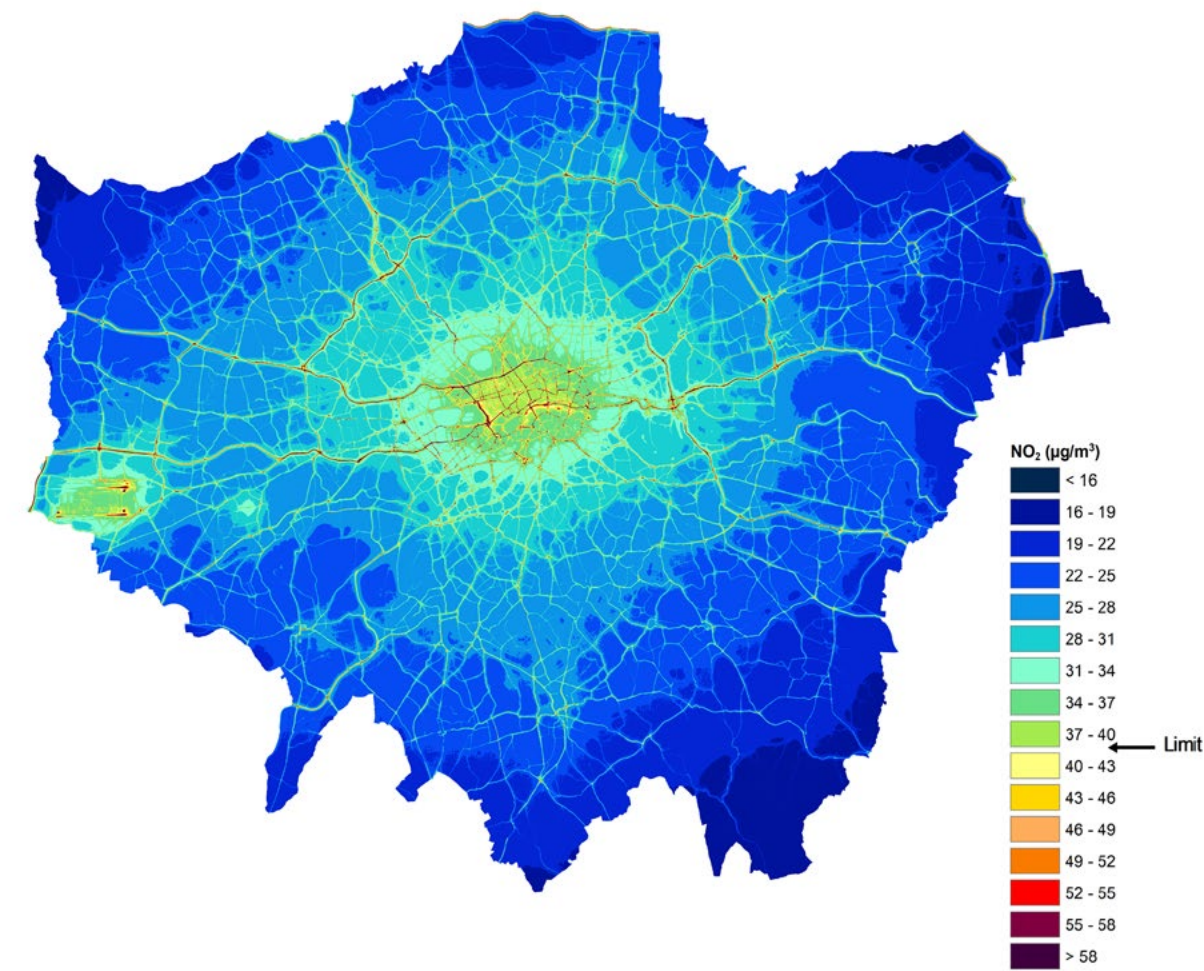
Map of London area surrounding showing neighborhood density, air monitoring sites and brownfield sites

Project Guidelines:

HML recommends focusing on materials and methods that are likely to contribute to healthy indoor air quality while decreasing exposure to asthmagens, endocrine disruptors, carcinogens, and developmental toxicants. Consciously-selected geogenic and biogenic materials are high-performing, low-/no-VOC, contain fewer harmful chemicals, and are typically low in embodied carbon.

