ENVIROMENTAL STUDY

NEW BEGINNING

VARIABLE | MATTER

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INTRODUCTION

About this Study

This case study documents the environmental impact and approaches of New Beginning by Variable Matter, drawing on carbon data from its creation and revival, and reflecting on the lessons learned throughout the process. It offers practical recommendations for artists, producers, and cultural organisations who are exploring more sustainable models of touring.

While the work has been informed by the frameworks of the Theatre Green Book. It tests new artistic and practical approaches from design, materials, and logistics to participation and audience engagement. It has the potential to help reshape how the sector imagines and delivers international touring in a moment of climate urgency.

This report draws on findings and data gathered from Touring Production Strategist Jennifer Taillefer, with insights and reflections from the creative team, production and wider teams. This case study was compiled by David Shearing and co-edited with Executive Producer Mathew Russell.

INTRODUCTION

Variable Matter

Variable Matter is an artist-led collective that creates bold, transformative events and experiences, placing people at the centre of the creative process. Founded and directed by artist David Shearing, the studio brings together world-leading creatives across design, performance, sound, and digital practice. The mission is to reimagine everyday situations as magical and meaningful encounters, the aim is to bring about change: environmental, political and social, through high quality and rigorous artistic inquiry.

At the heart of Variable Matter's practice lies a commitment to design-led approaches that integrate social impact and environmental legacy. The studio works with natural materials, immersive technologies, and deep community collaboration, producing works that are both artistically ambitious and socially rooted. From large-scale installations to intimate participatory encounters, the projects aim to transform not only spaces but also the way people think about their role in the world.

The Project: New Beginning

New Beginning is a one-of-a-kind 60-minute design-led performance that explores ecological futures through sound, projection, poetic text, and natural materials. Featuring multidimensional video projections by Lab-meta, a haunting soundscape, and lyrical prose voiced by Michelle Newell (English version) and Marja-Leena Junker (French version), this intimate, yet epic, production invites audiences into a mythical forest where the echoes of the past and visions of the planet's future intertwine.

Directed and designed by award-winning British artist David Shearing and the Variable Matter collective, New Beginning reimagines what theatre can be. It explores the fragile yet profound relationship between humans and the natural world, conjuring moments of quiet wonder and urgent reflection. With a richly textured score by composer James Bulley, poetic narration by Zakiya McKenzie, and Joshua Gadsby's ethereal lighting design, the production guides audiences on a sensory journey that's both moving and thought-provoking.

INTRODUCTION

The production was originally conceived to explore how mid-scale theatres (300–800 seat venues) might better adopt new technologies within the devising process - an area rarely explored at this scale. A subsequent development phase enabled us to examine how design-led and immersive experiences might tour in a sustainable and environmentally responsible way.

The production premiered at Queen's Theatre Hornchurch in August 2023 for eight performances, before being revived in May 2025 in collaboration with Les Théâtres de la Ville de Luxembourg. As part of the Focus Adolescence season, the revival included four performances in both English and French, broadening the work's reach and resonance.

Originally created with ideas from 206 young people, it is now staged with a company of over 20 local young people. New Beginning is a collaborative touring model. Rather than touring a professional company of actors, the production adapts to each location by working with local young participants, who take on key stagecraft and performance roles. This approach drastically reduces the environmental impact of international touring while fostering deep local engagement. The central voiceover - a poetic thread through the performance - is translated and recorded in the local language, ensuring cultural and linguistic accessibility.

PROCESS AND COLLABORATION

Over a nine-month development period, New Beginning evolved through three intensive lab phases, each lasting two weeks. These concentrated blocks allowed the creative technologies to be built gradually and thoughtfully across the project's life rather than retrofitted at the end. Spacing the labs over several months created room for slow, reflective iteration, enabling major design decisions to emerge early and organically.

The process was deliberately lean: instead of large production gatherings, development centred on focused one-to-one exchanges between collaborators and the Director often working remotely or in forests and green spaces, allowing for deep exploration while keeping travel, cost, and environmental impact low.

New Beginning also functioned as a cross-sector collaboration between higher education (Royal Central School of Speech & Drama), mid-scale theatre (Queen's Theatre Hornchurch), and local secondary school (Little Ilford School). The involvement of Little Ilford, a school of around 1,600 pupils, many from multilingual and ethnically diverse backgrounds, was central to the ecological and social model of creation.

