Creative Industries
Policy and Evidence Centre

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Discussion paper

The Screen Industries' contribution to UK Net Zero targets: transitioning away from diesel generators

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DOI: 10.5281/zenodo.23241063

DP Number: 2026/2

November 2026

Creative PEC is funded by: UKRI Arts and Humanities Research Council

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This discussion paper is published by the Creative Industries Policy and Evidence Centre. The Creative PEC is funded by the UK Arts and Humanities Research Council (AHRC) and is hosted by Newcastle University in partnership with the Royal Society of Arts.

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Acknowledgements

The activities that led to this paper were funded by the Creative PEC Sustainability Network and the University of Warwick. The authors would like to thank and acknowledge the vital contribution made by all those who attended the Creative PEC sustainability network workshops, this paper represents part of those discussions. We would also like to thank Giorgio Fazio and Bernard Hay for their insights, comments and contributions through peer review which significantly strengthened this paper.

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Citation

If the information in this report is used in any subsequent research and/or publications, please cite as follows:
Ashton, H. et al. (2026) The Screen Industries' contribution to UK Net Zero targets: transitioning away from diesel generators. Creative PEC Discussion Paper Series. Available at: https://doi.org/10.5281/zenodo.23241063

Abstract

This paper examines how the screen industries can contribute to the UK's net-zero transition by addressing one of their most persistent material impacts: the use of diesel generators and other carbon-intensive mobile power systems in film and television production. The UK has embedded a commitment to net zero in law (the Climate Change Act 2008), yet the environmental footprint of screen production remains difficult to measure and govern. This is in part due to the sector's fragmented structure, project-based and nomadic modes of production and a reliance on outsourcing and a freelance workforce but is further complicated by the way in which the sector overlaps with transport, construction, energy infrastructure, event production and local authorities.

The paper draws on the Creative PEC sustainability network workshops involving industry leaders, sector arm's length bodies, unions, screen sustainability professionals and policy makers in the first instance, alongside industry reports, policy frameworks, and a case study of filming in the London Borough of Camden, to analyse why existing certification schemes and voluntary guidelines have not yet provided consistent change in the management of energy on set, particularly mobile energy. It argues that existing and emerging clean mobile energy schemes demonstrate significant commitment across all stakeholders, but also exposes gaps in data transparency, accountability, infrastructure, and workforce capabilities. The Camden case shows how local ambitions for cleaner air and sustainable filming can be undermined by outsourced governance, unclear lines of responsibility, the continued production norms of using diesel generators, and the barriers to transitioning to other forms of mobile energy.

In order to substitute and eliminate diesel generators, there is a need to address current barriers that complicate this transition. Achieving this shift requires not only a change to the physical equipment but a broader change to 'the way things are done'. Accordingly, there needs to be a coordinated intervention across policy, infrastructure, procurement, licensing, training, and workplace culture. The paper concludes that government support, local regulation, targeted incentives, and industry-wide skills development are essential to make sustainable power the new production 'norm' across the sector rather than an optional add-on.

1. *Introduction*

The UK government has committed to a reduction of emissions to net zero by 2050 (while continuing to grow the economy). The UK was the first major economy to make net zero a legal requirement, set under the Climate Change Act 2008. This makes the commitment legally binding and enforceable, elevating it beyond an opportunistic political promise. In line with these objectives, the UK is one of the world's leading examples of 'net zero growth' having halved emissions while growing its economy in 2023 (gov.uk, 2023). Whilst these figures have been criticised as simplifications without accounting for the drop of emissions during Covid lockdown or the outsourcing of manufacturing (Turner, 2021), more recent reports demonstrate a sustained commitment and actions towards reducing carbon emissions at the national level with a reduction of 50.4% since 1990 (Climate Change Committee, 2025).