Source: Airly, "Airly Map - Real-Time Air Quality Map," <https://map.airly.org/>.

HEALTHY MATERIALS LAB GUIDING FRAMEWORK



Map of London showing concentration of pollutant nitrogen dioxide NO₂

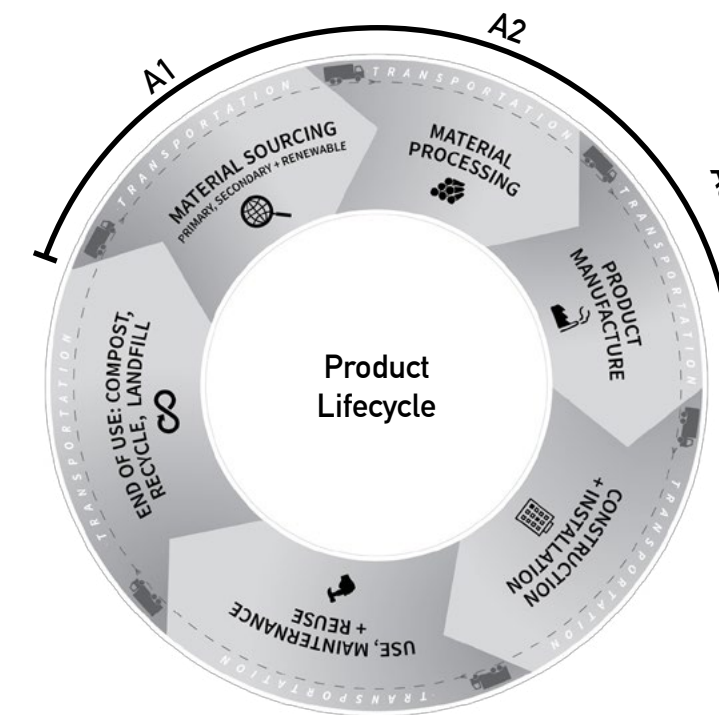
Embodied Carbon

Based on our research, building healthy for people and planet requires considering the **inseparable impact of carbon and chemicals**. A materials-focused approach to design that reduces exposure to toxics is an effective way of reducing a project's embodied carbon.

HML specifically considers greenhouse gas emissions from raw material extraction, transportation to the factory, and product manufacture (product lifecycle stages A1-A3) in order to understand and compare products' embodied carbon levels. EPDs are the best tools for product comparison in this area.

By favoring geogenic and biogenic materials that are commercially available and produced regionally, it is possible to get closer to [net zero embodied carbon](#) in built projects today.

- Review [HML's Low Embodied Carbon Materials Collection](#)
- Compare typical products' embodied carbon via the [Material Pyramid](#)



UK-specific Embodied Carbon Policies

London Energy Transformation Initiative (LETI)

This outlines benchmarks for the UK in the Embodied Carbon Primer Report
 Residential, 850 KgCo₂e/m²
 Non-Residential, 840 KgCo₂e/m²

UK Net Zero Carbon Buildings Standard

In pilot phase, this standard will set metrics for embodied carbon for buildings

Policy SI 2, Minimising greenhouse gas emission, London Plan 2021

For development proposals referable to the Mayor, whole life-cycle carbon emissions assessment (WLCA) and actions to reduce life-cycle carbon emissions are required



Map of London showing concentration of particulate matter 2.5 micrometers and smaller from Industrial/Construction industry

Source: Greater London Authority, London Atmospheric Emissions Inventory (LAEI) 2019, London Datastore. <https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2019/>

REPORT ON THE FUTURE OF HEALTHY WALL CONSTRUCTION

June 2025

Report on the Future of Healthy Wall Construction

For Hauser & Wirth, London

Introduction

At HML, we believe that the future of building can be carbon-neutral, biodegradable, energy-efficient, and healthy if plant-based and geogenic building products become the norm. HempLime wall systems are an example that have excellent potential to be scaled and used widely— we are at the beginning of the learning curve.

Plant-based materials sequester carbon as they grow, while geogenic materials such as lime, reduce indoor airborne pollutants, positively impacting human health and the environment throughout their entire lifecycle. Demolition waste from typical construction, which typically includes synthetic materials and hazardous chemicals, go to landfills and pollute water and soil systems as they degrade. Alternatively, bio-based materials are typically recyclable or biodegradable, decreasing pollution in waterways, landscapes and enriching soil systems.