Young participants directly shaped the work through text, movement, and ideas, which were then woven into the evolving sound and visual design. By integrating writing, imagery, and audio from the outset, and developing them in tandem, the lab structure encouraged each creative strand to inform the others continuously. The result was a resilient, adaptive, and sustainable model of making that blurred the boundaries between education, research, and professional practice.

A STORY FOR OUR TIMES

New Beginning positions cultural organisations as active agents in responding to the climate emergency. It tells a story of ecological crisis, but does so through an aesthetic of reflection rather than accusation.

This approach proved highly effective in engaging audiences not typically reached by traditional arts or climate campaigning. In Hornchurch, 46% of bookers were new to the venue, 13% of tickets were sold to under-26s, and 24% of the audience identified as global majority. Audience feedback was overwhelmingly positive: 93% of respondents rated the original staging as excellent or good, and 76% said the production exceeded their expectations.

By integrating ecological storytelling with a design-led aesthetic, New Beginning demonstrates how performance can both embody and communicate climate responsibility – particularly for those least likely to engage in performance.

"Ecological concerns were interwoven into a poetic narrative – inviting reflection rather than prescribing guilt."

Luxemburger Wort

NEW BEGINNING IN DATA

To understand the carbon footprint of New Beginning, we began by calculating the emissions from creating the set, costumes, and props. This includes the footprint of the raw materials themselves, along with estimated or actual transport emissions for delivering those materials to the theatre. It does not include the energy used to power tools or machinery, or labour during the build.

To assess when the show becomes carbon neutral, we considered what each reuse saves us compared with rebuilding the set from scratch, balanced against the carbon cost of transporting it to each new venue.

We estimated an average distance of 270 km between major UK touring hubs such as Edinburgh, Manchester, Birmingham, Bristol, and London. The total weight of the set, costume, and props is 2,682.7 kg. Transporting that weight in a steel container by HGV over 270 km produces an estimated 167 kg CO_2e.

The total carbon footprint for the build was 1,933 kg CO_2e.

Calculating Savings Through Reuse:

- **Rebuild footprint:** 1,933 kg CO_2e
- **Transport within UK:** 167 kg CO_2e
- **Initial move from Luxembourg:** 390 kg CO_2e

The first UK move therefore saves roughly 1,376 kg CO_2e compared with rebuilding the set from scratch.

Each subsequent move saves around 1,766 kg CO_2e, meaning that the set effectively becomes carbon neutral after just two reuses.

This calculation excludes technical hires such as decking, lighting, sound, or AV equipment, as those impacts remain constant whether the set is rebuilt or reused.

167 kg CO_2e is roughly equivalent to the annual carbon uptake of around 8 to 14 trees.

CONSIDERING DISTANCE AND MODE OF TRAVEL

The picture changes dramatically when touring further afield. Airfreighting the set from the UK to destinations such as Australia or the United States would produce between 29,000 and 89,000 kg CO_2e one way - far outweighing the environmental benefit of reuse.

By contrast, transporting the set overseas by cargo ship would emit between 458 and 1,400 kg CO_2e one way. This could be justifiable if the set were to remain in that region for a long-term tour, but not if it needed to be shipped back again.

These figures underline the importance of designing productions for world wide adaptability.

LEARNING FROM DATA

These data points provide a practical reference for others in the sector:

- Demonstrating how modular design and reuse can offset carbon within just two touring moves.
- Offering comparative figures for different transport modes, enabling informed decision-making.
- Contributing to a growing evidence base that can help artists, producers, and venues plan sustainable touring with real-world benchmarks.

COMPANY AND CREW: DESIGNING SUSTAINABLE TOURING SYSTEMS

New Beginning was designed to engage with a local young people's company, with minimal travel required by the original creative team.

According to the Greener Touring Project Ireland, which assessed the carbon footprint of both national and international tours by 6 Irish companies across theatre, dance and opera, around 50% of the footprint of a national tour came from accommodation for artists and crew, and around 50% of an international tour came from transporting artists and crew. By removing the need for a touring company and instead casting hyper-locally, New Beginning entirely removes the accommodation and travel footprint for performers.

New Beginning is not a standard week in/week out performance event but rather works with the local young people and technical teams to redevelop the production each time it is staged. This development time gives the young people the chance to learn the show and make it their own.