These reductions are based on step-by-step targets, with the aim of 68 per cent emissions reduction by 2030 and a 78 per cent reduction by 2035 to be achieved across all sectors, regardless of size. While there is an express need for faster action in transport, industry, and buildings to reach full net zero by 2050, the commitment to include all sectors in this endeavour is explicit in the 'Carbon Budget and Growth Delivery Plan' (Gov.uk, 2025). The Climate Change Committee's 2025 progress report warns that urgent action is needed if the country is to stay on track and hit the target of a 68% emissions reduction by 2030. If the targets are to be met within the next four years, the inclusion of all sectors to address these concerns is vital. Thus, sectors like the screen industries, highly visible for their ability to raise environmental awareness, but often overlooked for their material impacts, must also play a central role to address the current potential shortfall. The government's commitment in this regard is explicit in the Sector Plan for the Creative Industries which states that "The Creative Industries will continue to play a key role in the net zero transition" (p.34), furthermore, it identifies the importance of the film and TV sib-sector as an area of highest growth potential (ibid. p.9).

The impact that the Screen Industries have on the environment however is missing from larger-scale data sets and policy-level discussions and documents (Vaughan and Kääpä, 2023). This is not entirely surprising due to their fragmented, complex constitution as well as their often temporary, project-based realities (Sustainable Production Alliance, 2024), particularly in the production of film, TV and streaming which is the focus of this paper[1]. These production models make measuring impact and sector comparisons inaccessible and hidden in the complexities of measurement tools and definitions whilst simultaneously making long-term planning for change and evaluation challenging. The screen industry's emissions and energy consumption therefore appear less immediate than those of more emissions-intensive sectors (such as aviation), as a result addressing its environmental impact is often viewed as a lower priority by both the public and policymakers.

The sector itself recognises the impact that screen productions are having on the environment, the BFI and BAFTA have submitted reports cited throughout this paper and large production companies including public broadcasters and streamers have implemented policies and interventions to start addressing the issues. Yet a central issue remains under-addressed: how productions access power in a way that is environmentally sustainable, location shoots for example rely almost entirely on carbon-unfriendly diesel generators to power production. Even more problematically, anecdotally[2], diesel generators are still commonly used when shooting in studio back-lots. One notable initiative, The Grid Project (Film London) is a key innovation designed to supply green energy via the mains network by installing an electrical feeder pillar at a key unit base in Victoria Park, London (this is detailed below). While the London-based Grid Project has piloted sustainable access to grid power, such innovations remain largely relegated to large metropolitan areas or confined to pilot projects. Thus, a more systematic approach to accessing environmentally sourced power – either via connection to

[1] This is a tighter focus than the broader definition used by the DCMS. Details are outlined in the table and figures below.
[2] Anecdotes here are from leading industry partners who contributed to the network workshops, discussions and podcasts. More research is needed to understand the full extent of these issues.

the main grid or via battery-based generators – would be a major step towards the screen industries meeting emissions targets.[3]

This paper examines the challenges and opportunities involved in transitioning the UK screen industries away from carbon-intensive diesel generators towards more environmentally sustainable (cleaner) forms of mobile energy and the potential to rely more on grid-based power. It aims to reveal the complexities of production processes and in doing so it demonstrates that sustainable production requires not only technological and infrastructural change, but also clearer governance, better emissions data, targeted policy support, and workforce training in energy management and green production practices.

The paper starts by situating the screen industries within the UK's wider net-zero commitments before reviewing current sector initiatives. It then maps the complexities of the screen production ecosystem and considers the practical challenges of accessing sustainable power. Using the London Borough of Camden as a local case study the paper shows that there are implementation and accountability barriers even where there is cross-stakeholder support for the use of greener technologies and a priority of clean air and net-zero commitments. The final section discusses the implications of moving towards different forms of mobile energy for skills and training before concluding with recommendations for policy, infrastructure, incentives and industry practice.

2. Where we are

BAFTA albert has led a climate action blueprint, certification and accompanying training for considering emissions throughout the production process with guidelines and protocols addressing, for example, logistics, catering, waste management, environmentally mindful location shooting, and carbon emission reporting. Productions that meet the criteria for certification can display the BAFTA albert Sustainable Production 'footprint' logo and meeting the criteria is a

[3] Currently the UK Grid has unequal access to renewable electricity. Scotland has the highest at 90% of energy coming from renewables and England is the most fossil-heavy region, with 52.4% of UK wide emissions being generated from renewable sources (gov.uk (1)).

requirement for funding through public service broadcasters and the British Film Institute (BFI)[4].