HML provides Hauser & Wirth with product substitutions that are comparable to the materials currently in use at the gallery and that meet the gallery's current constraints. These substitutions will allow the gallery to continue constructing temporary exhibition walls using the same methodologies while avoiding notable chemical hazards to human health and the environment.

As a goal for the future, we believe Hauser can become a leader in the adoption and promotion of new practices for constructing exhibition walls from plant-based and geogenic materials that biodegrade at the end of use. This will mean that walls are made from materials that sequester carbon, clean indoor air, and nurture soil and ecosystems throughout the lifecycle of the materials. With an ongoing commitment to circularity and biodegradability, Hauser could establish partnerships with local farms, parks or gardens to provide demolition waste that becomes compost that nurtures carbon sequestering plant life.

Hemplime

Industrial hemp is a plant that grows without pesticides or herbicides, requires very little water to grow, and regenerates the soil. Hemp hurd, the woody interior of the non-psychoactive cannabis plant stalk, is a byproduct of hemp seed and fiber production that can be used to make flooring and insulation products. Hemp is a renewable feedstock that absorbs biogenic carbon during growth.

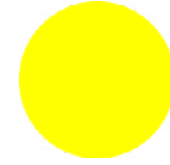
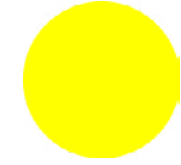
Lime is made from limestone (calcium carbonate), which goes through a firing process that changes its molecular structure to form quicklime (calcium hydroxide). After application and as it cures, lime slowly hardens back into limestone. During this hardening process, the lime sequesters carbon and over the long term, absorbs more carbon than is released during the initial firing.

The combination of these two materials creates hemplime. Hemp hurd has silica content, which binds with the lime's calcium oxide content to form a durable and lightweight insulation material that sequesters carbon. Also called hempcrete, it has gained steady momentum in recent years as a viable construction material.

Lime can be used as a paint or plaster to create a vapor-permeable surface, which helps regulate humidity and naturally prevents mold growth. Lime-based paints and plasters work alongside natural insulations to create healthier, vapor-permeable, hygroscopic wall assemblies. Hygroscopic materials absorb humidity from the air and release it when the air is too dry. However, the production of lime is energy-intensive, so it is essential that the manufacturing processes use sustainable energy sources.

Hemplime products have a low environmental impact and lifelong absorption of carbon dioxide. The mixture of hemp and lime makes a lightweight insulation material that is naturally flame retardant. When cured, the hemp and lime mixture modifies air temperature, making it an excellent thermal and acoustical insulation. Moisture buffering benefits indoor air quality and energy. This regulation reduces mold and bacteria growth, eliminating the need for antimicrobial chemicals. HempLime also absorbs odors and toxics from the air, making the indoor air cleaner, decreasing health risks for occupants, and improving conditions for occupational tradespeople. This system can also eliminate the need for wallboard surfaces, so that fewer materials are needed for a wall altogether.

REPORT ON THE FUTURE OF HEALTHY WALL CONSTRUCTION



As an alternative to lime-based paints and plasters, hemplime surfaces can also be coated with clay or mineral-based paints and plasters which allow protection of the material yet still allow the wall to “breathe” and passively regulate temperatures. This can reduce the costs of operational energy over time. For example, the material costs for a building constructed with biobased materials can be [65% less](#) than the equivalent building of conventional materials. (Training and labor costs aside).

As of 2024, the US Residential building code includes Hempcrete, a policy change influenced by the PA Hemp Home pilot project, a collaboration with Parsons Healthy Materials Lab. Completed in 2020, the PA Hemp Home in New Castle, Pennsylvania was executed to research, test, and apply HempLime insulation in the renovation of a small home. The walls were finished with lime plasters, lime paint, and other healthier materials. Based on indoor air quality testing compared to a control home, there was a 400% reduction in formaldehyde content because of the inclusion of benign construction materials.¹ The case study served as a model for future building practice and demonstrated the potential to decarbonize the building industry, and revitalize existing housing stock to make healthier places for people to live.