This tension between environmental optimisation and human sustainability lies at the heart of responsible touring design

When rethinking models of sustainable touring, equivalent levels of development time are not always afforded to roles such as the Deputy Stage Manager (DSM) or AV Technician. Yet, these positions are crucial to how efficiently and ethically a production is restaged. For venues with established in-house stage management or technical teams, empowering local staff to run and call the show offers the most environmentally sustainable pathway. This approach, however, relies on robust knowledge transfer - often requiring Director and Producer involvement to guide them through the production, unless they have been embedded in rehearsals from the beginning.

An alternative model is to tour with a DSM who knows the production intimately and can train local crews on-site. This arrangement reduces the need for the broader creative team to travel while maintaining consistency and artistic integrity. A similar approach could be applied to lighting: a touring Lighting Crew Chief capable of re-lighting and operating the show across venues can remove the need for the Lighting Designer to attend each installation, balancing environmental efficiency with design fidelity.

Longer touring runs lend themselves to a gradual handover model, where the creative team supports initial performances before entrusting the production to local crews. For shorter engagements, such as weekend performances, as with New Beginning, the balance shifts. In these instances, touring with a compact, well-briefed team who can efficiently set up, operate, and maintain the production's quality may be the most resource-conscious solution, with the creative team conducting periodic quality-control visits rather than full travel cycles.

However, sustainable design must also recognise human realities. Sporadic touring patterns, with long intervals between engagements, can make it difficult to retain freelance crew or stage management personnel. In such contexts, involving the creative team more directly - working alongside locally based technicians - may prove both more practical and more equitable. This tension between environmental optimisation and human sustainability lies at the heart of responsible touring design.

Travel design, therefore, becomes an integral aspect of production design. Clear parameters should be set for both visiting and local teams, structuring schedules to prioritise public transport and reduce reliance on cars. Where road travel is necessary - for example, when moving specialist equipment - it should be agreed in advance. Early collaboration between venues and production teams can identify the most efficient routes and travel methods, embedding low-carbon logistics directly into the creative process.

DESIGNING MODULAR AND SUSTAINABLE SCENOGRAPHY

The stage design for the production represents a model of environmentally conscious thinking through its modular conception and commitment to material reusability. Built upon a foundation of standard-sized, reusable decking, the structure is inherently adaptable: it can be assembled, disassembled, and flat-packed into a standard shipping container. This design decision drastically reduces both material waste and the environmental footprint of transportation by avoiding the movement of large, pre-built scenic elements or, as often happens in touring, the unnecessary transport of 'air'.

Variable Matter offers adopts an adaptable approach design, being open to new possibilities and interventions around the materials. We prefer to use the term 'performance design' to capture the physical material aspects including the construction and found materials.

The stage design demonstrates how scenography can become an act of environmental systems thinking - each decision contributing to a living circular economy for performance.

WORKING WITH LOCAL ECOLOGIES

Central to the scenography is a fallen tree trunk, sourced locally for each iteration of the production in both the UK and Luxembourg. Each trunk was recovered from its natural environment, already fallen, not felled, and returned to the woodland after the production's conclusion. This approach keeps the carbon cost of the piece limited to its short journey between woodland and theatre. A tree of this scale (approximately 350 kg in Luxembourg) would have sequestered around 150 kg CO_2e during its lifetime. By using a naturally occurring, local material rather than fabricating a replica, the design achieves both symbolic and environmental resonance: it connects the work to its immediate landscape while drastically reducing emissions.

Had the trunk been recreated synthetically - which was suggested by production teams, for instance - from a 3.5 m^3 block of polystyrene - the carbon footprint of production alone would have exceeded 44 kg CO_2e, not accounting for its additional freight emissions or the larger shipping container it would have required. Moreover, using a living organic object avoids waste management and storage complications, while the decision to return it to its natural setting completes the material's ecological loop. This celebrates the 'more-than-human' material world.

DESIGNING FOR CIRCULARITY AND ADAPTATION

The modular decking system not only minimises construction waste but extends the life of materials beyond a single production. Plywood sheets were deliberately kept in large, standardised dimensions to maximise reuse potential. The set was built using European-standard HOAC decking, which differs slightly from UK-standard Steeldeck. Future remounts will update the construction drawings to accommodate Steeldeck, which is widely available for hire or through second-hand purchase across the UK. This adaptability ensures that future productions can source components locally and avoid unnecessary transport, embodying a circular design logic.