BAFTA albert's SPARK report goes further by providing a roadmap for clean energy use (BAFTA albert, 2025). It addresses an explicit gap in the industry's challenges with sustainability, in that the power used on set is a clear area where a targeted intervention is required. SPARK expands on this commitment and outlines the need to phase out fossil fuels and stand-alone generator use before 2030. It suggests that this can be achieved by transitioning via hybrid generators and hydrotreated vegetable oil fuel where necessary, and to phase in grid power, battery solutions and other clean technologies. Its signatories are all the major UK broadcasters and studios: BAFTA albert, BBC, BBC Studios, BFI, Channel 4, Fremantle, ITV, ITV Studios, Netflix, Pact, Sky, UKTV and Universal International Studios. Its three pillars are: Reduce (cutting energy demand through efficient planning and equipment); Retool (upgrading infrastructure and technology for clean power); and Reskill (equipping teams with knowledge and training to plan, budget, and operate clean power solutions).

Yet, one could suggest that in building such a comprehensive programme aimed directly at current flaws and omissions, SPARK acts as an acknowledgement that certification alone has had a limited impact on the energy front specifically. This limitation is evident in the data: in 2024, UK-based productions burned over three million litres of fossil fuels in generators,[5] and more than half of all productions relied almost entirely on fossil fuels — despite years of BAFTA albert certification being in place. SPARK could be seen as an intra-industry admission that the Carbon Action Plan's procedural approach has not yet transformed a work culture where 'dirty' generator fuel is the norm. Consequently, more targeted intervention and action is needed but addressing power needs is not only about supplying equipment and technology onto sets. In order for them to be deployed and used in an effective and sustainable way, crew members, assistant directors,

[4] The authors recognised that some of the devolved nations also carry their own requirements for the use of BAFTA carbon calculators and reporting frameworks with funding in the Welsh context tied to certification.
[5] Data from BAFTA albert's ACCELERATE 2025, based on voluntary data reported through the BAFTA albert calculator from over 2,500 productions – both film and television – in 2024.

procurement and finance need to have basic knowledge of managing power and recording and evaluating sustainability throughout the production process, regardless of where the production company or financier is located globally. This means not only training for existing workers but ultimately creating new roles for competent clean power operators and managers with skills that rely on on-the-job know-how on connecting mains, coordinating generators and so on. At the level of new roles, such practices are commensurate with the concept of 'green jobs' (see Apostel and Barslund, 2024) but ultimately this goes beyond those specific roles to a more embedded understanding of sustainable production through new norms and approaches to work culture. In such a perspective, sustainability is inherently a part of the processes and not an extraneous add-on. These factors connect much more to workforce training and specialisation and thus need equal attention to arguably more prominent infrastructural areas like grid development or investment in renewable technologies.

Another concern undermining the implementation of guidelines and, hence, investment in sustainable practice is the lack of transparent data on energy consumption. In current on-set practice, it is frequently common that insufficient information is shared by electricians or directors of photography to enable heads of production to accurately assess the exact energy needs of a production. Furthermore, the uniqueness of each project means that most productions are built bespoke, which is why prior calculations are not considered when estimating energy capacity or future clean energy investments.

This complexity makes it difficult to get a clear picture of the sector's overall emissions, let alone the specific needs of each individual production. The challenge is compounded by the way emissions are measured and tackled across the various activities involved in screen production. In industry terms these are categorised as: Scope 1 – direct emissions a production generates itself; Scope 2 – those arising from its supply chain; and Scope 3 – which covers everything else, including both upstream and downstream supply chains. These three scopes reveal just how many overlapping processes and material relationships feed into and impact sustainability efforts in screen production.

3. Sectoral Complexities

The screen sector is hugely complex, with multiple labour markets and sub-sectors that intersect and / or overlap in different ways. The substantial overlap has led to terms such as 'the audio-visual sector', which acknowledges the intersectional nature of different sub-sectors but equally does not capture other overlaps such as those with theatre for example.

