

HOW CITIES CAN DECARBONISE CULTURE

LESSONS FROM LIVERPOOL'S
YEAR AS THE FIRST
UN CLIMATE CHANGE
ACCELERATOR CITY

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The Tyndall Centre for Climate Change Research was founded in 2000 to conduct cutting edge, interdisciplinary research, and provide a conduit between scientists and policymakers. With 200 members ranging from PhD researchers to Professors, from the Universities of East Anglia, Manchester, Southampton, Newcastle, and Bath, the Tyndall Centre represents a substantial body of the UK's climate change expertise from across the scientific, engineering, social science and economic communities.

The Centre for Climate Change and Social Transformations (CAST) is a global hub for understanding the crucial role that people play in fighting climate change. The CAST team is based across five UK institutions, including the University of Bath (our centre hub), the University of Manchester, the University of East Anglia and Cardiff University, as well as the charity Climate Outreach.

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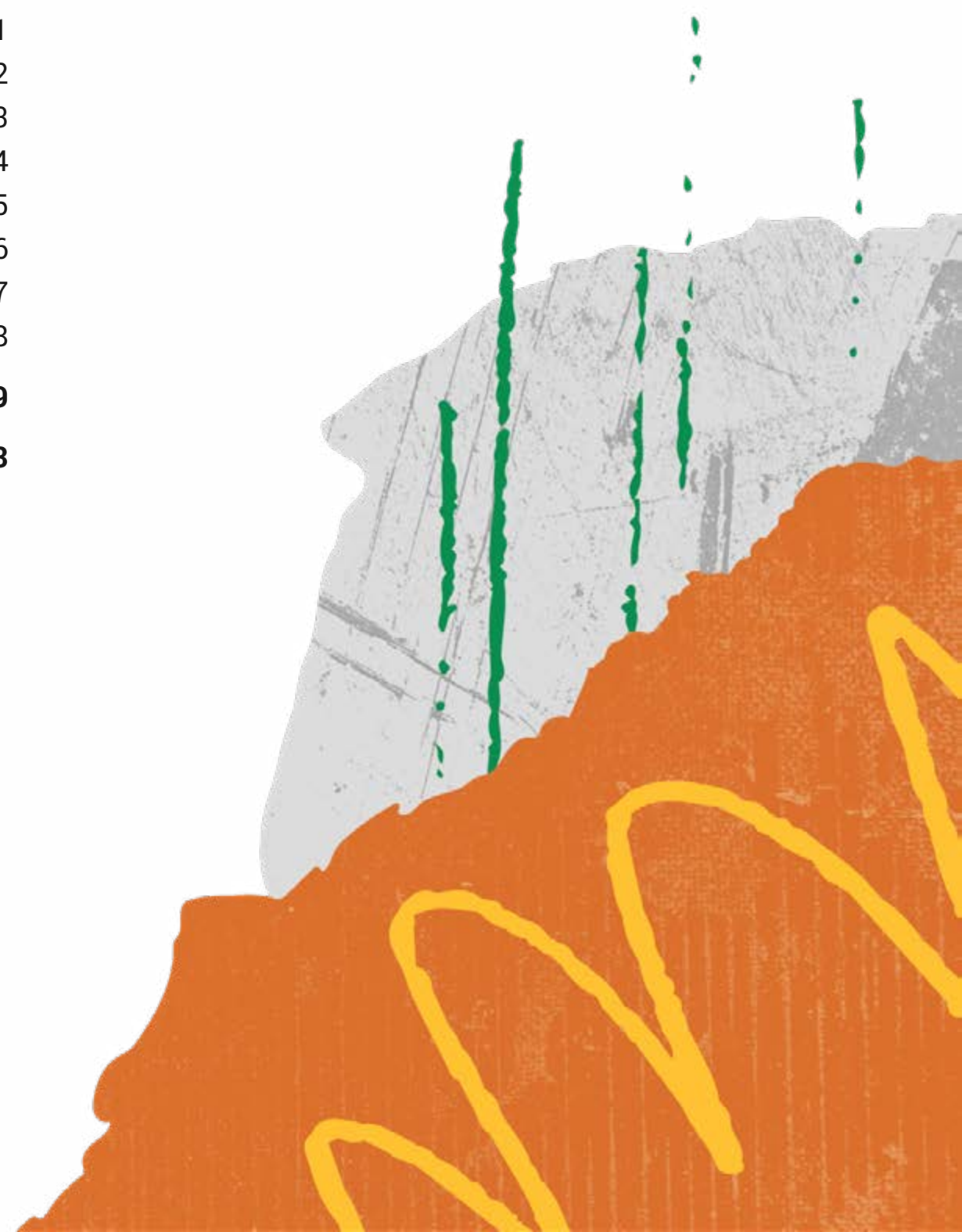
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EXECUTIVE SUMMARY

In November 2024, the UN Climate Change Entertainment and Culture for Climate Action (ECCA) alliance chose Liverpool as the world's first UN Climate Change Accelerator City. The year-long programme proposed nine pilots in the cultural sector spanning policy, technology, infrastructure and transport, aiming to test and then embed low-carbon approaches within the city and its partners' operations.

The Accelerator City programme was led from within Liverpool City Council's Culture team, working with external partners and across internal council departments to progress the pilot programmes and embed the programme's legacy into the council's ways of working.

The year saw high profile successes for the programme. BBC Radio 1's Big Weekend festival took home the "Green Award" at the UK Festival Awards, the M&S Bank Arena became certified as one of the greenest music venues in the UK by A Greener Future, and new National Occupational Standards were launched for sustainability in film and TV across the country.

The programme also enabled impactful but less visible work. A new land-use framework was developed for the council to ensure that events on city land will improve their sustainability performance, two low-carbon TV programmes were filmed in the city, a new model for sustainable audience travel to live events was developed, and important groundwork was laid to replace fossil fuel in generators with mains power at locations around the city. Inside the council, the programme also produced significant internal change. Staff across the Culture team reported a meaningful shift in sustainability knowledge, confidence, and ways of working over the year.



It also highlighted important barriers and challenges to achieving rapid transformation and decarbonisation in the city for both the cultural sector and more broadly. Resourcing was a recurrent challenge across various stakeholders and pilots, as the scale and ambition of the programme sometimes outweighed the staffing, technical knowledge and funding available. However, champions within the council and pilots helped to drive progress regardless.

Another barrier was the lack of existing data on current operations. Before decisions could be made about how and where to decarbonise, some data collection was necessary to understand the impact of potential interventions, which required further time and resource.

Timescales were both a challenge and a motivator. While a one-year programme naturally limits what can be achieved, particularly for infrastructure upgrades, it also drove some pilots to move faster allowing for further progress within the programme's timeframe than might otherwise have happened.

Partnerships played a key role in what could be achieved across the programme. Pilots where delivery partners had both the operational control and organisational commitment to prioritise sustainability were able to implement more substantial changes. In other cases, progress reflected the limits of what a municipal authority can directly influence. Effecting change depended on buy-in from all organisations involved, whose priorities and constraints varied.

Programme partners described the UN brand as giving them permission and legitimacy to ask for stronger sustainability actions within their pilot and helping to bring external partners on board. However, not every city in the world will be an Accelerator City. As more cities and industries move towards a sustainable way of operating, the need for 'permission' to act or ask more may lessen as expectations shift.

The Accelerator City work was largely resourced and financed by the council and pilots with some private partnership support, and other councils could take a similar approach using lessons from the programme, with or without the formal Accelerator City role. Given the urgent need to reduce emissions, cities should not wait for global programmes or pilot initiatives to reach them before tackling this challenge.

While not every city will have the same cultural infrastructure, many of the lessons from this programme are transferable. Resourcing, prioritisation, and openly sharing lessons learnt through decarbonisation work are relevant considerations for every council and industry seeking to accelerate their climate action, in the cultural sector and beyond.



Nile Rodgers and Chic perform at the opening concerts
Image credit: Carly McLachlan

PILOTS AT A GLANCE



CLEANER ARENA

M&S BANK ARENA

- This pilot trialled a high-ambition sustainable concert model across three nights of live music including plant-based catering, improved waste and materials handling, and shared production infrastructure between artists.
- The pilot concerts informed the development of a suite of Green Packages at the arena, allowing event organisers to select from sustainability interventions on travel, haulage, waste, and food.
- Throughout the year the site achieved Greener Arena certification, and waste segregation and on-site food waste processing introduced during the pilot have become business-as-usual practices.



THE GREAT OUTDOORS

BBC RADIO 1'S BIG WEEKEND

- In May 2025 the pilot team delivered a major outdoor festival in Sefton Park, BBC Radio 1's Big Weekend. The event adopted expanded sustainability measures across a range of areas, including energy, materials, travel, and food.
- The festival generated the most comprehensive environmental dataset ever collected for Radio 1's Big Weekend, and the team took home the Green Award at the UK Festival Awards.
- Learnings from the event are informing future BBC Radio & Music Festivals, as well as future events to be held at Sefton Park.



ASK THE AUDIENCE

TRAVEL AND GIG - TAG

- This pilot focused on testing approaches to reducing audience travel emissions, by integrating public transport tickets with ticketing for live events.
- Early approaches trialled using voluntary add-ons and audience communications to increase public transport use to events in the Accelerator City programme, which showed some limited uptake.
- The concept was further developed throughout the year, resulting in a model that links ticket purchases to audience location and therefore local, regional and national modes of travel. This version of the model is planned for trial at future events in Liverpool.



POWERING PICTURES

GRID CONNECTIONS

- The team explored the feasibility of installing mains electricity connections at key filming and events locations, in order to replace fossil fuel use in generators and reduce emissions.
- Priority locations for future grid connections were identified, and the pilot highlighted the infrastructure and governance necessary for future deployment in the city.
- The potential to share usage between grid connections for filming or event locations and other industries, such as an electric vehicle charging point, was also identified as an area of interest for future investigation.



UPSKILLING THE FUTURE

NATIONAL OCCUPATIONAL STANDARDS

- This pilot delivered the UK's first National Occupational Standards for sustainability roles in film and TV production through an extensive cross-industry collaboration, hearing from hundreds of stakeholders to shape the standards.
- The team also created hiring frameworks and training for the sector, including Sustainability Manager training for delivery across the North of England, and a new educational module piloted with A Greener Future and Liverpool John Moores University to develop a local pipeline of sustainable talent.



MAKING LAND USE BETTER

NEW LAND USE AGREEMENTS

- The council team developed a city-wide sustainability framework for events taking place on council land, and began integrating it into existing land use processes across different departments.
- The framework embeds environmental standards and data reporting into event permissions, using a three tiered “minimum, better, best” approach to capture data and raise environmental standards year-on-year.



MAPPING IMPACTS

DATA VISUALISATION

- The pilot explored the feasibility of a city-level environmental data visualisation platform, combining event, satellite and air-quality data.
- Sensors were installed to monitor pollution at BBC Radio 1's Big Weekend, and found that levels were very low compared to impacts from other city-wide infrastructure.
- Work progressed on the digitisation of A Greener Future's data collection methods for events to simplify future deployment of a similar model, and connections were built between culture and public health at the council to enable future pollution control strategies to be more effective and better co-ordinated.



THE POWER NEXUS

BATTERY FARM

- This work investigated the development of a battery farm in the city to support low-carbon portable power for film and live TV, including technical feasibility and delivery partners.
- The pilot did not progress beyond initial investigations due to lease insecurity at the pilot site, concerns around the business case for the pilot, the limited council resource during the programme and dependencies on related redevelopment projects.
- Although not progressed during the pilot year, the concept has informed wider work on the economic case for cultural decarbonisation and laid groundwork for possible future iterations of the project through delivery partners.



THE PROTOTYPE

SUSTAINABLE FILM AND TV PRODUCTION

- Two BBC television productions filmed in Liverpool implemented a variety of low carbon approaches to sustainable production.
- The productions of *The Cage* and *Waiting for the Out* achieved an estimated 46% and 61% lower carbon footprint respectively¹ than the average UK drama production through interventions including LED lighting, HVO fuelling, hybrid generators and battery power. The comparison between the two productions, which operated with different levels of sustainability support, strengthened the evidence base for the impact of dedicated on-site sustainability coordination and sustainability leadership.



¹ When compared to the average UK drama as reported by BAFTA Albert using data from 2023, calculated by Picture Zero

INTRODUCTION

In November 2024, the United Nations (UN) named Liverpool the world's first Climate Change Accelerator City, within the Climate Change Entertainment and Culture for Climate Action (ECCA) alliance. The programme aimed to explore how the live music, film, and TV production sectors can be rapidly decarbonised through a one-year line-up of pilot projects. These projects were designed to address some of the biggest sources of greenhouse gas emissions in the cultural sector through technical, governance and regulatory interventions. The vision for the Accelerator City for Climate Action programme is that it will move from city to city around the world, and the design of the programme was further developed through this inaugural year.

This report is a review of Liverpool's year as the first Accelerator City. It captures learnings from each of the pilots, legacies for the city and cultural industries, and reflections on the implementation of the programme and its governance. It also captures the structural learnings on what helps cities deliver cultural decarbonisation at pace, the challenges that can constrain that progress, and which design features of the Accelerator City model can be strengthened for future iterations.

While the programme was designed around a one-year cycle, many of the insights and activities generated in Liverpool have ongoing relevance in the city and beyond. Some pilots delivered operational change that has already become business-as-usual for the council and the partner organisations. Others clarified the conditions needed for longer-term infrastructure or governance work. Several innovations emerged that were not part of the original list of pilots, including city-hosted cross-industry collaboration on power decarbonisation, and new economic and governance workstreams that aim to continue beyond the formal end of the Accelerator City year.



The year began with Expedition One, a two-day event in late November 2024 that brought together industry experts to launch Liverpool as the Accelerator City. The first day was an industry summit, with panels and workshops related to decarbonisation and sustainability in the sectors. Each programme pilot was developed and shaped in workshops during the launch, which were overseen by A Greener Future to inform the pilot planning. This launch was followed by a day of free events and activities for members of the public interested in music, film and TV, and climate action. Alongside these daytime events, three live music shows were held at the M&S Bank Arena featuring the artists Massive Attack, Nile Rodgers, and IDLES.

At the start of the year, nine pilots were announced for the city as part of the Accelerator City programme. These pilots were chosen based on their potential to reduce emissions and embed best practice in the cultural sector. Decisions about the direction and scale of ambition for the pilots were supported by the super-low carbon live music roadmap, developed by researchers at the Tyndall Centre for Climate Change Research, including authors of this report.

The Accelerator City model includes an independent academic partner, whose role is to bring independent analysis of how the programme performs in practice, and to offer guidance or support where helpful. Researchers at the Tyndall Centre for Climate Change Research at the University of Manchester are fulfilling this role for the Liverpool Accelerator City Programme.