A single 21 ft container houses the entire set, props, and costumes. Retaining the set within its container during storage is the most energy-efficient solution: it reduces the need for repeated loading and unloading, and avoids warehousing in energy-intensive buildings. Ideally storage will be located close to each performance venue, minimising back-and-forth movement between sites. Building these logistical considerations into early contract negotiations helps shift the industry's norm,where storage is often an afterthought, toward integrated, low-impact design planning.

MATERIAL AND TECHNICAL INNOVATION

All plywood used was FSC-certified and of European origin, transported by road to reduce air miles. The fire tray, fabricated from metal, carries a higher carbon intensity per kilogram but has been designed to accommodate multiple fire-effect systems. This flexibility means that the same scenic element can adapt to varying technical regulations and resources across venues - reducing the need to rebuild components and supporting a sustainable reuse cycle.

The project explored iterative manufacturing methods for prototyping for the underfloor haze system. While 3D printing allowed for rapid iteration, it raised questions about the sustainability of materials used. Future design processes should prioritise biodegradable filaments or closed-loop recycling systems that convert test prints back into usable filament.

Design materials were kept as much as possible as untreated raw material, this further exemplifies how undocumented design decisions might not register in traditional forms of suitability documentation.

Closed-loop recycling of materials such as metal and wood incurs around 12 kg CO_2e, whereas sending the same materials to landfill could exceed 2.2 tonnes CO_2e.

When the production is remounted, each newly sourced tree trunk will require structural assessment and rigging sign-off by a certified rigger. This introduces an ongoing cost consideration, yet reinforces a broader principle of environmental design: local adaptation requires both creative flexibility and technical care.

New Beginning's modular nature ensures a second life within the theatre's ecosystem either reused directly or repurposed into new works. Disposal scenarios vary dramatically in their environmental impact: closed-loop recycling of materials such as metal and wood incurs around 12 kg CO_2e, whereas sending the same materials to landfill could exceed 2.2 tonnes CO_2e.

This project demonstrates how scenographic design can move beyond aesthetics to become an act of environmental systems thinking - where each design decision, from modular structure to material sourcing and storage, contributes to a living circular economy for performance.

DESIGNING WITH CARE: COSTUME AND PROPS IN A CIRCULAR PRODUCTION SYSTEM

The costume strategy for the production demonstrates a mindful approach to sourcing and reuse, framed by local procurement and ethical material choices. For the Luxembourg iteration, all T-shirts worn by the cast were made from organic cotton, purchased locally in Luxembourg City and manufactured in Belgium. While the cotton itself most likely originated from India or China - reflecting the global nature of textile supply chains - the choice of a regional supplier and electric vehicle collection eliminated delivery emissions and minimised distributional impact.

An interesting design tension arises in the decision to order garments only after performers were measured. This ensured that no surplus items were purchased - a sustainable approach in a one-off production context. However, as the shirts have since been stored for reuse, future ensembles may not align with the same size distribution. A broader size range might have offered greater flexibility and reduced the need for additional future orders, even at the cost of minor short-term overproduction. This example illustrates a common paradox in sustainable design: what seems efficient in the immediate moment can limit circularity over time.

All other costume elements were provided by the young participants themselves, supplemented by a shared rail of over garments to ensure that no performer was excluded for lack of access. This inclusive provision underscores the importance of equity and care within sustainable practice - acknowledging that environmental design is inseparable from social and economic access.

The only other new items purchased were gardening gloves - constructed from cotton, polyester, and rubber. Although these are non-biodegradable composites, they were selected for durability and will tour with the production. Their longevity raises an important question for designers: to what extent must aesthetic uniformity override environmental variation? Allowing for subtle differences between items - such as mismatched gloves or shirts - can open up a more flexible and sustainable design ethos. If absolute visual consistency is required, however, purchasing or hiring spare items at the outset often proves less wasteful than reproducing or replacing them later. This case highlights the recurring challenge of short-term budgeting versus long-term ecological and financial cost.

PROPS AND THE MATERIAL LIFE OF PERFORMANCE

The production required a specific grade of sand for a visual drop at the opening of the show; several early tests resulted in over-purchasing and unnecessary transport before identifying the correct material. By recording this final specification in the touring documentation, future versions of the show can avoid the same trial-and-error footprint - demonstrating how knowledge retention becomes an ecological act in itself.