Hemplime Wall Construction for Permanent Walls

The diagrams below illustrate HML's investigations into putting Hemplime construction into practice and compares this method with existing common construction methods for wall assemblies.

PA Hemp Home

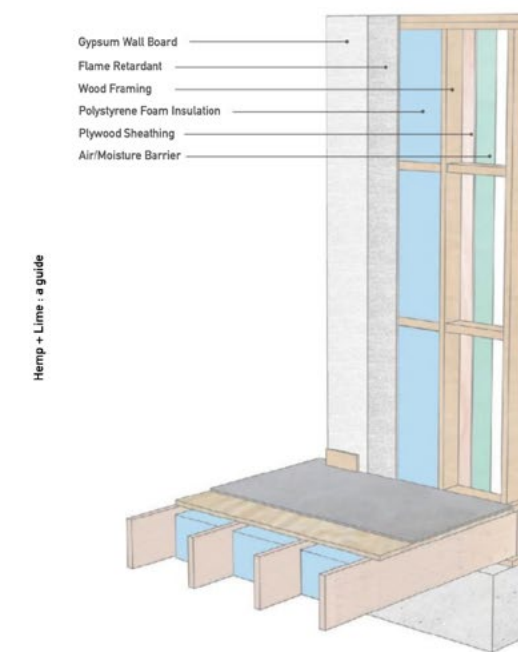


Diagram 7.4 Interior of Brick Veneer/Wood Clapboard Wall Section

160

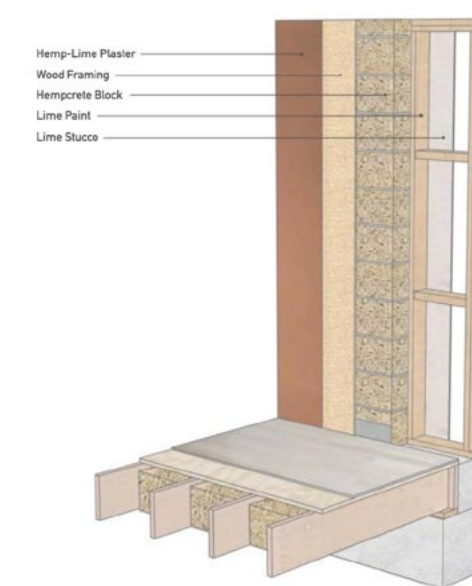


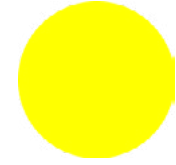
Diagram 7.5 Interior of Hemp-Lime Wall Section

161

Introduction
Industrial Hemp
Growing Hemp
Lime
Hempcrete
Products & Production
Construction
Case Studies
References

¹ Parsons Healthy Materials Lab, *PA Hemp Home: Case Study and Lessons Learned*, (2023) <https://healthymaterialslab.org/tool-guides/the-pa-hemp-home-lessons-learned>.

REPORT ON THE FUTURE OF HEALTHY WALL CONSTRUCTION



Examples of Hemplime Construction in the UK

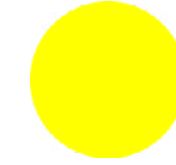
Hemplime, or Hempcrete is gaining traction, particularly in the UK, where new examples of residential and commercial buildings are appearing with some consistency in design press.

Alex Sparrow, CEO of 'UK Hempcrete' is widely recognized as a leader in advocating for the use of Hemplime construction. He is co-author of [The Hempcrete Book: Designing and Building with Hemp-Lime](#) (2014 UIT/Green Books, Cambridge), a definitive guide to the use of cast-on-site Hempcrete in building construction.