Liverpool's year as the UN Climate Change Accelerator City has generated a significant body of learning, both from what progressed and what did not. This report aims to

make that learning accessible, actionable, and useful for cities, cultural organisations and policy makers.

The purpose of this report is as follows:

For Liverpool City Council: to support the continuation, scaling or redesign of work initiated during the Accelerator City year.

For future Accelerator Cities: to provide insight into what the model enables, what it needs, and what preparation is essential for success.

For any city or cultural stakeholder: to share practical, replicable learning for decarbonising events, film and TV production, and cultural infrastructure.

This report is split into six sections: following an overview of the programme's approach, structure and evaluation methodology, the report presents deep dives into each of the nine pilots. It then turns to programme-level interventions that emerged during the year, before drawing out lessons for Liverpool City Council's legacy, for other cities seeking to decarbonise their cultural sectors, and for the future design of the Accelerator City model itself.



Mayor of the Liverpool City Region Steve Rotherham speaks at Expedition 1. Image credit: Culture Liverpool, Liverpool City Council

PROGRAMME APPROACH

The Liverpool Accelerator City pilot adopted a city-level approach to climate action in the cultural and entertainment sectors. Rather than focusing solely on voluntary action by individual organisations or industries, the programme explored the role that city institutions and partnerships can play in accelerating change across a local cultural ecosystem.

This approach reflects the potential for cities to convene stakeholders, coordinate action across sectors and explore policy and regulatory levers that may not be available to individual organisations acting alone.

The concept of a city-level accelerator was initially developed by ACT 1.5, who had been exploring the idea of new governance approaches to climate action in the entertainment sector as part of their work on decarbonising the live events sector. Liverpool was subsequently selected as the first city by the UN ECCA alliance.

PROGRAMME STRUCTURE AND DELIVERY

Within Liverpool, the programme was hosted by the Culture Liverpool team at Liverpool City Council. Initial programme design, including the identification of pilot projects and early engagement with delivery partners was developed through collaboration between ACT 1.5 and Liverpool City Council.

Day to day delivery of the programme was led by a project manager within Culture Liverpool, who coordinated pilot activity and engagement with partners across the city for the first 10 months of the programme. In the later stages of the programme, this role was also supported by a graduate trainee within Culture Liverpool.

Strategic programme support was provided by a consultant programme director from Sally Mills Consultancy, who was brought in for the last nine months of the programme on a part-time basis and brought technical sustainability experience in the media industries. The council's sustainability team, which sits outside the Culture team, also became more substantively involved in the programme in the latter stages.

The UN Climate Change role focused on providing visibility, legitimacy and convening power, while individual pilots were resourced by the participating organisations and their own funding streams. Delivery of the programme was resourced and financed by Liverpool City Council, including staff time, coordination and additional funding allocated to support some pilot activities. Expedition events were supported by private partnership with GeoPura and headline partner Ecotricity. Funding for the Tyndall Centre's role as the academic partner was supported through a joint application to the UKRI Impact Acceleration Account fund with Liverpool City Council, who also provided additional funding.

EVALUATION APPROACH

Independent evaluation of the Liverpool Accelerator City programme was conducted by researchers at the Tyndall Centre for Climate Change Research, at the University of Manchester, drawing on the centre's expertise in climate governance and transitions in the cultural sector.

The evaluation aimed to understand how the programme was designed, delivered and experienced by participants, and the legacies and learnings.

The evaluation included:

- Participation in selected pilot and programme meetings
- Review of internal and external documents and materials produced during the programme
- Regular discussions with the Liverpool Accelerator City delivery team
- Semi-structured interviews with stakeholders across the programme, including Liverpool City Council officers, pilot delivery partners, and strategic programme stakeholders. 16 interviews were conducted over eight months with 22 participants.

PILOT DEEP DIVES

The nine pilots delivered during Liverpool's Accelerator City year varied widely in scope and maturity. Some were operational testbeds designed to trial new approaches on the ground, while others explored governance, infrastructure or skills. Several were already in motion before the Accelerator City announcement, while others were developed during the programme year. Across all of them, the purpose was not only to demonstrate practical decarbonisation actions in the cultural sector, but to understand what it takes for a city to deliver them. The programme revealed enabling conditions, constraints, coordination and partnership models required for change at pace.

The following deep dives present each pilot, setting out its aims, what happened in practice, the challenges encountered and the key learnings emerging from each delivery. While some pilots achieved tangible operational shifts and others clarified barriers or future pathways, each contributed to building understanding of how cities can support cultural decarbonisation, whether through direct interventions or the governance and infrastructure that underpin them.



CLEANER ARENA

M&S BANK ARENA

PILOT SNAPSHOT

Event:

Expedition One and ACT 1.5 Presents

Location:

M&S Bank Arena, Liverpool

Lead Organisations:

Liverpool City Council, ACC Liverpool, A Greener Future, ACT 1.5, Massive Attack, SJM Concerts

PURPOSES AND AIMS OF THE PILOT

The Cleaner Arena pilot was designed to push the boundaries of what a low carbon indoor arena event could look like in practice.

Liverpool City Council and the M&S Bank Arena aimed to test interventions across waste, catering, transport, and production during the Accelerator City launch concerts (Massive Attack, Nile Rodgers, IDLES). These practices could then be assessed for their suitability to be embedded into business as usual for the arena.

The pilot also functioned as a test environment for the development of an arena Sustainability Pledge, aimed at giving promoters a spectrum of sustainability measures they could adopt at events. This also includes offering carbon forecasting for events and recommending targeted measures to event managers to reduce emissions at events.



WHAT HAPPENED

Three nights of live music were held across the weekend of the 28th-30th November 2024, alongside Expedition One, an industry summit to launch Liverpool as the UN Climate Change Accelerator City.

A working group was convened in the lead up to the concerts, bringing together key partners to determine which sustainability measures could be implemented inside the M&S Bank Arena. This group included representatives from the ACT 1.5 team, ACC Liverpool, Liverpool City Council, members of the Massive Attack production team, and sustainability specialists from A Greener Future. The group met regularly to review proposals and agree which interventions could be trialled at the November shows.

A range of high-ambition measures were implemented across the concerts. Catering was fully plant based for the first time at the arena, with an increase in the proportion of food and packaging provided from local suppliers, and all delivered to audience members in compostable Vegware materials. This also included backstage catering for artists and crew.

Another focus of the pilot was waste. The arena trialled an improved on-site waste processing model, establishing a waste segregation centre onsite to ensure 100% of event waste was correctly sorted and could be sent to appropriate recycling destinations. This included the identification of a specialist company to process soft plastics, and the use of an onsite Orca food-waste digestion system. The new approach to waste processing has become business as usual since the trial.

There were also measures targeting audience transport, consistently the largest source of emissions for live events. Concerts finished at 10pm, instead of the usual 11pm, to ensure the availability of public transport for attendees. Approaches to integrated ticketing or altered ticket sales to promote public transport were also explored; these are discussed in the Travel and Gig pilot section.

On the production side, all three artists adopted a plug-and-play shared stage and production setup. Across the three concerts the lighting and sound systems were shared, which A Greener Future found greatly reduced vehicle movements and equipment freight.

The ACC Liverpool already operates on a 100% renewable energy tariff, however the idea of dedicated battery power for the event was explored in order to add to the evidence surrounding battery power, and to better verify the source of renewable energy. This plan was ultimately not delivered.

Throughout the pilot, data collection was conducted by A Greener Future to cover all materials brought onsite, staff and audience travel, catering, waste, and production and logistics and calculate the carbon footprint of the event.



Daddy G of Massive Attack performs
Image credit: Andre Pattenden

AREA	INTERVENTION
Catering	Fully plant-based catering for audience and backstage for the first time at the arena.
Catering	Local suppliers used for catering options.
Waste	On-site waste segregation centre ensuring 100% correct sorting.
Waste	Orca food-waste digestion system installed on-site with compostable Vegware packaging throughout catering.
Waste	Specialist processing of soft plastics arranged.
Production	Shared plug-and-play stage and production setup across all three artists, reducing vehicle movements and freight.
Transport	Concerts finished at 10pm (vs usual 11pm) to improve public transport availability to audiences.
Transport	Voluntary integrated public transport and gig ticketing trialled.
Data	Full data collection supported by A Greener Future across all impact areas.

Table 1: summary table of interventions trialled in the Cleaner Arena pilot



CHALLENGES AND CONSTRAINTS

- **Limited waste capacity.** Regional waste-processing capacity limited the impact of the waste system upgrades. While on-site segregation and the transition to Vegware was successful, meaning the site no longer sends any waste directly to landfill or incineration, the local Merseyside region lacks facilities to process compostable Vegware and soft plastics locally. These materials must therefore be transported long distances for appropriate processing, increasing emissions linked to their transport.
- **Battery supplier logistics.** The battery power plan did not proceed due to logistical issues with the supplier. The original intention was to run the full event on battery power, but this was ultimately not delivered.
- **Scaling up shared production.** The plug-and-play shared production model, while effective for these concerts, is difficult to generalise from one example. Many artists reportedly expect bespoke staging, and the approach used at the launch events depended on alignment across all three acts that may not be replicable at scale, without broader sector-wide changes to expectation and approach.
- **Tight turnaround times.** The compressed timeline of the event was highlighted as a limitation. There were approximately four months between the selection of Liverpool as the Accelerator City, and the Expedition One event and concerts. In this time, there was no internal Liverpool City Council lead for the programme, and priorities for the programme had not been aligned at a council-level.
- **Mistaken identity.** Audience communications required more preparation than anticipated. Vegware cups were mistaken for plastic by some attendees, generating criticism on social media about perceived inconsistency with the event's sustainability claims. This was addressed mid-event through updated digital screens and social messaging but highlighted the possible need for pre-event communications when introducing unfamiliar materials or practices that may be perceived as conflicting with values.



Nile Rodgers and Chic perform at the opening concerts
Image credit: Carly McLachlan

LEARNINGS

- Interviewees described the pilot as a safe space to trial measures that events might otherwise be too cautious to attempt. Because all partners shared the same objective to host a sustainable event, and audiences had self-selected into a sustainability-focused event, interventions such as a fully plant-based menu could be tested with lower perceived risk.
- Strong partnerships between the arena and A Greener Future were highlighted as significantly improving the data quality and strengthening the clarity around the impact of interventions. Based on the work done jointly with A Greener Future, the arena's carbon reporting practices were improved to ensure higher quality data capture, and a more comprehensive analysis compared to previous shows.
- Interviewees highlighted that delivering Expedition One and ACT 1.5 as a single standalone event was possible because sustainability was a shared and prioritised goal between all event partners. Strong action could be taken, because there was a clear prioritisation of sustainable behaviour. However, it was also highlighted that many of the measures used, especially those that incur higher costs to artists, promoters, or audience members, or those that affect attendee experience, may be limited in scalability to business as usual.
- Perceived audience resistance can limit the ambition of events. Interviewees stated that concerns around pushback on sustainability measures, such as a

fully plant-based site, can put promoters or events off implementation despite their environmental benefits. However, it was also raised that this barrier may be 'self-inflicted', with stakeholders predicting pushback rather than testing it through any transition or consultation. Promoters themselves also vary widely in their appetite for sustainability measures, with some reportedly actively seeking out sustainable actions, while others resist deviation from established practice.

- Interviewees noted that framing interventions as ongoing tests may prevent them from becoming part of normal operations, and that committing to process change is what enables lasting transformation. Sustainability measures need to be embedded as standard practice rather than perpetually trialled.
- In addition, isolated action by a venue was not perceived as sufficient to drive this systemic change. Interviewees noted that unless consistent sustainability expectations are adopted across artists, promoters, and venues, venues that take the lead risk a competitive disadvantage. Several interviewees suggested that achieving this consistency would ultimately require policy-level intervention, given the limits of voluntary approaches in levelling the playing field across a competitive industry. Interviewees also pointed to the potential for an industry-wide sustainable code of practice covering both venues and promoters as one avenue for achieving this.

LEGACY

The pilot at Expedition One has left a lasting legacy at the ACC Liverpool, now the Liverpool Experience Campus. Onsite waste segregation and recycling have become business as usual. The Orca composter remains onsite and in use, all waste operations have been brought in house to maintain a 100% recycling and composting rate, and Vegware products are used consistently across the site.

The pilot also prompted a significant improvement in the arena's carbon recording and reporting processes. Working with A Greener Future, the arena overhauled how it captures and analyses event data, leading to the M&S Bank Arena being awarded Highly Commended by A Greener Future. This improved baseline will enable more meaningful comparison between future events and business-as-usual operations.

Building on the pilot, the arena developed a Sustainability Pledge offering a menu of Green Packages for visiting acts and events to choose from, including local crew sourcing, plant-based catering, integrated public transport ticketing, and reuse of production materials. While it is too early to assess uptake, the pledge enables easier adoption of sustainable practices without requiring promoters to commit to a fixed approach.

Planning for a second set of cleaner concerts as part of the Accelerator City programme, incorporating learnings from the November 2024 events, is underway, aiming to go ahead in 2026.

THE GREAT OUTDOORS

BBC RADIO 1'S BIG WEEKEND

PILOT SNAPSHOT

Event:

BBC Radio 1's Big Weekend 2025

Location:

Sefton Park, Liverpool

Lead Organisations:

BBC, Far and Beyond, Hope Solutions,
Liverpool City Council

PURPOSES AND AIMS OF THE PILOT

The Great Outdoors pilot centred on the 2025 edition of BBC Radio 1's Big Weekend, hosted in Sefton Park, Liverpool between 23-25th May. The pilot was an opportunity to trial a number of sustainability initiatives at a major, city-hosted outdoor live music event.

Liverpool City Council aimed to support the production of the most sustainable outdoor live music event ever hosted in the city, and to use the learnings from the event to create a blueprint for future events to be held in Sefton Park.

The BBC identified three primary objectives for the pilot:

1. To develop a comprehensive baseline of data surrounding the environmental impacts of Radio 1's Big Weekend.
2. To pilot new sustainability initiatives, including operational interventions and policies, to reduce those impacts.
3. To increase audience engagement around sustainability including onsite activations and messaging before and after the event.

A longer-term BBC ambition was expressed to create a transferable sustainability framework, to capture learnings and introduce them to other BBC events including the sister event, Radio 2 in the Park. This is especially important given the context of Radio 1's Big Weekend as a travelling festival, which takes place in a different location each year and working with new councils, suppliers, and infrastructures.



WHAT HAPPENED

For the 2025 event, the BBC worked with Far and Beyond (FAB) as the production and delivery team, and Hope Solutions as technical consultants supporting environmental data capture and analysis. These partnerships were both new for the 2025 edition of Radio 1's Big Weekend.