A sand bowl, purchased online and shipped directly to the venue, has since been stored in the touring container for reuse, reducing future resource demand. Similarly, natural leaves distributed to the audience were gathered locally in Luxembourg and will be sourced anew in each future location. This site-specific, biodegradable material choice deepens the production's connection to place and avoids the waste inherent in manufactured alternatives. Seasonal and logistical planning will, however, be required to ensure availability and consistency across venues.

The production's flags, fabricated from polyester, present a different material challenge. While they will be reused for subsequent runs, they will ultimately contribute to plastic waste once retired. Although textile recycling infrastructures are expanding in parts of Europe, they remain limited in the UK. This highlights the importance of designing for end of life at the point of creation: selecting materials not only for performance quality but also for their capacity to re-enter sustainable cycles once their theatrical function is complete.

LIGHTING, SOUND AND AV: DESIGNING FOR ENERGY LITERACY

Understanding the energy impact of lighting, sound and AV systems remains one of the most complex aspects of sustainable touring. During the Luxembourg iteration of the production, the team requested energy data from the venue's Building Management System (BMS) but discovered that the monitoring zones were too broad to isolate the studio theatre's specific energy use. As a result, it was impossible to accurately calculate the energy draw of the lighting, sound, and AV rigs.

This limitation highlights a wider industry challenge: few venues can currently provide granular energy data for individual spaces or systems. For future productions, it will be important to ask each venue how precisely their BMS readings can be defined. Some may be able to provide energy usage for the auditorium or even the technical rig alone, offering a clearer picture of production-level energy consumption. Tools such as Power Track (an add-on to the lighting archiving software FocusTrack) can be used to estimate the energy consumption of lighting rigs, but assessing sound and AV use would still require a manual calculation of each device's power draw and operating duration.

BALANCING TECHNICAL AMBITION WITH ENVIRONMENTAL IMPACT

Touring sustainability often involves reconciling creative and technical ambitions with logistical realities. For example, a lighting designer may choose moving lights or multi-functional fixtures to reduce the number of separate units required. While this can streamline rigging time and energy use during operation, it also risks introducing specialist equipment not available in-house at every venue - potentially necessitating additional hires and transport. The emissions associated with shipping such gear may outweigh the operational savings.

TOWARDS SUSTAINABLE TECHNICAL PRACTICE

A number of practical design principles can support lower-impact lighting, sound and AV systems:

01. Prioritise green venues

Where possible, work with venues on 100% renewable energy tariffs, or advocate for their adoption.

02. Design for commonality

Specify standard fixtures and equipment likely to exist within most professional venue inventories

03. Minimise specialist hires

Where specialist tools are essential, use them sparingly, for instance, by hiring lenses rather than entire projectors.

04. Source locally and sustainably

Ask venues to recommend local hire companies that employ electric or shared-delivery vehicles.

05. Allow for creative flexibility

If using gel colours or filters, accept near-matches where possible, reducing unnecessary purchases and waste.

DIGITAL ASSETS AND TOURING EFFICIENCY

The challenge is not only to design more sustainable systems, but to ensure that venues and crews feel equipped to adopt them.

The production's digital assets, including video mapping files, QLab sequences, and lighting (LX) show files, are shared with each venue digitally, allowing seamless data transfer without the need for physical transport. The show does not tour with its own lighting desk, projector, or main PA system, which significantly reduces freight volume and associated carbon emissions.

New Beginning delivers an immersive 27-channel sound experience, distributed through a surround system of 15 auditorium speakers, with a further 12–24 speakers routed into the audience space. To support this, a custom amplifier rack was developed to provide up to 56 low-voltage outputs from a single system — a solution designed to reduce the number of separate amplifiers and simplify touring logistics.

However, this innovation also revealed a practical challenge. Both venues expressed concern about operating the bespoke amp system without technical oversight and ultimately chose to use individual amplifiers instead. This highlights one of the central tensions within sustainable touring design: the challenge is not only to design more sustainable systems, but to ensure that venues and crews feel equipped to adopt them.