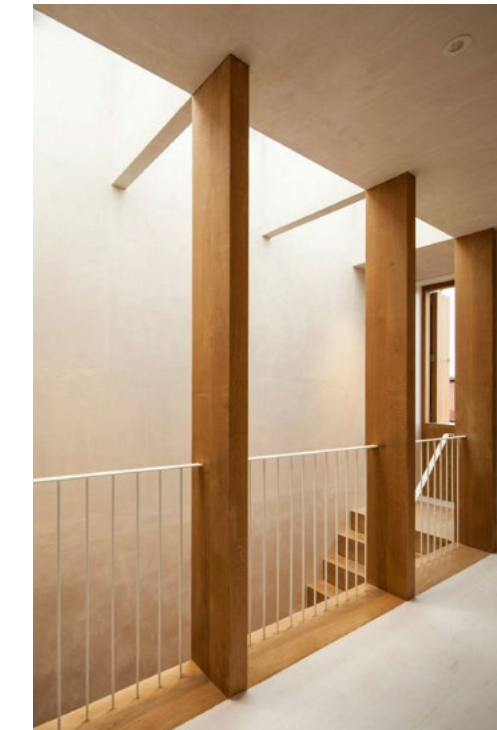
An episode of Healthy Materials Lab's podcast, Trace Material, featured an in-depth interview with Alex Sparrow, and is available to [listen here](#).



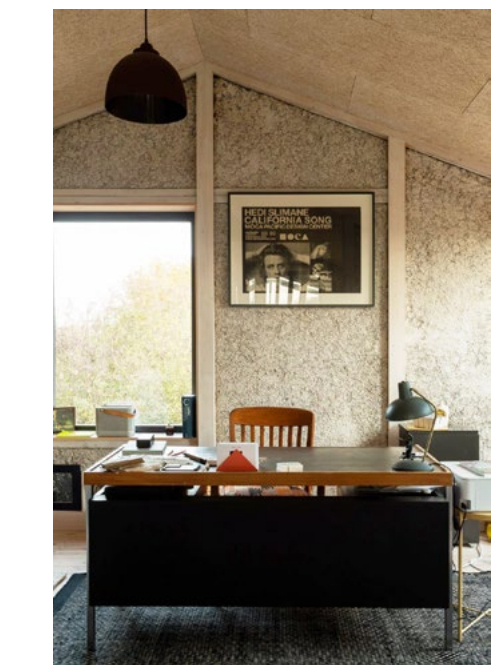
Example of hemplime block wall construction by [UK Hempcrete](#).



Residential Case Studies



[Hempcrete Mewshouse](#) by Cathie Curran studio, East London. Hemplime block construction with lime plaster.



[House Made by Many Hands](#) by Cairn, East London. Hemplime was poured in place between framing and left exposed, with art hung on studs. Ready-made panels of hemplime could be painted with mineral paint, with art mounted to framing.

REPORT ON THE FUTURE OF HEALTHY WALL CONSTRUCTION

Hemplime Wall Construction for Hauser & Wirth Exhibitions:

To experiment with a truly carbon-neutral, healthy wall, we provide recommendations of existing products that can be used to create a Hemplime wall system for temporary exhibition walls. This will be a significant modification from existing construction methods. For reference, see the PA Hemp Home Diagram (above) and the spreadsheet entitled “*Academic Approach to Wall Construction*” for a list of recommended materials.

Material layers for Hemplime construction for temporary walls:

- Wood framing, from untreated lumber, which can be reused.
- Biodegradable plant-based fiber board (OSB substitute) that can be reused.
- Hemplime board (a ready-made substitution for Gypsum wallboard) that can be composted
- Lime-plaster skim coat that is biodegradable and/or compostable
- Mineral-based paint with natural pigments and non-toxic ingredients

This new approach to wall construction can be implemented now, as the necessary products are available. However, the labor and material costs would be significantly higher than those associated with the current wall construction methods.

Additional labor would be required to disassemble walls, since the layers that include the paint, plaster and hemp board would be difficult to reuse and would instead need to be demolished. The demolition waste made from these layers could be sent to local farms, parks or gardens to be composted, returning to the earth and nurturing the soil. The lumber and composite boards would be reused for future exhibitions.

This approach creates a fully circular system for wall construction with numerous benefits to the environment and to people’s health, including the gallery’s visitors and employees occupying the space. Temporary walls would no longer be a wasteful necessity but a contribution to the health of the ecosystem.

Reference Materials

- a. [Why healthy Materials](#)
- b. A great white paper on [IAQ](#)
- c. Comparisons of traditional vs. healthier (in this case hemplime) construction assemblies in our [Hemplime booklet](#) (pg. 81)
- d. Better indoor air quality is observed in our [PA Hemp Home \(pg. 80\)](#) compared to homes made from generic materials.

HAUSER & WIRTH