Sustainability activity was structured around a set of impact areas, including materials, power and energy production, water and sanitation, transport and accommodation, waste, food and beverage, merchandise, biodiversity engagement, and carbon reductions. Some of these areas related primarily to pre-event policy and planning, where others were associated with on-site initiatives delivered during the event.

Potential initiatives were drawn from previous experiences at Radio 1's Big Weekend, previous events managed by FAB, and examples from other events. These were developed by the production team and pitched to the BBC, who then worked jointly to decide which actions to prioritise. These were informed by a balance of ease of implementation, including financial and operational feasibility, and the potential impact of each intervention. The majority of proposed initiatives were selected and delivered.

On-site initiatives included:

- **Recycling and waste management:** Audience-facing recycling activation delivered with Every Can Counts, a not-for profit communications program working to increase aluminium can recycling; on-site waste baling and separate collection of soft plastics for recycling. A "Purple Patch" space was created with Make CIC, a local social enterprise, as a space to engage with attendees about recycling while using Liverpool's purple bins as a recognisable icon.
- **Materials reuse:** Conducting a materials audit with Event Cycle to identify items suitable for reuse at future events.
- **Power and energy production:** Battery and solar power contributions were used across the site, including a second stage powered entirely by batteries.
- **Food and beverage:** All food traders were required to offer at least one plant-based option, food carbon footprinting was conducted using an expanded 5-tier carbon rating system, up from 3 tiers at previous events. This enabled more precise identification of the highest-impact food choices for audiences, back of house and traders, and enabled the production team to support traders with clearer guidance on where to reduce their footprint. Reusable cups were also provided with a levy at the bars and all serveware was required to be fibre-based and commercially compostable, conforming to BS EN 13432 and with no bioplastics permitted.
- **Audience engagement:** Sustainability messaging was delivered to the audience through pre-event emails, an event app, on screens, and on-site communications including the activations supporting recycling.
- **Water and sanitation:** Free water refill stations were available across the site and female urinals were installed to reduce water use and environmental impact.
- **Travel and access:** No on-site car parking was provided, cycle parking was installed at the site, and electric shuttle buses from the train station to the site were provided by Liverpool City Council. A pre-sale took place for people in Liverpool postcodes, to promote local attendees and reduce associated travel emissions. Information about the benefit of public transport and active travel modes was promoted to audiences and staff. Public transport messaging was also integrated into the event's wider marketing. Radio 1 DJs recorded station announcements for Merseyrail, which was discussed as editorial content on the Radio 1 Breakfast show, and the main TV and digital advert for the event closed on a shot of Lime Street station rather than a traditional city landmark.

Alongside these initiatives, sustainability data capture requirements were embedded into supplier contracts. All suppliers were required to provide data on travel and accommodation where relevant, and suppliers with operational activities generating emissions were required to provide more detailed operational data. The production team worked directly with individual suppliers to explain data requirements and support data submission, including through pre-event workshops. Submission of the data was a condition of receiving final payment, which was flagged by the team as a help in the data collection phase of evaluating the event's environmental footprint.

AREA	INTERVENTION
Waste	Audience-facing recycling activation delivered with Every Can Counts to increase awareness.
Waste	On-site waste baling and separate soft plastics collection for recycling.
Materials	Materials audit with Event Cycle to identify items suitable for reuse at future events.
Energy	Battery and solar power across site; one stage powered entirely by batteries.
Food and beverage	All traders required to offer at least one plant-based option on their menu.
Food and beverage	Carbon footprinting of food using a 5-tier system (up from 3-tier at previous events).
Food and beverage	Reusable cups provided with a levy at bars.

Table 2: summary table of interventions trialled in the Great Outdoors pilot



AREA	INTERVENTION
Travel	No on-site car parking provided. Cycle parking installed on site.
Travel	Electric shuttle buses from the train station to site, delivered by Liverpool City Council.
Travel	Strong audience messaging promoting public transport in event marketing.
Travel	Liverpool postcode presale to increase proportion of local (shorter distance) attendees.
Audience engagement	Pre-event emails, event app, on-screen and on-site sustainability messaging and activations.
Water	Free water refill stations across site; female urinals installed.
Data	Sustainability data requirements embedded into all supplier contracts, with submission a condition of final payment.
Data	Full data capture supported by Hope Solutions across all impact areas.
Data	Air quality monitoring sensors were installed around the event site. This is discussed further in the Mapping Impacts section of the report.



Table 2 continued: summary table of interventions trialled in the Great Outdoors pilot

CHALLENGES AND CONSTRAINTS

- **Plant based food provision.** The Accelerator City programme expressed an ambition for all on-site traders to be fully plant-based. This was not considered attainable for this pilot, due to a combination of audience expectations, a short lead-in time, and existing supplier contracts. While a fully plant-based site was not delivered, the proportion of plant-based and local food options available increased relative to previous events and each trader was required to have one plant-based option on the menu. Data was not available on the consumption of plant-based or low-impact food by audience and crew members.
- **Transport integration.** There was ambition in the Accelerator City team to integrate public transport more directly into the event ticketing process in order to reduce emissions associated with audience travel. Multiple approaches were explored for the Great Outdoors. The first approach involved adding a local transport ticket to all ticket types, with an associated price increase. The integrated transport ticket would have been around £2 cheaper than the standard on-the-day fare of approximately £5, a margin that was considered small relative to the additional complexity needed to implement the programme. As not all audience members would use public transport there were also concerns about fairness and transparency of pricing, alongside the possible impact on sales that may result from increasing the overall price of a festival ticket. This model was not progressed. The second model proposed offering local transport as an additional, optional transaction within the ticketing journey, also at a small discount compared to an on-the-day

fare. This model was not chosen due to concerns about exposing the BBC to financial risk for services that would be delivered by a third party, in this case, local transport providers. A third iteration considered creating a separate agreement with an online ticketing platform. Direct engagement between Liverpool City Council and the platform identified concerns regarding GDPR, alongside structural barriers requiring substantial changes to the ticketing process. These changes were deemed unrealistic within the available timeframe and as such, this was not pursued.

- **Procurement and contracting.** Long-term supplier contracts held by the BBC or its partners limited flexibility in some areas, particularly where suppliers were not aware of the Accelerator City programme at the point contracts were agreed. In addition, BBC procurement requirements direct the award of supplier contracts. For example, requirements for BBC impartiality restricted the ability to enter into agreements with charities, constraints that may not apply to a non-public-broadcaster partner, and which limited some opportunities available to the programme.
- **Local power infrastructure.** No mains power infrastructure exists within Sefton Park, and the onsite space limited the amount of solar power that could be installed to support the event.
- **Timescales and coordination.** Planning for the event began before expectations associated with the Accelerator City programme were fully defined, limiting the extent to which some ambitions could be embedded from the outset. In addition, the timeline for planning and coordination of the event was more compressed than would have been preferred. This was raised by interviewees as restricting the time available for discussions and alignment with

the Accelerator City team. A suggested initiative to have staffed bin stations was also highlighted as being unable to progress due to the shorter timeline, as the local partner organisation could not recruit staff at the scale necessary.

- **Institutional capacity at the council.** The delivery of the electric shuttle buses by Liverpool City Council was described as requiring significantly more effort than standard transport procurement. Existing procurement processes and partners, higher costs compared to conventional options, and previous negative experiences with electric vehicles at other city events created resistance within the council to bringing electric vehicles onboard for Big Weekend. Staff in teams not directly involved in the Accelerator City programme were not resourced or mandated to take on the additional work required to procure the new buses. Under business-as-usual conditions, these barriers would likely have resulted in a default to non-electric transport. Delivering the electric buses required sustained effort from the project manager, escalation beyond usual operations and engaging senior level support for the programme.
- **Programme direction.** The city council team and the pilot team reflected that clearer Accelerator City aims, stipulated earlier in the planning cycle when the pilot joined the programme, may have enabled greater ambition and deeper collaboration for the pilot. Where sustainability expertise was not embedded in the council team from the outset, staff involved in early planning did not always have the specialist knowledge needed to identify what to prioritise. Equally, delivery partners reflected that clearer upfront communication of the programme's sustainability expectations would have been helpful. Even so, participation in the programme was highlighted as raising ambition for the 2026 edition of the event.

LEARNINGS

- The 2025 edition of BBC Radio 1's Big Weekend added to the growing evidence base showing battery power to be a reliable option for stage power and production areas at major events. Hope Solutions reported that power comprised only 0.66% of the overall footprint of the event, compared to a reported 5% at the average festival.
- Travelling events face a particular challenge as sustainability progress may not be simply iterated at each event, but rather each new location brings new supply chains, infrastructure and relationships to establish. Access to pre-defined lists of sustainable suppliers, or pre-established partnerships by the host location, may reduce this burden.
- The value of supplier engagement was demonstrated at the festival, suppliers engaged well with the data-return requirements embedded into their contracts after pre-event workshops, with 93% of suppliers returning data in a usable format, and the resulting dataset provides a helpful baseline for future BBC events.
- The Accelerator City framing was reported as helping partners to justify trying new approaches, and as strengthening willingness to collaborate when engaging with suppliers. This programme framing or branding may support sustainability delivery beyond what may be achieved by individual organisations alone.
- Embedding public transport into the event's visual and editorial language, for example, station announcements voiced by event talent, and travel hubs featured in promotional content, was reported by the programme team as a powerful "soft" intervention. Increasing marketing-led messaging may support a shift in how audiences perceive public transport as part of the event experience.
- Long term supplier contracts can constrain the ability to introduce new sustainability requirements within partnerships, unless expectations are set early. Where an event involves multiple partnerships, sustainability decisions may also need to be aligned across several parties which may extend the time required to agree and implement initiatives.
- Sustainability measures that affect or impact audience experience or ticket prices may be perceived by event organisers as in tension with audience expectations and perceptions of value.
- For the council, the importance of clear ownership of sustainability responsibilities was a key learning. Where responsibility for sustainability or low-carbon delivery sits outside of formal roles, business-as-usual approaches may tend to prevail even if low-carbon approaches are technically feasible. Involving the council sustainability team at all stages, or ideally embedding sustainability within relevant roles, can ensure that similar projects are better resourced.
- In similar partnerships or programmes with the council, it is also important to embed sustainability knowledge and dedicated resource into the planning process from an early stage to match ambition with the capacity to deliver them. This can include supporting staff with sustainability training or providing a dedicated sustainability resource.



LEGACY

The Great Outdoors pilot has created several lasting changes for both the BBC and Liverpool City Council. The data-capture approach used at Big Weekend will be used to inform the delivery of future live events including Radio 2 in the Park. The BBC plans to continue the approach of selecting three sustainability priorities each year and adapting the initiatives trialled in Liverpool to other host locations.

Some suppliers have also adopted practices introduced in the pilot. Food traders who participated in carbon labelling at Big Weekend were observed by interviewees as using the same labelling system at other UK festivals, broadening the impact of the work.

At a city-level, the pilot directly contributed to Liverpool's emerging work on sustainable events in Sefton Park and other council-managed event spaces. Learning from Big Weekend has informed the development of a blueprint for events at Sefton Park that outlines expectations for future events. Electric bus providers have now been added to the city's transport providers, making it easier for other events to access low-carbon transport in future.

The data collected through the pilot has further supported Liverpool's wider work on understanding environmental impacts across events. Detailed information on power, waste and materials use has fed into ongoing discussions about sustainable event policies as part of the land use pilot, and potential infrastructure improvements on key event sites including permanent power needs.



The Main Stage at BBC Radio 1's Big Weekend
Image credit: BBC Pictures

ASK THE AUDIENCE

TRAVEL AND GIG – TAG

PILOT SNAPSHOT

Focus:

Travel and Gig (TAG) was a city-led pilot exploring how to support increasing the use of public transport to events in Liverpool, aiming to reduce emissions linked to audience travel.

Lead Organisations:

Liverpool City Council, transport operators in the Liverpool City Region, TicketQuarter, Rail Delivery Group

PURPOSES AND AIMS OF THE PILOT

Travel and Gig (TAG) was created to address one of the largest sources of emissions associated with live events: audience transport. Early Accelerator City planning identified increasing public transport as a priority intervention, drawing on research and work showing the scale of emissions linked to audience travel.

The original pilot goal was to design an event where no one travelled by car, by integrating public transport directly into the event ticket and restricting car access. This later evolved into aiming to establish a commercially viable and scalable approach to integrating public transport into event ticketing, encouraging audiences to choose to come by public transport as part of a positive and convenient experience.

The TAG pilot was designed to demonstrate a model that could be adopted by venues, promoters and transport operators across the Liverpool City Region and beyond.



TRIALS AND EARLY FINDINGS

EXPEDITION ONE / ACT 1.5 (NOVEMBER 2024 CONCERTS)

The first TAG test took place during the concerts hosted across the 28th-30th November 2024. For this, regional public transport tickets were offered as a voluntary add-on during checkout to audience members. Pre-purchase of the ticket saved £1.80 compared to an on-the-day purchase. Uptake was relatively low, between 10-15% of ticketholders purchased the associated voluntary add-on for each show.

RADIO 1'S BIG WEEKEND (MAY 2025)

For Big Weekend, Liverpool City Council proposed a compulsory £5 DayRover add-on for Liverpool City Region ticket buyers. The pilot team declined to implement a compulsory charge due in part to concerns about the knock-on effect on an increase in ticket price, and a perception that it was not fair to audience members who would not use the public transport ticket. In place of integrated ticketing, Liverpool City Council and the BBC delivered a communications-led approach including integrating public transport as a core message, presenter-led content on transit networks including station announcements, removal of public parking on and nearby to the site, installation of bike racks and clear travel information for audiences communicated through the Big Weekend website and public event advertising including promotion of walking routes from the city centre. In addition, a Big Weekend presale was enabled for people with Liverpool postcodes to purchase tickets before they went on general sale, in order to increase the proportion of local attendees.



Liverpool Metro branded electric bus
Image credit: Liverpool City Region Combined Authority

CHALLENGES AND CONSTRAINTS

- **Integration friction.** Major ticketing operators were unwilling to integrate transport tickets into the checkout purchase. Reasons included the desire to maintain a frictionless purchase and to avoid taking on responsibility for an additional product that was not within their control, such as transportation. For example, if a delayed bus caused an audience member to miss the start of a show, the ticketing providers reportedly felt they could face complaints or liability claims for a service they had sold but had no ability to manage.
- **Branding.** Brand perception also played a role in uptake, the idea that a ticketing provider or event brand would be providing free advertising for another brand, the transport provider. In one case, public transport ticket integration was described as “a form of affiliate marketing”.
- **Transport integration.** While the Liverpool City Region has a public-facing transport authority, there are a range of twelve providers within the area including bus, rail and ferry operators. As such, any multi-modal ticket requires not only agreement but alignment between all operators, and agreement regarding revenue sharing. This fragmented set of operators is due to come under regional control in 2027, which interviewees stated will make systems like TAG much easier to implement.
- **Ticket digitisation.** The public transport network in the region is not fully digitised, preventing easy QR-code style access. This means a need for extensive staff briefings and carries a higher risk of human error. This briefing also requires staff training time, and with optional ticket purchasing there is no guarantee of income for the operators. As such, interviewees highlighted that operators were happier to support the pilot if transport ticket purchase was compulsory.
- **Audience variation.** Audiences travel to shows from a range of distances, and any ticketing model must work for audience members who may travel by foot or cycle, audiences coming from within the local city region, and those who come from further afield. This means engaging with local active travel, regional, and national travel. National rail booking windows typically open three months in advance of travel, which may present a challenge if people buy event tickets further in advance.