MARKETING AND WRAP-AROUND ACTIVITIES

Sustainability isn't just about materials or travel, it's also about how we connect with people. In Luxembourg, we explored different ways of gathering audience feedback about the show and its environmental impact, including how people travelled to the venue. When we asked audiences to respond digitally, there was almost no engagement. But when a company representative stood outside the auditorium after the performance with printed response forms, explaining why their input mattered, the results changed completely.

People stopped, talked, and took the time to share their thoughts. Their responses were detailed, emotional, and generous. This experience showed us that digital surveys alone aren't always effective. In an age of constant online feedback requests, audiences are often fatigued by forms and uncertain how their information will be used. A personal, face-to-face invitation to reflect and contribute proved far more successful and, crucially, more meaningful.

Sustainability isn't just about materials or travel — it's also about how we connect with people.

The open-ended questions we used worked especially well. While they didn't provide data that could be counted or scored, they revealed what people felt about the performance and what it made them think about, insights that are just as important as numbers when measuring artistic and social impact.

TEXT AS A SUSTAINABLE ARTEFACT

Each audience member received a printed copy of the text, a deliberate part of the show's design. It gave people something tangible to take home, to revisit the words and ideas of the performance, and to reflect on its themes after leaving the space.

Printing, of course, carries an environmental cost. Based on the UK Government's carbon multiplier for publishing, each £1 spent on printing creates around 0.6 kg of CO_2e, covering the raw materials, production, and transport. For future versions, there are simple ways to reduce this footprint:

01. Print

Print on 100% recycled, unbleached paper using plant-based inks.

02. Local

Work with local printers to reduce delivery emissions and avoid over-ordering.

03. Minimise

Design scripts without date or venue details, so unused copies can be reused elsewhere.

04. Nudge

Develop nudge principles, such as encouraging venues to explore alternative printing methods.

We see print materials not as disposable marketing, but as meaningful artefacts that carry the story of the show - something people can keep, reread, or share.

ALIGNING WRAP-AROUND ACTIVITIES

One of the lessons from Luxembourg was the importance of good communication around audience events such as workshops, talks, and discussions. These wrap-around activities are a vital part of how a production such as New Beginning lives within a community. These activities help people connect personally to the themes of the work, and to each other. We have explored post show conversation with climate experts, and organised a green day featuring local community organisations working in sustainable ways such as local reuse shops or forest activity centre. We have delivered workshops in schools to explore the intersection of climate and design-led practice.

In future tours, we'll make sure that these activities are planned collaboratively and early. Often venues feel stretched in terms of further producing activities, but linking to audience development might help share the producing responsibility across marketing teams. Doing this ensures that sustainability isn't just about how the production is made, but also about how it is shared: through dialogue, care, and human connection.

TRAVEL AND TRANSPORT

People come for inspiration, not instruction - so the design challenge is to make the sustainable choice the natural, simple, and enjoyable one.

Audience travel is often the largest and most unpredictable contributor to the environmental footprint of live performance. For Luxembourg, we attempted to capture audience travel data through a short online survey sent out with pre-show ticketing information. Despite making the questions as simple as possible, the response rate was low.

In contrast, when we gathered other forms of feedback in person at the venue, the participation was far higher. This suggests that audience travel data might also be better collected through a more personal approach - perhaps via a one-click button or a short conversation in the foyer, rather than through a pre-show email.

Even with a limited sample, the audience data we did collect allowed us to estimate a footprint of around 40 kg CO_2e for audience travel across the weekend's performances in Luxembourg. This relatively low figure is likely due to Luxembourg's progressive transport policy - public transport there is free, reducing the reliance on private car travel.

We know that audience travel patterns will vary from place to place depending on the venue, its location, and the transport options available. For future tours, we plan to include several key requests in our promotional and technical packs for venues:

01. Share

Share any existing audience travel data, or let us know how they currently gather it.

02. Collaborate

Collaborate on new methods for collecting travel information suited to their context.

03. Explore

Explore incentives that make sustainable travel easy - such as aligning production times with public transport schedules, or partnering with nearby businesses to encourage audiences to spend more time locally.

According to the 2024 Act Green Survey, 70% of UK audiences say they would act more sustainably in their interactions with a production if it were made easy for them to do so. That insight is vital: theatre is, at its heart, a leisure activity. People come for inspiration, not instruction - so the design challenge is to make the sustainable choice the natural, simple, and enjoyable one.