DEVELOPMENT OF THE LATEST TAG MODEL

Through learnings from the initial trials, Liverpool City Council developed a three-segment TAG model, enabling full integration of transport and ticketing within one transaction:

1. Local presale (postcode based). Tickets reserved for audiences within a defined radius of the venue will go on sale first with no transport charge, in order to support walking and cycling to the event.
2. Regional travel compulsory add-on. A DayRover multimodal ticket is automatically added to the ticket price for regional audiences to encourage use of local public transport for audiences travelling within the region.
3. National rail deposit. National audiences pay a fixed deposit at ticket purchase, which is deducted from the cost of rail travel when train bookings open, in alignment with national rail booking windows. This mechanism was developed in collaboration with a number of national operators and has been discussed in principle with the Rail Delivery Group.

This refined TAG model is planned for trial at the next set of Accelerator City concerts, due to be announced in 2026.

LEARNINGS

- The Expedition One/ACT 1.5 concerts showed that opt-in travel options may have minimal uptake, especially if the perceived benefits are not high enough to audience members in terms of financial discount or usefulness. Asking audiences to plan their travel mode so far in advance is a challenge, unless they see a tangible benefit to the offer.
- System change requires collaboration and joint ownership of the solution. Cities cannot deliver these kinds of integrated models alone, and collaboration and joint ownership of any new audience transport systems is necessary. Long-term adoption will require alignment between venues, promoters, ticketing companies and transport authorities alongside the support of audiences.
- Infrastructure is essential to making a TAG scheme work. Digitisation of the network, and centralised operators can be critical enablers and without these foundations, TAG will be labour intensive to implement. However, as regions move towards centralised networks, this can support future initiatives to integrate public transport with event ticketing or tickets for other cultural institutions, such as attractions.

LEGACY

TAG has progressed from an initial trial concept to a more fully developed approach that venues and cultural organisations are increasingly interested in adopting. Several national venues and cultural sites have approached the city about using the TAG model for future events and exhibitions, indicating potential for broader cultural application beyond live events.

The model is also informing future transport planning within the city. As the city region moves towards a centralised and digitised network, TAG is contributing to the design conversations to ensure any future systems can support integrated ticketing.

Nationally, a number of transport, cultural and sporting organisations have expressed interest in the TAG mechanism as part of wider work linking rail travel to cultural and leisure activities. National operators have been directly involved in shaping the concept behind the rail-deposit mechanism for TAG's national travel component and pilot interviewees indicated the Rail Delivery Group were supportive of the model for audiences travelling from outside the Liverpool City Region.

Once the Accelerator City concert dates are announced for 2026, TAG will undergo a full trial using the latest three-segment model.



A female festival attendee
Image credit: Joey Thompson on Unsplash

POWERING PICTURES

GRID CONNECTIONS

PILOT SNAPSHOT

Pilot:
Powering Pictures

Focus:
Feasibility of replacing fossil fuel use in generators, for events and filming, with mains electricity via permanent grid connections and feeder pillars.

Lead Organisations:
Liverpool City Council (highways, electric vehicle/street lighting, events teams), Liverpool Film Office

PURPOSES AND AIMS OF THE PILOT

The aim of the Powering Pictures pilot was to investigate the feasibility of providing permanent mains-connected electricity points for outdoor events and film production, to reduce reliance on fossil fuels in generators. Liverpool City Council sought to understand:

- whether sites frequently used for filming and cultural events could be supplied by the existing electricity network;
- the different electrical loads that would be needed by potential users including data to inform any new installations;
- whether mains-fed pillars could be combined with electric vehicle (EV) charging infrastructure to increase viability and maximise use of the assets.



WHAT HAPPENED

The pilot began by identifying priority sites across the city that were frequently used for filming or events. While an initial longlist contained around 12 locations; this was narrowed to five areas for detailed investigation based on their existing cultural use: William Brown Street and St George's Plateau; Water Street and the area between the Cunard Building and the Liver Building; the Pier Head; Sefton Park; and Otterspool.

Council officers engaged the distribution network operator (DNO) for Merseyside, Scottish Power Energy Networks, to obtain initial information on local network capacity, while also beginning to map typical power and load requirements from event organisers and film productions to understand both the possible supply availability and expected demand needs. Parallel work also explored whether vehicle-to-grid technology could be integrated into future grid connection designs, linking this pilot with ongoing EV charging and street-lighting programmes within the council. Throughout the year the council engaged with other cities working to introduce grid connections for events and other industries, such as construction, to share work and learn from peers.

Two locations emerged as the most feasible in the medium term within the scope of Accelerator City work. William Brown Street appeared to be a promising location to support filming, while Water Street offered potential to combine a planned EV charger with a filming power point. The work at Water Street was also closely linked to the Council's vehicle-to-grid trial, which may create opportunities for co-benefits by creating access to temporary energy storage through EVs, but this link also introduced interdependencies that caused delays, due

to the legal requirements necessary for the trial. Both sites remain under discussion for installing new grid connections beyond the Accelerator City year.

During the pilot, when it became clear that installation and use of grid connections would not be possible within the timeframe of the pilot, council officers also looked to find immediate opportunities for reducing generator use by identifying places where events could connect to existing building supplies. Whilst not officially part of the Accelerator City programme, The River of Light event drew power for the first time from nearby private properties and businesses including the Liver Building and the Museum of Liverpool, demonstrating a practical interim approach to reducing high emission temporary power. These partnerships were reported as positive, and there is a goal to continue similar work beyond the end of the Accelerator City year, connecting to existing power networks.



An installation at Liverpool's River of Light event
Image credit: Visit Liverpool

CHALLENGES AND CONSTRAINTS

- **Retaining knowledge.** The pilot lost momentum, time and resources as the original pilot lead at Liverpool City Council initiated the work but left the council partway through the pilot year. The knowledge and work conducted in the first portion was lost during this transition. By the time responsibilities had been transferred and work could begin again, around six months of the Accelerator City year had passed.
- **In-house capacity.** Council officers reflected that upon departure of the colleague initially leading on this, the council did not have the in-house specialist capacity for power-systems scoping, and a dedicated technical project manager or external power consultant would have been needed to move this pilot at pace in line with the Accelerator City.
- **Procurement.** Council procurement rules were identified as causing barriers to completing this work within the pilot year time frame. Procurement requires open competition and Cabinet approval for projects above a certain cost threshold. This required additional time and caused delays that meant that limited progress was made throughout the year, compared to the initial ambition of the pilot.
- **Absence of data.** Reliable power demand data was difficult to obtain from users. Events and film productions often either were reluctant to share, or did not have reliable data, leaving the council team to make estimates.
- **Interdependencies.** While aligning grid connections with EV chargers and other infrastructure may create potential synergies, it also created interdependencies that delay procurement and design.
- **Network capacity.** The capacity of the electricity network was a constraint at several city-centre sites, and the DNO advised that reinforcement would likely be required before new electrical load from cultural events could be met, particularly during periods of peak demand. Specific events posed start-up and peak demands that would require significant infrastructure upgrades, such as the Observation Wheel at the Christmas Market. The costs and timescales to deliver network reinforcement could not be met within the pilot period.
- **Network infrastructure.** At key green park sites, such as Sefton Park and Otterspool, there were no suitable existing underground cables. As such, new substations and trenching would be required before any grid connections could be installed. This added significant cost and an increase to the timescale that exceeded the scope of the pilot.
- **Infrastructure ownership.** Complex asset ownership at the waterfront further delayed the pilot as an additional independent DNO controlled the relevant waterfront infrastructure, which created a new partner to the pilot and a new relationship to build and manage.
- **Uncertain tenancies.** Commonly used filming basecamps had short or uncertain tenures, such as temporary holdings, which weakened the business case for installing permanent connections at those locations.
- **Financial barriers for ongoing use.** Any permanent grid connection and feeder pillar would still attract standing charges even when idle, exposing the council to ongoing costs in the absence of year-round utilisation by events and cultural partners.
- **Council resource for ongoing operation.** During the pilot a question remained unresolved over who would resource any support needed for ongoing grid connection use. Liverpool City Council is now in preliminary discussions with the local DNO on mechanisms to manage standing charges and grid demand management to make the roll-out of feeder pillars for major events commercially viable.

LEARNINGS

- Data is needed at the outset of any grid-connection project: from the DNO, to understand network-capacity constraints and existing infrastructure at candidate sites; and from users, to establish their power demands. This information has to be in place before decisions can be made, and it may be challenging to obtain.
- The pilot also highlighted the substantial difference between filming and events. Filming loads are relatively low, making mains power more feasible in the short term. In contrast, event requirements can be much higher and may exceed network capacity, requiring network upgrades that can be costly and time consuming.
- The work also demonstrated an interesting potential collaboration between EV charging infrastructure and cultural activity, with officers mapping potential EV charging locations to align with filming sites. Interviewees noted that permanent grid connections may be unlikely to be financially viable if limited to cultural use alone, due to the inconsistency of events and filming, and the standing charges of providing mains electricity to a point. One interviewee cited international examples where pillars are also used for construction, suggesting that designing for multi-sector use from the outset could strengthen the financial case and increase overall utilisation.
- Finally, the project also highlighted the potential benefit of interim approaches to reduce generator use. By mapping and utilising existing grid connections in nearby buildings, Liverpool has already removed diesel from its generator use for installations at the River of Light which was supported by either mains power, or portable batteries

charged from the grid. Council officers described looking for alternatives after participating in the Accelerator City programme, despite the River of Light not formally being part of the pilots.

LEGACY

Although infrastructure could not be installed within the Accelerator City year, the pilot brought clarity as to what would be required for mains-powered cultural activity in future. For now, two locations remain active prospects, and discussions for other sites continue beyond the pilot, subject to funding and resources.

The pilot has also shaped internal practice. The highways, street-lighting and sustainability teams reported a clearer view of how cultural needs can be supported through electricity infrastructure planning.

In the longer term, feasibility will depend on network investment. Interviewees suggested that a realistic window for feeder-pillar installations may be closer to three to five years, depending on the DNO's infrastructure upgrade programme and the wider national shift towards electrification for heat and power. The decarbonisation of city events and power interacts directly with wider low carbon grid investment and future development in the field will depend on decisions taken outside of the council, as well as within.



Man charging his electric car at charge station
Image credit: Magnific

UPSKILLING THE FUTURE

NATIONAL OCCUPATIONAL STANDARDS

PILOT SNAPSHOT

Pilot:
Upskilling the Future

Focus:
Defining and embedding sustainability skills for screen through national standards

Lead Organisations:
ScreenSkills, BAFTA Albert, BFI

PURPOSES AND AIMS OF THE PILOT

Industry partners aimed to define what sustainable production roles are and do within film and TV, including tasks, knowledge, skills and behaviours. They also aimed to address confusion around job titles and levels and create practical tools to align hiring and training of sustainability professionals within the screen industries. The intent was to create a future-facing standard that reflects best practice across pre-production, production and post-production and to ensure consistency in sustainability knowledge and responsibilities across the sector.



WHAT HAPPENED

ScreenSkills, BAFTA Albert, and the BFI coordinated the creation of National Occupational Standards (NOS) for sustainable production in the screen industry. The project was in motion before the commencement of Accelerator City. Initial desk-based research conducted to understand existing resources was followed by a kick-off event and consultation at Expedition One in Liverpool, widening participation beyond the existing taskforce of partners, and aiming to engage practitioners from across the country.

After the kick-off, the pilot partners delivered an extensive programme of engagement, including workshops and one-to-one conversations, alongside an online consultation. This consultation received around 100 responses including practitioners, employers, studios, broadcasters, nations and regions across the UK. This input informed a functional map of sustainability work in film and TV, from which practitioners and experts from across the sector drafted the standards. These are structured into units describing the tasks, skills and knowledge expected of sustainability professionals in the screen industry. Iterations were reviewed through steering and consultation cycles with the final NOS approved by the overall regulator.

Once the standards were delivered, a set of skills checklists were also created, funded through BFI National Lottery Funding, in the form of job-description-style tools aligned to the NOS. This was to enable the usability of the NOS for line producers and hirers, to understand how to specify and recruit appropriately across different levels. These checklists were themselves consulted upon and refined.

The standards, checklists and associated training can all be found on the [ScreenSkills website](#).

CHALLENGES AND CONSTRAINTS

- **Language.** Terminology and scope were identified as a persistent challenge. Sustainability language varies across organisations and between film and TV contexts and kept evolving throughout the process. Interviewees reflected that considerable effort was needed to reach agreed terms and to keep the standards future-facing without expanding into broader areas such as social sustainability, which fell outside the original scope.
- **Disaggregating responsibility.** Identifying distinct roles and responsibilities at different levels required significant work. There was no existing progression framework for sustainability roles in the sector, with the term "sustainability coordinator" commonly applied across all seniority levels. The team reflected that the NOS needed to disentangle levels, link tasks and knowledge to pre-production, production and post-production workflows, and establish a clear career progression route.
- **Timeframe.** The tight timeline was reported as creating pressure across all partners. While the one-year Accelerator City programme drove pace, the window from the Expedition One kick-off to the internal deadline for delivery of the final standards in March 2025 was demanding, requiring intensive cross-organisational negotiation to maintain buy-in while meeting deadlines.



A bustling film set
Image credit: Magnific

LEARNINGS

- The UN Climate Change Accelerator City framing was reported as giving the project legitimacy and reach beyond the existing working group and providing an effective way to reset a process that had reportedly slowed over fundamental questions of approach. By publicly announcing the workshop at Expedition One, the kick-off became open to all potential contributors, widening the conversation and creating a shared external deadline. The pilot used the public nature of the programme to ensure every stakeholder had the opportunity to contribute, and reduce the risk that the standards could later be dismissed as insufficiently representative.
- External deadlines drove pace and quality. Interviewees noted that without the pressure of the Accelerator City timeline, the consultative process may have moved more slowly and produced a less complete result. A time-bound, publicly announced programme was a useful forcing mechanism in a complex multi-stakeholder process.
- Clear role delineation between partners was essential. ScreenSkills, BAFTA Albert, BFI, Screen Alliance North, and the UN Climate Change Accelerator City team each played distinct, time-bound roles. Interviewees highlighted that this absence of gatekeeping, with each organisation knowing when to "tap in" and when to "tap out", was key to the collaborative success.

- Standards developed by industry, for industry may carry greater credibility. Because the NOS emerged from extensive consultation with practitioners, employers, broadcasters, and regional representatives across all four nations, it was reportedly accepted on launch without significant challenge, in contrast to consultant-produced guidance, which interviewees felt may not have commanded the same authority.

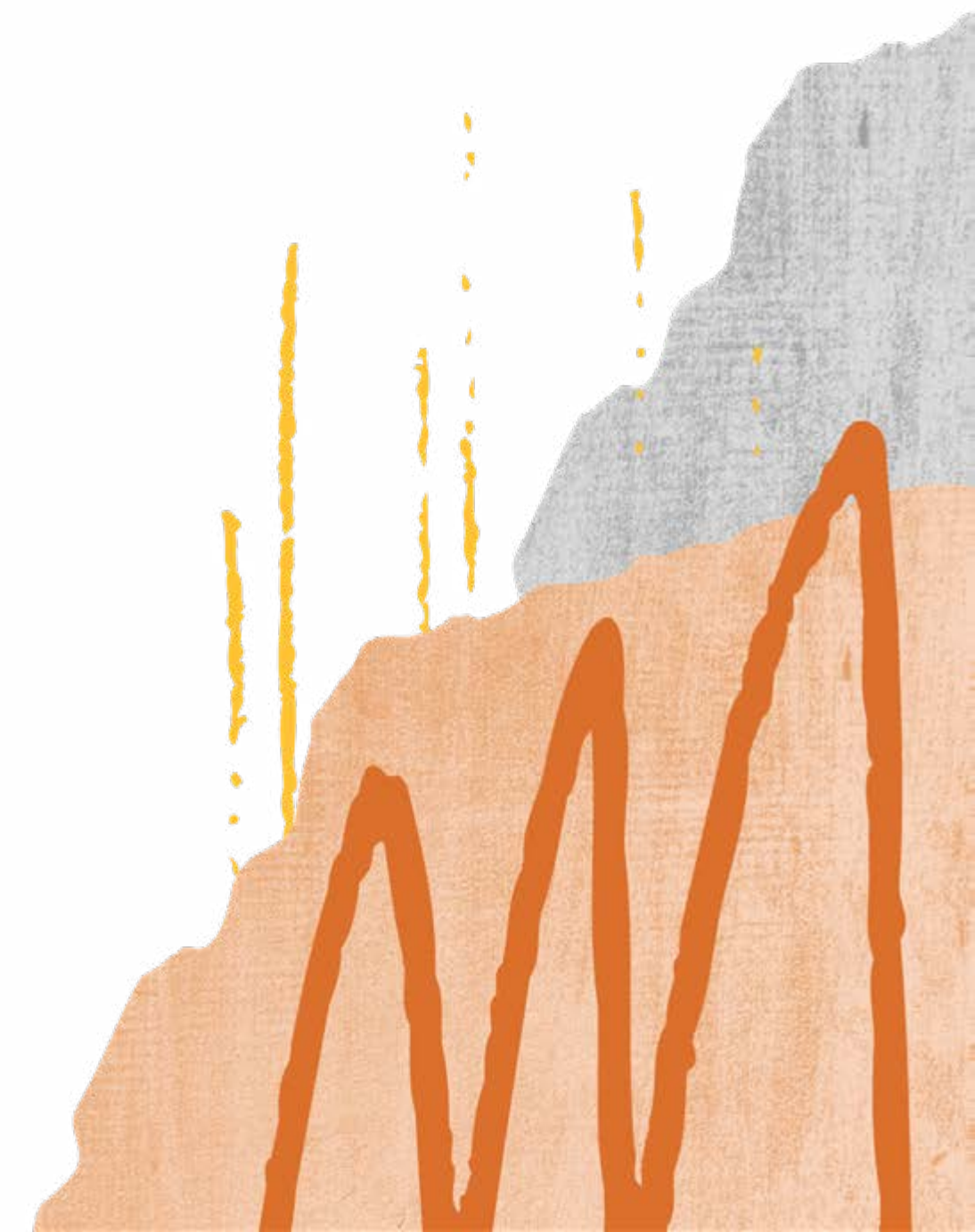
LEGACY

The NOS and skills checklists are now live and being used as reference points by industry bodies and regional partners alike. International peers have also reportedly expressed interest in adapting the approach, and given the broadly consistent nature of sustainable production roles across borders, the standards are well positioned to inform international equivalents.

Building on the NOS, Screen Alliance North has developed a Sustainability Manager Training programme, the first of its kind built specifically around the new standards, combining expert-led training with a practical production placement. The accreditation of this course is now under discussion with BAFTA Albert.

Following the pilot year, Liverpool City Council has also begun to translate the NOS into local education and entry routes as part of its legacy activity to develop a pipeline of local sustainable talent. This includes

funding and piloting a university module developed and delivered by A Greener Future at Liverpool John Moores University, evaluating student outcomes and demand, and investigating potential scale-up to additional further education providers.



MAKING LAND USE BETTER

NEW LAND USE AGREEMENTS

PILOT SNAPSHOT

Pilot:
Making Land Use Better

Focus:
Improving sustainability of events on council land using land use agreements

Lead Organisations:
Liverpool City Council

PURPOSES AND AIMS OF THE PILOT

The land-use pilot aimed to shift Liverpool City Council towards a clear, consistent and enforceable set of sustainability requirements for all events taking place on council land. Officers planned to create a city-wide framework that would embed sustainability requirements into the permission to use land itself, as well as providing greater clarity over what evidence organisers are expected to provide before, during, and after events. The pilot also aimed to integrate these requirements into existing processes across departments.



WHAT HAPPENED

The work began with an initial draft of a sustainability addition to the land-use agreement. Recognising that this early version was too broad and may not capture the data required or drive the change necessary, officers made a deliberate decision to pause work and restart the process once specialist sustainability expertise was available. This decision was informed in part by conversations with peer cities. Bristol City Council, for example, had developed its own tiered model for land-use agreements, which helped raise Liverpool's ambition for its own framework.

When the programme director joined, the work restarted with a series of cross-council workshops convened within the teams who are involved in land-use decisions, such as events, parks, highways, planning and legal teams. These workshops were used to understand existing process touchpoints with land users, the needs of each stakeholder and to ensure any eventual model was co-designed with the relevant teams.

From this process, the team developed a three-tier framework of minimum, better, best that sets clear expectations across power, materials, waste, food, travel and mandatory data returns for events. The framing aims to create an understanding of current environmental impacts, but also pathways for events to increase ambition over time, to account for difference in event scale and capacity, and to align with the council's Net Zero strategy. It also aims to help create a structure that allows the city to reliably capture data on event impacts that has previously been missing.

The framework was agreed across the council and officers began consultation with recurring external events partners to work through the updated process, before they phase the agreement into standard working practice.

CHALLENGES AND CONSTRAINTS

- **Council capacity.** Early plans for the sustainability element in the land-use agreement were vague, due to a lack of internal expert knowledge at the city council on sustainability in events, and resource within the sustainability team. This led to a pause in work until it could be refined by someone with expert knowledge.
- **Event scale.** While a goal would be for all events to perform at the most sustainable, some smaller suppliers and community events do not yet have the capability to do so. As such, a tiered system was used with the intention to see events moving up the tiers year on year.
- **Data availability.** The lack of baseline data meant there was limited evidence upon which to base thresholds in each tier. The framework therefore had to be designed to not only set the standards, but also generate the data required to improve them over time.
- **Implementation time.** Council timelines limit the speed at which governance decisions can move. As such, new conditions may be unlikely to be universally implemented in the one-year timeframe given for Accelerator City. Additionally, event planning cycles typically start long in advance and as such introducing sustainability requirements mid-cycle risks being too late to influence decisions, reducing achievable impact in the first year.
- **Embedded responsibilities.** It was highlighted to be a challenge to socialise the work across the council, meaning some teams were unaware of its aims or the context of the Accelerator City work. If the work had been part of the wider city strategy, such as the net zero strategy, it may have been easier to ask teams to prioritise in their own daily work.



Liverpool skyline
Image credit: Magnific

LEARNINGS

- Cross-council and external co-design was essential. This project could not have been led only by the sustainability team or the culture team, but required input from all internal stakeholders, and trials with external stakeholders, to test the robustness and applicability of the suggested framework. Embedding sustainability requirements in land-use agreements is only effective if the requirements are legible and enforceable within existing council processes.
- The people responsible for implementing new frameworks also need training and confidence to apply them in practice. The relevant council teams were reported as receiving training, to support them to act on the new frameworks consistently and with confidence.
- Interviewees suggested the pilot may have gained more internal traction if it had been embedded into existing city-wide strategies and workflows. When sustainability programmes sit as standalone items, outside of council staff roles and responsibilities, it risks being treated as discretionary alongside existing workloads. In these cases, progress can depend on champions for the cause, rather than institutional commitment, which can make the project fragile. Building sustainability into roles and strategies instead ensures staff have a clearer remit to contribute as part of their formal responsibilities.

- Peer learnings between cities were a valuable catalyst to raise ambition in this pilot. Sharing approaches can be key to understanding what is possible, and where councils can be most effective. Peer networks in this case are especially valuable between cities.

LEGACY

The land use framework developed through the pilot is now agreed across the council, and sustainability requirements are being incorporated into the broader rewrite of the land use agreement as a whole as it is re-developed. In parallel, Liverpool City Council is developing a new Event App, which will integrate the Accelerator City land-use framework, enabling officers to screen applications and direct them to the appropriate minimum/better/best tier. In the interim, this year's land use agreements are being reviewed for sustainability, with the expectation that requirements will increase incrementally as the wider agreement is reshaped.



Liverpool skyline
Image credit: Magnific

MAPPING IMPACTS

DATA VISUALISATION

PILOT SNAPSHOT

Pilot:
Mapping Impacts

Focus:
Understanding the impact of city events on emissions and air quality

Lead Organisations:
A Greener Future, Intended Partners included the European Space Agency (ESA), the University of Liverpool (UoL), and Liverpool John Moores University (LJMU)

PURPOSES AND AIMS OF THE PILOT

Mapping impacts set out to test whether Liverpool could bring together the data, methods, and partners to develop a city-scale visualisation hub that would make event-related emissions and air-quality impacts visible and comprehensible to planners. The intended data included A Greener Future's event operations data, ESA satellite imagery, and public health and air quality datasets.



WHAT HAPPENED AND CHALLENGES

The pilot was initially structured around an ESA pilot funding stream that required an ESA-backed partner to interpret satellite imagery. Early scoping meetings between A Greener Future, ESA and Liverpool City Council began to define a plan, with the pilot framed around visual communications to inform event planning and civic discussions.

As scoping progressed, two issues emerged. Firstly, it became clear that existing satellite data was not reliable for the intended use, due to pass frequency and cloud cover. Pilot partners noted that new satellite capability expected from 2026 might improve feasibility of this approach. Internal stakeholders also raised concerns about the perceived tension between the use of satellites, and the carbon-reduction goals of the programme.

The city then began to scope for existing data capabilities in the city, leading to conversations with UoL about ground-level air quality sensors, and with LJMU about traffic sensors. UoL researchers were subsequently engaged to explore the link between emissions patterns and public health implications. On the ground sensors were installed for the BBC Radio 1 Big Weekend.

A second challenge that persisted was uncertainty around how the council would operate and maintain the visualisation model, such as which department would own it, how data would be collected and stored, and how outputs would be used in practice. Without this clarity and with resource on the programme limited, the pilot was not progressed further within the Accelerator City time window.

As this was a more visual and less operational pilot, it was paused until the right resource could be available to progress it.

A Greener Future did make progress in digitising their event data collection systems during this period, meaning a key input to any similar pilot in future is more readily available.

LEARNINGS

- The pilot stalled for a combination of reasons. The monitoring carried out at BBC Radio 1's Big Weekend showed that event-related air pollution impacts were minimal, in the context of wider city infrastructure activity. This reportedly made it difficult to build a compelling case for dedicated council resource; however this finding has been incorporated into the revised land use framework and has brought together the culture team with the public health team for future work in this space. At the same time, the question of how outputs would be maintained, used and operated by the council was never resolved. Interview evidence highlighted that unclear ownership, and the absence of defined internal stewardship, made it difficult to sustain momentum. In future pilots of this kind, data ownership, operational use and a realistic assessment of impact relative to other city priorities should be established early on, so the model has a clear purpose and home before development begins.
- Investigation after the programme launch noted that there was not enough clarity about the additional benefit of satellite data over ground-level sensors,

considering the associated increase in complexity and expense. Early identification of the unique contribution of more expensive data sources is useful, and pilots may lead to adaptation of the concept for use with other data.

- Where a city has many competing priorities, data and visualisation work needs to be tied to clear, demonstrable impact; otherwise it risks being deprioritised in favour of more operationally tangible projects.

LEGACY

Although this pilot was not progressed as far as the earlier planning, the concept retains active interest. Interview evidence notes that A Greener Future has begun to digitise its data collection, meaning that a key input to any future hub would be more readily available. Air quality monitoring carried out through the pilot as part of Radio 1's Big Weekend is still being analysed. UoL is in the process of installing a sensor network across the city region, which presents a significant opportunity to link environmental monitoring directly to events and other city infrastructure and the relationship between the culture team and the public health team presents a potential fruitful future area of collaboration. While the visualisation hub was not delivered during the Accelerator City timeline, the conditions to progress it in future are meaningfully more advanced than when the programme began.

THE POWER NEXUS

BATTERY FARM

PILOT SNAPSHOT

Pilot:
The Power Nexus

Focus:
Creating a resource of portable clean power for events and filming through a battery farm

Lead Organisations:
Liverpool Film Office

PURPOSES AND AIMS OF THE PILOT

This pilot looked at the development of the Depot Studios, a film and TV studio in East Liverpool, to include a modular battery farm. These batteries can be used at event sites as well as for on location power.

The battery farm was envisaged to accelerate low-carbon power for film and live events by creating a centralised battery depot, with an operator and a battery builder in place. The hub would hire out mobile battery capacity to productions and events, reducing generator use and supporting sustainability goals while larger grid reinforcement and site-power projects were still in development.



WHAT HAPPENED AND CHALLENGES

Initial scoping identified a Liverpool Film Office Depot building as the preferred location for the battery farm. Prospective partners (an operator and a battery builder) expressed interest and were ready to participate. Internally, council sustainability leadership was supportive of the concept. However, as the project advanced, it emerged that the depot's occupation agreement was expiring within months and the site's future use (whether to retain, rent or sell) had not been decided by asset managers. This created a fundamental uncertainty about siting the hub at that location.