COMPANY TRAVEL AND ACCOMMODATION

The travel footprint for the Luxembourg production was approximately 1,920 kg CO_2e - comparable to the production itself.

The creative team's own travel and accommodation footprint for the Luxembourg production was approximately 1,920 kg CO_2e - significant, comparable to the production itself, but far lower than it would have been with a full touring cast and crew. As outlined earlier in the report, reducing the need for touring personnel through local partnerships and knowledge transfer will remain key to minimising this impact.

Luxembourg's free public transport was a huge advantage, removing the need for petrol taxis and private car use. All accommodation was within walking distance of the venue, further reducing emissions. For future productions, we intend to include the following in our touring rider:

- Accommodation should be Green Key or Green Tourism certified.
- Hotels or host stays should be within walking distance of the venue.
- All local transport should prioritise public or shared travel.

These simple planning principles make a measurable difference and ensure that sustainability remains part of the production's everyday design.

CONCLUSION

TOWARDS A MORE SUSTAINABLE TOURING PRODUCTION MODEL:

New Beginning has shown that sustainable design in performance is as much about rethinking how we work as it is about what we make. Choices from the way a production is built to how audiences are invited to respond carries an environmental, social, and emotional footprint. By designing with awareness, collaboration, and adaptability at every level, we can begin to reimagine what touring and cultural production might look like in a time of climate urgency.

Sustainability is not a checklist or a fixed outcome, it's a process of listening, learning, and redesigning systems. It requires designers, producers, venues, and communities to share responsibility.

FINDINGS AND INDUSTRY RECOMMENDATIONS

01 Embed sustainability from the start

Environmental thinking must shape creative and production decisions from the concept stage, not as an afterthought or a funding requirement. Partners need to agree the parameters and vision for working – the mission part of all cross organisational roles. Tools such as mission statements, environmental riders or contract clauses can help develop shared approaches.
Co-designing with sustainability in mind might lead to more inventive, adaptable, and affordable results.

02 Enact deep touring methodologies

Each partner and community has its own ecology, infrastructure, and rhythms. Touring sustainably means designing flexible systems that can adapt to these local realities not imposing a one-size-fits-all model. Deep touring methodologies allow for knowledge exchange across all involved. Deep engagement with local communities, such as young people and enhanced producing support, develops the potential for impact with communities and audience development. Teams need to adopt semi-creation techniques and not just receive a production. How can knowledge exchange be central to artistic creation and touring?

03 Design modularity and source locally

Design elements sourced locally can reduce storage and transportation. Flat pack design and modular systems such as decking hired locally can save on shipping space. However, there is a need to clearly explain to everyone involved why this is required, so that venues understand both the positive impact and the potential additional workload involved.

FINDINGS AND INDUSTRY RECOMMENDATIONS

04 Value the human dimension

Environmental responsibility cannot come at the expense of the people delivering the work. Sustainable touring is also about fair scheduling, manageable workloads, and creating space for knowledge exchange between teams.

05 Make data visible and usable

Many organisations lack the systems to track impacts such as energy or material use at a granular level. The sector needs open tools and shared frameworks that allow productions to measure and understand their impact simply and consistently. Storytelling is as important as data capture, revealing the often hidden elements of how a process truly works.

06 Develop effective communications as part of the process

How we speak to and with audiences through conversation and participation is itself a design act. Human connection and transparency build trust and deepen engagement far more effectively than automated surveys or passive calls to action. Developing post-event reflection spaces and open dialogues with project teams enables deeper exchange and shared learning.

SECTOR PROVOCATIONS

What if productions were designed as a prototype for a future system thinking, not a single event?

Could each project teach us something about materials, energy, and collaboration that reshapes how we work next time? How might system change be a project goal?

What if sustainability reports became creative artefacts in their own right?

Could the documentation of impact, choices, and experiments form part of the artistic expression rather than administrative paperwork? How might teams collaborate, reflect and share learning in a transparent way, without pressure to hype outcomes for reporting purposes?

What if touring were reimagined as exchange rather than export?

Instead of moving full productions, could we move knowledge, and develop local capacity, leaving lasting place-based impacts?

What if creative leadership was measured by care for people, places, and the planet?

Could environmental imagination become a defining skill for the next generation of cultural leaders?

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Performing Arts Forum Ireland. Greener Touring Project.

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