Council officers escalated conversations with planning and asset colleagues to clarify options, but the lack of a confirmed asset position made it risky to progress further. The pilot site would also be located close to a relevant future development, and so became part of a larger and longer timeline.

At the same time, the pilot was reported as requiring a full business plan to progress including a commercial model, responsibilities, operator contracts, capital and operating costs. The council pilot team did not have the capacity to develop a plan to the required standard within the Accelerator City timeline. The pilot had been driven from within the cultural team, who had ambition to deliver but limited reach into the asset management and sustainability functions that would eventually need to own and resource the next stage. As a result, the battery farm was parked, pending internal resourcing and asset decisions.

LEARNINGS

- Asset ownership and leasing is a potential barrier to infrastructure projects. Without long term certainty about a site, it is a risk to invest in infrastructure there. Clarification over ownership at the outset of a project can highlight these barriers earlier, before significant resource has been invested.
- Infrastructure pilots of this kind need the right internal teams driving them. Because this programme was led from within the cultural team, it could only progress as far as that team's reach allowed. Bringing other teams in as co-leads from the outset might have created the conditions for the pilot to move further.
- In multi-pilot programmes, teams are required to prioritise their limited time and resource. In local authorities particularly, officers are often balancing competing priorities. When pilots or programmes may encounter complex organisational or infrastructure barriers, they might be paused or deprioritised in favour of initiatives that can progress within the programme timeframe. Similar programmes should account for this limited time and capacity and increase resource accordingly.

LEGACY

The battery farm concept was not progressed throughout the Accelerator City year, and no site has been confirmed. However, the external partners identified during the scoping remain willing to participate, laying some groundwork to potentially resume the pilot once there is clarity regarding the asset. Although the hub was not progressed during the Accelerator City year in Liverpool, the concept remains of interest. Bristol City Council and the regional combined authority recently announced a clean power hub, comprising two sites which will provide batteries fuelled with renewable electricity to local events, displacing generator use for the May to September 2026 programme of events.

In addition, the pilot experience helped to spark the development of a broader strategic economic case for decarbonisation within the city, which could support similar projects in the future.

THE PROTOTYPE

SUSTAINABLE FILM AND TV PRODUCTION

PILOT SNAPSHOT

Pilot:
The Prototype

Focus:
Production of example low-carbon and sustainable TV shows in Liverpool

Shows:
“Waiting for the Out” & “The Cage”

Lead Organisations:
BBC, Element Pictures, Picture Zero, Sister Pictures

PURPOSES AND AIMS OF THE PILOT

The Prototype pilot aimed to trial low-carbon and sustainable TV production, with two BBC productions filmed in Liverpool during 2025. These productions were “The Cage”, produced by Element Pictures, and “Waiting for the Out”, produced by Sister Pictures. Both productions worked with Picture Zero at varying levels, a film and TV sustainability consultancy, and were brought into the Accelerator City programme through the BBC.

From Liverpool City Council’s perspective, the pilot was an opportunity to better understand how they can support productions coming to the city to reduce their carbon footprint. Not every TV or film production has access to a sustainability resource, and Liverpool wanted an understanding of the type of data and information that would be useful to a production.



WHAT HAPPENED

To support the pilots the BBC allocated £15,000 in additional sustainability funding to each production as part of their participation in the programme, with £10,000 from the BBC Sustainability Fund and £5,000 from the BBC Drama slate. This funding was ringfenced for clean technology on the productions including LED lighting rigs and hybrid generators. The BBC also relocated filming for *The Cage* to Liverpool specifically to enable participation in the programme.

For both productions, Picture Zero developed a production sustainability report. This included carbon footprinting, alongside documenting sustainability related learnings, successes and challenges on each production.

The Cage

The Cage was filmed in spring and early summer 2025, in and around Liverpool and Merseyside. The production undertook numerous sustainability initiatives independently, including:

- Electric vehicles (EVs) were used for key cast members
- Each generator on set ran on Hydrotreated Vegetable Oil (HVO) rather than diesel, which provided 27% of set and lighting power, while the remaining 73% came from mains tie-ins and batteries.
- Approximately 70% of cast and crew were local to Liverpool, which significantly reduced both long-distance travel and accommodation needs
- An LED lighting package at the main location, part-funded by the £15,000 BBC grant. This cut lighting energy use by up to 80% compared to traditional lighting and eliminated the need for a lighting generator completely across all 16 days at the main set.

- Near-zero waste sent to landfill, while materials were donated after wrap to local schools, housing projects and homelessness charities.

Picture Zero reported that the production achieved an hourly carbon footprint, calculated using the BAFTA Albert carbon calculator, 46% lower than the BAFTA Albert 2023 drama benchmark. Picture Zero supported data gathering for Albert certification, and funding to support additional data collection was also made available by the city council. As production planning was already well underway before Accelerator City activity had fully mobilised, the city-level pilot's contribution was primarily through this additional data collection support rather than shaping production decisions from the outset. The eventual comparison between the two productions nonetheless strengthened the evidence base for the impact a full-time sustainability coordinator can make on-site.

Waiting for the Out

Waiting for the Out was filmed between May and July 2025 in Liverpool. Sister Pictures embeds sustainability in its existing processes, and interviewees emphasised that this is their approach regardless of participating in the Accelerator City programme. Picture Zero led day-to-day sustainability delivery on the production, including the production sustainability plan, the Carbon Action Plan, and direct work with heads of department. Liverpool City Council provided funding to increase the production's sustainability coordinator from a part-time to a full-time role as part of the programme, enabling more continuous support across departments. In addition, it was reported that the UN label of the Accelerator City programme supported engagement and buy-in from suppliers.



A Fuel Team tanker delivering HVO
Image credit: Picture Zero

Key actions on Waiting for the Out included:

- Sustainability was built in at all levels. On all productions, Sister Pictures ensures each head of department is briefed on sustainability actions for the programme. Sister Pictures also hears from the department heads on the type of sustainability initiatives they have planned and how they can best support them. They also have a department checklist, that provides departments with expected sustainability measures as well as supplementary ones. This can include materials, power, and transport. Weekly sustainability calls were led by Picture Zero, and cast and crew were briefed and engaged on the sustainability needs of the shoot.
- Near 100% LED lighting was used on the production. For power supply, mains power was prioritised where possible and used on 83% of shoot days. A hybrid generator, fuelled by HVO and connected to a battery to store excess power was used at a unit-base, reducing fuel consumption by 46%. The team also brought smaller, portable mains-charged Instagrid and Astera batteries to be used for the lighting and camera teams. A mobile HVO top-up service was provided by a local supplier, The Fuel Team, alongside accurate fuel consumption data. HVO was also used across the full vehicle fleet and made available for personal crew vehicles.
- Recycling or reusing of costumes, art department and props was prioritised. After wrap, items were donated to charities and community groups across Liverpool and the North West, including actively monitoring charity social media accounts to match donation needs with items from the production, such as men's clothing.

- A plant-forward menu with no beef or lamb present, daily meal pre-ordering to reduce food waste, and washable crockery at the unit base with compostable Vegware containers on location.

The final footprint calculated by Picture Zero using the BAFTA Albert carbon calculator for Waiting for the Out was 18.8 tCO₂e per broadcast hour, which is around 61% lower than the BAFTA Albert 2023 drama benchmark.

CHALLENGES AND CONSTRAINTS

- **Production schedule.** Timing misalignment on The Cage led to limited scope for city-level interventions, as productions were already underway. In addition, due to a lack of an on-the-ground coordinator, some of the data collected was based on spend data, which is less accurate compared to activity data. However, the eventual comparison between the two productions was reported as strengthening the evidence of the impact a sustainability coordinator can make on-site.
- **Power infrastructure.** Key Liverpool unit bases had no mains power available, meaning HVO and hybrid generators were required. Limited charging infrastructure in the region also restricted the use of EVs. Mobile EV chargers were trialled at the unit base for Waiting for the Out but were reportedly underused due to low uptake among crew and were off-hired after two weeks. The low uptake was reportedly due to anxiety about the range of EVs, the higher cost compared to fossil-based equivalents, and patchy charging infrastructure. On The

Cage, a key cast member's driver successfully used an EV, but wider uptake was limited due to concerns about the same infrastructure barriers. There was also a reported low number of electric hire cars or taxis available.

- **Waste infrastructure.** Waste supplier availability and transparency was highlighted as an issue across both productions. There was a reported limited or missing presence of local waste organisations that could accurately track and recycle waste. As such, the waste supplier was brought in from outside Liverpool. Supply chain data received from the waste companies was also highlighted as limited.
- **Alternative power applicability.** Early in the production of Waiting for the Out, a hydrogen power trial was explored with GeoPura. However, at the time of production, using hydrogen was found to be three to four times more expensive per kWh than the hybrid HVO and battery system deployed on the production, which reduced fuel use relative to a standard HVO generator. Hydrogen has been used effectively elsewhere in the industry but primarily focused on larger productions with static unit bases over extended periods. However, Waiting for the Out moved regularly between unit bases, sometimes for only a few days, and as such there were concerns regarding the practicality of repositioning a larger hydrogen unit. These factors led to a decision that hydrogen was not yet commercially or logistically viable for this scale and format of drama.
- **Internal communications.** Some supplier commitments and agreements made at a senior level did not filter down to on-site teams, which led to gaps in provisions in early production.

LEARNINGS

- Early planning can shape a whole production; by bringing sustainability into preparation and onboarding every head of department, expectations are embedded from day one. This can lead to improved outcomes and more cultural buy in during production.
- A full-time embedded sustainability coordinator role, supported by senior sustainability expertise and oversight, can make a measurable difference. This was highlighted as not only improving the range of interventions, but also the quality of the data collected on the productions.
- The Picture Zero production reports indicated that additional sustainability funding was critical to enabling key interventions, such as the BBC sustainability grant to support LED lighting and the Accelerator City funding for a full-time sustainability coordinator. Dedicated sustainability funding from commissioners or funders can support, and may be essential to, meaningful production-level decarbonisation.
- LED lighting proved cheaper than running generators. On *The Cage*, the fully LED casino setup carried a significant upfront cost, but Picture Zero found it saved enough in fuel that, even without the BBC grant, it would have been cheaper overall. The production report notes that because lighting hire and fuel are usually budgeted separately, these savings may not be visible at key decision points. A consistent overview of costs on a production level could make the financial case for low-carbon lighting clearer.
- Transport remains the biggest challenge, even with strong planning the travel emissions were the largest contribution

- to the overall footprint of both productions calculated in the reports. For filming locations that are not accessible by rail, access to EVs and charging infrastructure must be improved. However, prioritising local cast and crew was reported as significantly reducing travel emissions.
- Catering emissions were highlighted as a major hotspot. LPG used to fuel portable kitchens contributed to this, alongside residual meat intake. Catering emissions were more prominent on *Waiting for the Out* because reductions achieved elsewhere had reduced other power-related emissions. Support for suppliers to switch to electric or induction hobs could help reduce this further if mains power, or reliable portable clean energy, can be provided.
- Providing clear and proactive information to productions about local and sustainable suppliers before they arrive can support shoots to reduce their carbon footprint. This includes green suppliers, EV taxi and car hire, local sustainable fuelling options, and waste providers. Cities can learn how best to support productions by engaging with the production teams, such as through post-production debriefs. Outcomes of *Waiting for the Out* includes asks to Liverpool City Council about installing permanent or semi-permanent mains power points at key unit bases.
- Smaller productions may struggle to fund on-set sustainability roles at the level needed for meaningful and impactful engagement, such as in *The Cage*. Cities and film offices may need to support these productions further, and commissioners may consider providing funding for sustainability coordinators as part of standard production budgets.

LEGACY

The Prototype pilot created a detailed case study of low-carbon TV production in the Liverpool area, demonstrating the potential but also the limits of what the city can support with existing infrastructure. The emissions data from the pilot can be used by the city to identify priority interventions, especially supporting decisions around power, catering and transport. Liverpool City Council is continuing to build its green supplier list and some local suppliers used in the pilot were shared with the Film Office.

The BBC's sustainability work on these productions has also contributed to an internal policy shift: fossil fuels have since been formally removed from policy for location power across all BBC productions, effective from September 2025.



WIDER PROGRAMME ACTIVITY

While nine pilots were originally announced for the duration of the programme, some cross-cutting work streams also emerged that span multiple pilot topics. These began during the programme year and are expected to continue following the end of Liverpool's year as the Accelerator City.



CROSS-INDUSTRY POWER COLLABORATION FORUM

One of the outcomes of Liverpool's Accelerator City year was the development of a new, city-led cross-industry collaboration on environmental challenges in the creative industries. Although not one of the originally announced pilots, this work grew from conversations with senior figures across live music, TV and film production and sustainability bodies. Through these conversations it became clear that each part of the creative industries was working on similar environmental challenges. However, they were doing so in silos, risking duplicating effort. In these conversations many of the most significant barriers were highlighted as being unsolvable by the creative industries alone, but instead requiring collaboration with cities and policymakers who hold levers around land, permitting and relationship with infrastructure providers.

Liverpool City Council used its position as the Accelerator City to convene a small group of sector leaders into a neutral forum, where organisations that may sometimes be competing with one another for visibility or clients could share work openly, including unpublished analyses and roadmap drafts. Interviewees highlighted this neutral space as essential, as without a neutral host similar collaboration may have been difficult to achieve.

The forum was designed around a model of selecting one priority topic per year, coordinating action across creative industries and cities, and monitoring progress over time. For each topic, the forum aimed to map shared challenges to potential solutions and identify which stakeholders held levers to enable them, ensuring that any delivery responsibilities were clearly assigned across industry bodies, individual organisations, and city authorities.

The first topic chosen was the phase-out of fossil fuel use in generators across creative industries. Over several sessions the group identified that solutions such as grid connections or battery infrastructure sat primarily with cities, DNOs and national government rather than within the creative industries. The forum produced a Statement of Intent to phase out fossil fuel use in generators in creative industries by 2030, and the coordinated framing attracted interest from the Department for Energy Security and Net Zero, with a follow-up workshop planned to focus on priority regulatory and infrastructure issues.

This output was led by the programme director. For it to last beyond the Accelerator City year, the collaboration will need a permanent home within the Council, which had not been decided at the time of writing. Who will lead on any future work by the group is also an open question. Nonetheless the work demonstrated that a city, acting as a neutral convener, can unlock collective action and alignment at a scale that individual organisations perhaps cannot.



Programme Director Sally Mills at the Green Events and Innovations Conference 2026
Image credit: A Greener Future

ECONOMIC BUSINESS CASE COMMISSION

Another programme output that was not initially defined as a pilot was the initiation of work to develop a city-wide economic business case for decarbonising culture. During the year, officers recognised that environmental programmes without strong economic arguments were at risk of being deprioritised or cancelled.

This work sits within Liverpool City Council's Economic Strategy and Skills service area. The commission aims to understand, across the pilots, which activities could be scaled, what that would require, and whether doing so would deliver wider economic value. The answer to these questions can provide evidence to investors, commercial partners, central government and other cities about how decarbonising culture can strengthen supply chains, drive skills development or bring investment alongside reducing emissions.

A major challenge at this scale is data availability, particularly for estimating the cost of scaling interventions or projecting return on investment. Officers emphasised the need to have a strong evidence base before drawing conclusions. This extends to the pilot status of the program, while some pilots may not demonstrate economic viability in isolation, they could be financially valuable when integrated with a wider infrastructure development pathway.

The commission is expected to be delivered by an external partner, to produce a published report that can be used by cities, national bodies and industry stakeholders. Liverpool City Council is taking a two-stage approach, first to start with a smaller scoping commission before committing to the full piece of work. At the time of writing, the budget is being secured and while the goal is to complete the work before the end of the year, a definitive timeline for the future is subject to further funding being secured. The work is hoped to contribute to the evidence base needed to make the case that low carbon culture can also strengthen the creative and city economies.



Claire McColgan CBE, director of Culture and Major Events at Liverpool City Council, speaks at Expedition 1
Image credit: Culture Liverpool, Liverpool City Council

ACCELERATOR CITY LEGACY AT LIVERPOOL CITY COUNCIL

While there were some tangible and externally facing legacies in Liverpool City Council from some of the pilots, including the land-use agreement and the local skills training, there were also internal transformations within the council that happened as a result of the Accelerator City programme. These legacies were highlighted through conversations with council staff about their work since the programme ended and reflect the kind of long-term transformation that can happen as councils prioritise sustainability in the Culture department and beyond.



ESTABLISHING SUSTAINABILITY CAPACITY AND LEADERSHIP

When Accelerator City began, Liverpool City Council had one single dedicated sustainability officer, and sustainability sat within a wider portfolio covering economy, skills and sustainability. Around the end of the Accelerator City year, the council significantly increased its capacity and governance on sustainability. A new Director of Sustainability was appointed, and the sustainability team grew from one to eight members of staff.

In addition to the central sustainability team, a new Sustainability Project Manager for Culture and Sports Events post was created to support the 2026-2028 cultural programme in Liverpool, including the Tour de France Grand Départ and the UEFA EURO 2028. This role explicitly references the Accelerator City programme and was described by a senior council member as a direct legacy of the programme. Council leadership stated that while the resourcing and structural change was already in motion, the programme accelerated both the hiring and restructuring. The breadth and scale of pilot programmes demonstrated the scale of coordination and specialist skills needed across the council, and the resourcing that would be needed to support the city's environmental ambitions.

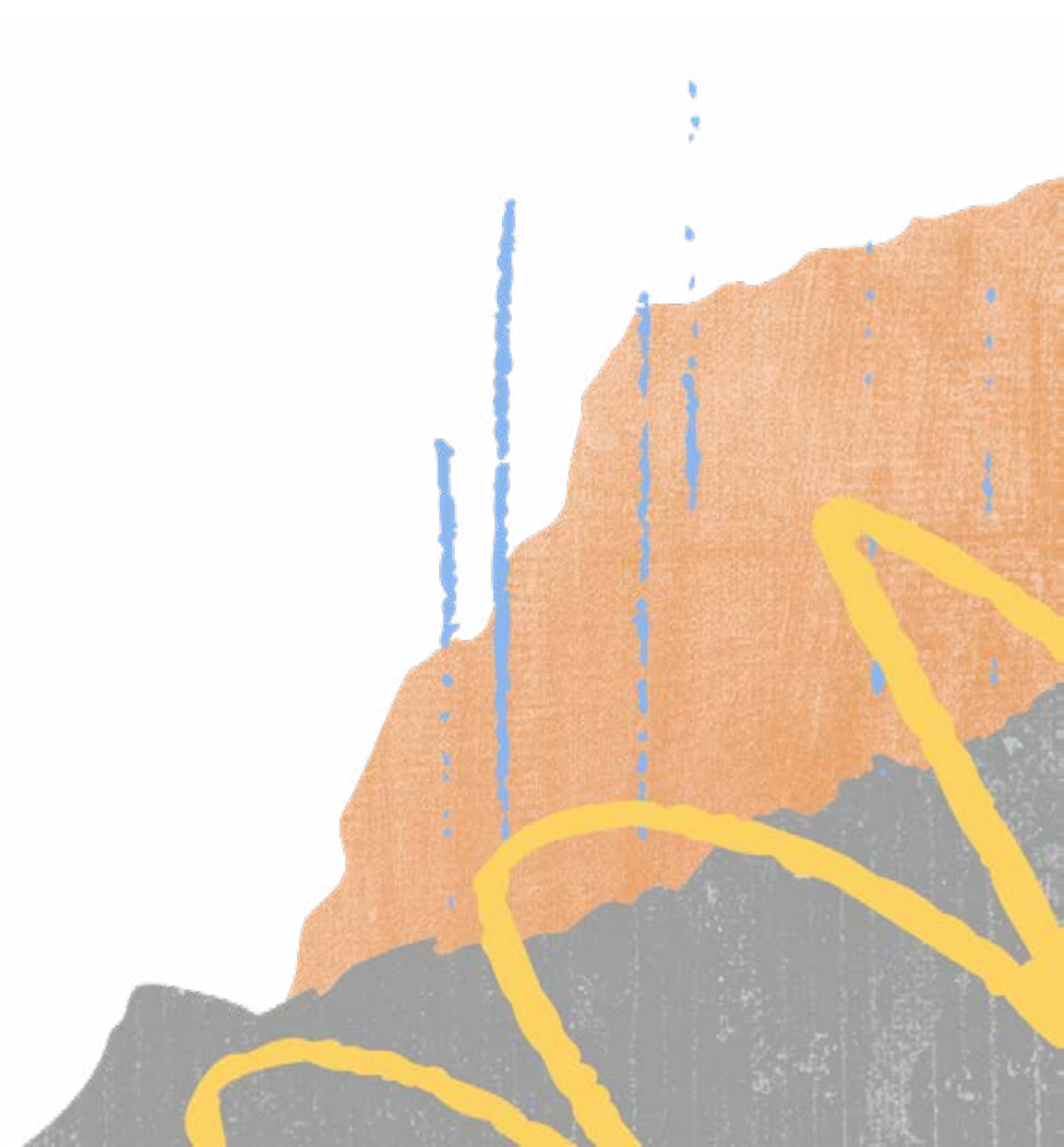
LEARNED SKILLS AND STANDARD PRACTICE

Members of the culture team described how they increased their understanding of environmental impacts across cultural events including carbon, waste, food, power and travel, through working on the programme. The team reported feeling a clearer sense of what is feasible and which interventions are worth prioritising at events. They also highlighted feeling more confident expressing their own limits when planning for sustainable interventions and knowing when technical sustainability support was necessary.

One team member reported previously feeling nervous to talk about sustainability, over fear of getting something wrong. The atmosphere created by the Accelerator City programme, where everyone was involved and collaborating, was reported as helping to overcome those barriers and fears and move towards an environment where officers felt comfortable learning together and expressing a lack of knowledge on a sustainability topic. One staff member even moved roles from the cultural team at Liverpool, into the sustainability team.

Sustainability is now a standing item in the Culture Liverpool meetings. This learning and internal literacy has been self-reported as influencing other cultural programmes. Staff members have been reported as proactively searching for sustainable alternatives for non-Accelerator City events, using confidence and literacy gained through working on the Accelerator City programme. One interviewee summarised the shift: *"You can't unknow what you know"*.

"Now I feel I could confidently have a conversation, and at least be confident enough to say 'I don't know what that is, but I'll look into it.'"



RELATIONSHIPS AND NETWORKS

The Accelerator City programme created new collaborations internally and externally to the council. Within the council itself, interviewees from different departments noted a new pattern of collaboration and conversation. While officers in the culture team noted that cross-departmental work was not new, the frequency, depth and understanding developed during the programme has left a direct legacy. Unofficial “champions” were described as emerging in a range of teams, who now better understand and prioritise sustainability in their daily activities.

Liverpool’s external relationships were also reported as having improved. Senior leaders described how they felt deeper links to the Department for Energy Security and Net Zero, the Department for Culture Media and Sport, and other national representatives. Liverpool was invited to participate in COP30 in Brazil, and the city attended remotely, giving the city further visibility and links at an international level.

"I've been really pleasantly surprised at the openness in sharing across those cities [...] individuals have been very generous with their knowledge."

Relationships with other cities also grew. Notably, Manchester, Bristol and Liverpool shared numerous conversations about certain pilot approaches, such as grid connections and land use agreements. Furthermore, two knowledge-sharing workshops with other city officials interested in low-carbon culture were co-organised during the programme by Tyndall Manchester and Liverpool City Council, in which the networks were further developed. Liverpool officers reported they felt these links would continue, which would be the start of more open, transparent knowledge-sharing across public bodies. An additional future workshop aims to share final learnings and next steps from the Accelerator City programme nationally and internationally. Research has shown this open approach to sharing lessons and learnings is key to effective city-level climate action.



Conversations at Expedition 1
Image credit: Culture Liverpool, Liverpool City Council

LEARNINGS FOR OTHER CITIES TRYING TO DECARBONISE THEIR CULTURAL SECTOR

While the Accelerator City model allows for some unique approaches to decarbonising the cultural sector, and the associated branding has been seen to have a positive impact on the progression of pilots, there were many lessons from the pilots that would be useful to any city.



DECARBONISATION AS A WHOLE-AUTHORITY ENDEAVOUR

Interviewees and observations highlighted that cultural decarbonisation requires buy-in from many different actors. Internally to the council, that includes engaging people who work across a wide variety of departments. By framing the Accelerator City as a “Culture” project, it was reported to be challenging to get this buy-in from other teams, particularly where they had not been briefed about the project. It was reported that briefs for the programme were created for other departments, but as these teams were reported as having a lack of knowledge about Accelerator City, the issue may lie in the dissemination of information. Where staff in other departments were required to go above and beyond without recognition or workload adjustment, progress relied broadly on their goodwill and the ability to drive from within the core Accelerator City team.

A recurring theme in interviews was that responsibility for sustainability cannot sit only within a sustainability team, as it risks externalising the issue for other teams. However, nor can it be an informal add-on undertaken by motivated individuals in non-sustainability departments. It must be integrated into formal role descriptions and workload management. By embedding sustainability into all departments' priorities, it was suggested that it can increase and enhance what can be achieved in terms of sustainability across the whole organisation.



RESOURCING AND SKILLS

A major learning from the Accelerator City programme was the need for technical sustainability officers to support work across the council. Interviewees noted that a lack of deep sustainability or technical knowledge within the Culture team delayed the pilots at several points. This was likely exacerbated due to the wide breadth of pilots in the programme. One pilot that was flagged as particularly technically challenging was the grid connections (Powering Pictures), due to the sector specific knowledge and skills needed to do that evaluation. Other pilots, such as Radio 1's Big Weekend, were also highlighted as being very open ended and Liverpool City Council reported finding it challenging at that stage to understand what to ask from partners, due to a lack of internal sustainability experience.

Other council team members reflected that support and training around sustainability for events and culture would have been very valuable to enable them to more effectively and confidently work on the programmes. One team member highlighted that they felt discomfort at asking suppliers to provide detailed carbon footprint data, because they felt they could not support them technically if they needed help to calculate it.

Appropriate resourcing also enables staff to manage competing demands if unexpected events arise. During the Accelerator City year, members of the delivery team were required to respond to unexpected but operationally

demanding events alongside their programme responsibilities. Team members reflected on the impact this had on their daily workload and capacity when working in an already resource-stretched team.

Beyond the culture team, the available sustainability resource at the council was extremely limited, with only one staff member available to support all sustainability work across the council. This was directly highlighted as a major barrier to the work, and Liverpool's sustainability team has since increased to eight members of staff to support sustainability across the council.

In addition to staff resourcing, financial resourcing was highlighted as a major barrier to a lot of actions. Partly due to the short timescale between confirmation that Liverpool would be the inaugural Accelerator City and the start of the programme, there was no financial budget associated with being part of the Accelerator City. Local councils are under significant budget strain, and certain pilots, especially those around power and data visualisation, were found to be either too expensive and/or not of clear or significant enough value to the council to be pursued.



GOVERNANCE, RESPONSIBILITIES AND OWNERSHIP

For a programme of this complexity, having a dedicated project director and project manager in place before launch is essential. Without this, the frameworks, responsibilities, and structures that are necessary for effective delivery cannot be established in advance, and the programme risks spending early months catching up, rather than making progress.

Some interviewees reported that delays took place during the programme as teams were unsure who led on particular tasks, such as around transport or power. This led to council staff taking time to reconstruct context or identify the right contact from scratch, which reportedly created friction and delay. In major programmes of this kind, a clear responsibility map across the programme, ideally co-designed with all relevant teams before launch and embedded into workplans, can reduce this friction. This is particularly important for sustainability actions which, by their nature, span departments and require coordination across teams with different priorities, workloads and timescales.

Critically, for such documents to be effective, it must be ensured that anyone affected is actively able to engage with them, ideally so that people responsible for delivery feel ownership of what is being asked of them. While these documents were developed in Liverpool on the arrival of the programme director, this was several months into the programme and therefore could not be embedded into workplans from the outset.



CAPTURING KNOWLEDGE AND LEARNING

Throughout the Accelerator City programme there were several examples of key staff members or early project partners moving on from the project before it ended. Broadly, this staff churn left gaps that were difficult to fill, particularly where a significant amount of progress was made through conversations and relationships that were not formally documented. Staff picking up work mid-programme were reported as having to work on a pilot without a clear understanding of why decisions had previously been made, leading to revisiting previously completed work and delays. The value of establishing consistent documentation practices from the very start of a programme was highlighted, not just formal handover but also a running record of decisions and relationships that does not rely on any one individual remaining in post. Given the number of external stakeholders involved across pilots of this kind, which can run to many individuals across multiple partners, this kind of institutional memory is especially important.

"If it's not written down, it didn't happen."



IDENTIFY AND START WITH STRONG CITY LEVERS

Throughout the data collection process, it was clear that there are limits to what a local authority can enable alone. Some transformations rely on engaging with external partners, such as power providers, event organisers, or transport providers. These partnerships were highlighted as key to achieving successful and significant transformation across the sector, but also flagged as higher risk as they require a lot of resource to initiate and progress and are reliant on all partners remaining engaged and committed right through to delivery.

In contrast, the lever of land-use agreements sits almost entirely within the authority's control. It uses a touchpoint at which the city is already engaging with external suppliers to ask for information, and it enables a consistent approach to ensure all suppliers and events must meet sustainability requirements. The authority is also able to apply a commensurate approach, such as expecting more of larger events, and to update and revise the process itself within the limits of its powers. Identifying such processes or activities which are council controlled may enable faster transformation in these areas.



ENGAGING AUDIENCES THROUGH CULTURE

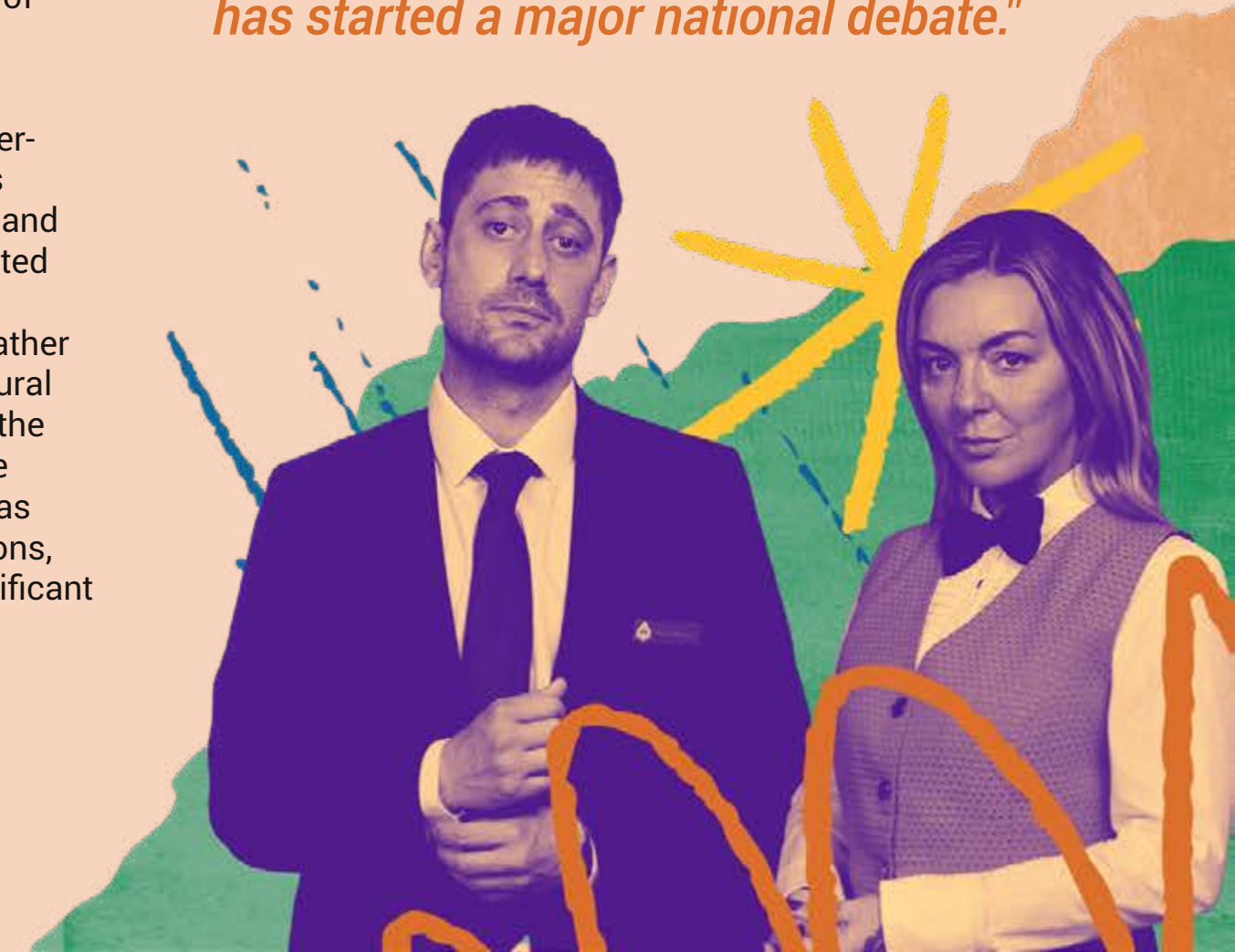
A distinctive feature of decarbonising the cultural sector, as opposed to other parts of a council's operations, is the sector's capacity to shape public attitudes and normalise low-carbon behaviour. Interviewees from film and television in particular reflected that culture's greatest contribution may lie not in reducing its own emissions, but in its ability to make sustainable choices visible and ordinary. Partners described embedding sustainability into productions both behind the scenes and on screen, such as through the depiction of public transport, plant-based food, reused clothing and electric vehicles, with the aim of normalising these choices rather than presenting them as exceptional. One partner noted that this works best when it is understated rather than overt, reflecting that the goal was simply to show sustainability as "the new way" of doing things rather than to deliver an explicit message.

Several interviewees emphasised that audience engagement is most effective when framed positively, as a choice people are drawn towards rather than one imposed upon them. In the context of transport, this "pull, not push" approach informed a decision to focus on making sustainable travel the most attractive and convenient option, rather than restricting access in ways that risked alienating audiences. Comms and marketing were highlighted as central to this, with one interviewee reflecting that shifting behaviour may require the same

persuasive techniques used in commercial advertising, rather than relying on just presentation of evidence or facts. At the same time, interviewees flagged that publicly foregrounding sustainability can invite greater scrutiny of other behaviour or initiatives. At the opening concerts, audiences mistakenly criticised compostable packaging as single-use plastic, leading to online discussions of perceived hypocritical behaviour.

Despite this potential, audience and wider public engagement was identified as one of the more under-developed aspects of the programme. Interviewees suggested that future Accelerator Cities, and cities and councils more broadly, would benefit from a dedicated engagement strategy that includes residents and audiences as active participants in the transition, rather than focusing solely on operational and infrastructural change. Where this approach was trialled, such as the integration of sustainable-travel messaging into the marketing and content of a major music event, it was reported to be effective in shifting audience intentions, suggesting that the cultural sector's reach is a significant and possibly under-exploited asset in city-level climate action.

"TV can make emotional connections with audiences and can change people's attitudes in an instant... we've seen that with Adolescence this year, and how that has started a major national debate."



GATHERING AND UNDERSTANDING THE DATA

One of the barriers most frequently highlighted by council and pilot interviewees, was the lack of baseline data for comparison or context. While taking action is urgent, and evidence points to a broad agreement on the areas in which emissions need to most urgently be tackled such as transport and power, without a baseline dataset it is challenging to understand the impact of potential interventions on emissions which can limit the evidence that might be needed to justify resource or spend. Data can also help highlight unexpected emission sources, or potential opportunities. The need to gather robust data, to build systems to allow for ongoing data collection, and to understand what the data means and how to translate it into action was frequently noted by interviewees.

"I don't think we understood how little data we had as a city until we actually tried to do things, and realised we had nothing to back it up."



CHAMPIONS

In many of the interviews, the need for a champion who was able to push the project forward was discussed. This was someone described as broadly being happy to go above and beyond their typical work commitments, with a personal passion for the project, and drive for success. The role of a champion was reflected on as key to success in a number of challenging points throughout the programme, such as acquiring electric shuttle buses for Radio 1's Big Weekend, trying to integrate public transport tickets into event tickets, or winning leadership support for initiatives.

However, while champions are powerful actors and catalysts, reliance on them makes the longevity of a programme fragile. If a champion moves role or leaves, progress may stall or be lost. Where champion roles are established, they should be supported by clear expectations, appropriate training for both champions and their line managers, and active monitoring. Embedding sustainability into systems as part of longer-term transformation ensures that progress does not rely only on personal drive and instead is part of institutional responsibilities.



THE ACCELERATOR CITY MODEL

Beyond the lessons for individual cities and pilots, Liverpool's year also generated important insights about the Accelerator City model itself, including what the UN designation enabled, what it requires to succeed, and how it might need to evolve as the programme expands to future cities.



Interviewees reflected that they found the UN brand or the Accelerator City badge to be enabling for the city, to convene potential competitors within the cultural sector and suppliers under the umbrella of the public good. They also noted that the brand gave cover to have higher ambition and request more from partners. Some partners mentioned that they would lead with the phrase, “United Nations Accelerator City” when asking partners to change systems that have been in place or embedded for some time. The UN team engaged with Liverpool throughout the delivery year, but as this was the first Accelerator City, there was not yet an established model for what or how the city would deliver. For future Accelerator Cities, Liverpool’s experience can inform clearer expectations about the shape of the work, and more structured support during delivery, to further strengthen the programme’s impact.

The scope of the programme was also focused specifically on decarbonisation, reflecting the original brief. As the model develops for future cities, there may be value in considering whether broader environmental goals such as biodiversity and nature should be incorporated, particularly where cultural events interact with green spaces such as parks.

The year was also highlighted as creating space for experimentation and failure. Officers spoke openly in the interviews about the two pilots that did not progress, and about barriers in the other pilots, so that learnings could be captured for this report. Adopting such an approach means reimagining how to define success and failure, away from whether a pilot succeeded in its original aims, to whether there is potential to learn, address problems and create

potential to progress in future. In this case, failure only occurs when no one can learn from what was done.

There was a divide in interviewees from both the council and the pilot partners over whether the scale of ambition for Accelerator City was too high. A number of council staff suggested that running nine pilots within a year was overly ambitious, either because the number of pilots was too high or the timeframe too short. Conversely, some staff and pilot partners reflected that the issue was not the level of ambition, but the level of available resource, noting that additional capacity would have helped deliver more of the pilots in the timeframe. Others also suggested that the compressed timeline had advantages, acting as a catalyst for action and encouraging staff to push the work forwards in a truly accelerated manner.

A key tension highlighted in interviews was the balance between the urgency of climate action and the appeal of experimentation with new approaches. Cities were described as wanting to be the “first” to do something, particularly within high-profile programmes such as Accelerator City. While this can create momentum and visibility, some interviewees reflected that it also carries a risk: that cities may focus on developing new initiatives rather than adopting approaches that have already been tested elsewhere. For the ongoing design and legacy of the Accelerator programme, this tension requires consideration. To genuinely unlock transformation across global cities, learnings and successful approaches from one place need to be adopted into practice elsewhere, rather than each place having to do their own ‘experiments’ from scratch.



Danielle Magalhaes from the United Nations Climate Change speaks at Expedition 1
Image credit: Culture Liverpool, Liverpool City Council

Several interviewees reflected on the implications of this urgent need for action on the future of the programme. One interviewee suggested that in order to see tangible results, the number of Accelerator Cities must increase year on year. Another reflected on the need to move beyond trialling to focussing on implementation:

“...the issues are the same. We don't need to do this. We don't need to research anymore. We just need to start acting. We know that transport is our biggest issue, so we know what we need to do. We need to decarbonise our transport system, we need to electrify it.

We need to make sure people have got access to public transport links... Power, mobile power is a problem for our industry. We know what we need to do. We need to have more mains power connections. We need to have hybrid technology, battery technology, and we need to get off the diesel.

And so, I would like to think the biggest legacy of this is Liverpool just saying very clearly to any city, wherever you are in the world, this is what we need to do. Just get on and do it. [...] we don't need to do another 12-month trial somewhere where we gather data. Just get on and do it”

While this urgency is well-founded, it is also important to acknowledge that cultural decarbonisation sits within a wider landscape of council climate action. Councils such as Liverpool are simultaneously delivering carbon-reduction programmes in other areas, some of which will deliver greater emissions reductions at a city-scale. Decisions about where to direct limited resource and capacity may require trade-offs between different forms of climate action.

While proof of concept exists for many solutions, there are outstanding commercial and financial questions in some areas. Deploying these solutions likely requires business-cases that hold their own on a long-term basis and partnerships with other private or public organisations given that many councils do not have the capacity or mandate to absorb all commercial risks.

The scale of the programme's long-term legacy will rest upon the ability of future Accelerator Cities to take forward lessons and best practice from other places, including both previous Accelerator Cities and cities outside the programme, and rapidly scale and deploy these practices.



Liverpool skyline
Image credit: Magnific

ACCELERATOR CITY MODEL: KEY LESSONS

Liverpool's experience as the first Accelerator City demonstrates that the UN designation provided genuine convening power and legitimacy, enabling cross-industry collaboration and raising ambition in ways that may have been difficult to achieve otherwise. The model also created space for experimentation and learning, including from pilots that did not progress as planned. Looking ahead, the key challenge for future Accelerator Cities will be to build on this foundation by prioritising the rapid scaling of proven approaches alongside the trialling of novel solutions, ensuring the urgency of climate action is matched by the pace of implementation.



CONCLUSION

Liverpool's year as the first UN Climate Change Accelerator City has demonstrated some of the possibility and limits of rapid cultural sector decarbonisation within existing city systems.

Across live music, film and TV production, infrastructure, land use, transport and governance, the programme influenced practical shifts in operations, highlighted key structural constraints that must be addressed, and strengthened internal institutional capacity within Liverpool City Council. Some pilots have delivered immediate lasting change, such as improved carbon reporting, new national standards for sustainable production, and embedded cleaner waste systems at a major Liverpool venue. Others exposed deeper barriers, such as fragmented transport systems, electricity network constraints, uncertainty around asset tenure, and the limits of voluntary action in driving consistent standards across a competitive industry.

Beyond the individual pilots, the year has already generated significant institutional impact within the city council. Liverpool City Council expanded its sustainability capacity, embedded and increased climate literacy within cultural teams through learning-by-doing, formalised sustainability in a number of governance processes, and began to position cultural decarbonisation within its wider economic and infrastructure strategies.

The programme also demonstrated the value of the Accelerator City model itself. The UN designation provided

legitimacy and convening power alongside an urgent timeframe, and emboldened actors to raise their own ambitions and expectations of partners. In this way, it enabled cross-industry collaboration at a scale that may have been difficult to achieve otherwise. As the model moves to new contexts, this ability should be considered in the design and selection of participating pilots.

An essential question for the future of the model is how to balance urgency with innovation. We need to take urgent climate action to bring down emissions in all sectors, including culture. As it develops, the programme must grapple to find the balance between accelerating the rapid roll-out of solutions proven elsewhere, and trialling novel approaches. Future Accelerator Cities should consider this balance strategically, using proven solutions at scale where there is a strong evidence base from within or outside the cultural sector, while also saving space for novel or experimental approaches and adaptations to local contexts.

Transport and power consistently dominate cultural emissions. Electrification, grid connections, shifts towards public transport and demand reduction are well known solutions to these issues, and the challenge lies now in implementation. Liverpool's experience suggests that cultural decarbonisation is achievable at a faster pace when it is made a city priority, but only when supported by the governance, technical capacity, infrastructure investment, and political commitment to enact real change.

"November was the starting line, not the finish tape."



Expedition 1 hosts Swarzy and Chris Packham
Image credit: Culture Liverpool, Liverpool City Council

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