Table 1 provides an example of different activities that are connected to the screen production ecosystem. The first column of the table provides examples of core activities that are directly associated with screen production. The second column provides a list of activities that are not always associated with screen production directly but have screen production embedded in their remit; for example, these activities use screen production processes for dissemination. The third column shows areas of activity that have a cross-over in that they do not necessarily engage directly with screen production but use similar resources. These are areas which have overlapping needs and / or environmental considerations and offer opportunities to share resources and expertise. Festivals and live music events for example will also use catering and diesel generators, theatre will also use sets, costumes and props. The fourth column outlines areas of activity that are used in screen production but are also widely used elsewhere. These include haulage, construction, energy etc. Some of these areas of activity such as haulage, sit outside of the DCMS and are considered as a separate industry but they have an impact on the ability of screen production to engage in sustainability. For example, the extent to which the national electrical grid is sustainable will depend on the energy sector. Therefore, a switch from using diesel generators for power to accessing the national grid will only be as sustainable as the grid itself. This last column shows how the sustainability of the screen sector is also dependent upon the sustainability of these broader areas of activity.

Core	Secondary	Tertiary / Overlap	General
TV	Advertising	Festivals	Haulage
Film	Music Videos	Live Entertainment & Events	Construction
Games	Journalism	Theatre	Energy Infrastructure
Short form	Sports	Hospitality & Tourism	Fashion
Content Creation		XR / VR	Design & Architecture
		Heritage & archive	

Table 1. Sectors that are associated with screen production

As many of those working on generators or technical production are freelance, it is difficult to locate who would provide training, how it would be accessed and who would fund it. There are multiple organisations that could potentially benefit across different sectors as the skills are highly transferable. However, without a secure employer relationship, freelancers would need to be paid to attend training, yet, such investment is less visible to the organisation that is dependent upon the freelance labour market and could therefore decide that training is the responsibility of the freelancer themselves or a state or charitable entity.

To elaborate on the complexities of film and TV production work cultures, it is worth explaining its core production processes, consisting of the following stages, in depth:



Figure 1. Visualisation of the core production processes

The concept and development stage is the ideation and gathering of funding, the pre-production stage is the preparation for physical filming including hiring key

department heads, equipment and logistics, the production stage is the physical filming, the post-production stage is the editing, colour grading, pick-ups, sound mixing etc, and the distribution stage is the means through which audiences view the production.

For most contemporary productions, these are somewhat linear with considerable overlap and some circularity, especially for complex series production. However, for the purposes of this paper we are focusing on the first three stages of the production process, as this is the remit of most current UK-based sustainable policy and guidelines. This is also where most concerns with clean energy are actualised (i.e. the shoot) or planned (development and pre-production). Impacts taking place in the first three stages are categorised as Scope 1 and 2 emissions (Gravier, 2025). As noted above, Scope 1 involves direct emissions produced by the filming activity itself, including the use of energy from generators or onsite fuel combustion through travel. Scope 2 concerns indirect emissions linked to the consumption of purchased energy (including electricity to power the stage or heating or cooling for office spaces that connect to power sourced from the grid). Post-production can be especially complex due to co-production or outsourced activities and may not be located in venues such as studios that can be managed by film companies – thus, for clarity, they are not addressed in this report. Furthermore, distribution and viewing form a part of the value chain that falls under Scope 3 – they are not considered here (as is also often the case in industry literature (Sustainable Production Alliance, 2024)). To make this analysis viable, we focus only on Scope 1 and Scope 2 as they apply to the pre- and production processes.

As the complexity of the production process is significant, it needs careful unpacking to understand how sustainability and power requirements intersect. An AV production may involve several overarching production companies, a complex supply chain, overlapping financial and legal commitments, as well as potentially outsourced production officers (who may be freelancers). A common model may involve a large production company creating a smaller, UK-based company temporarily for one series for example, often referred to as a Special Purpose

Vehicle or Entity (SPV/E). It will be registered at Companies House with one shareholder (the large production company), and at the end of the series (or season), it will be dismantled. While such a temporary approach makes financial sense, it undermines any long-term consistency, especially when it comes to work practices or sustainable work cultures relying on values and strategic visions.

This paper mainly deals with 'below the line' workers who, broadly speaking, do all the administrative and technical work behind the camera. They are nearly always freelance workers and expected to adapt to the production's aims and norms. A crew is often fixed by the Grip (rigging and camera support) or Gaffer (electrician), or through an agency. The use of a freelance workforce for these transient projects, again, makes financial sense from a corporate perspective. But, when coupled with the temporary nature of the organisational arrangements and temporary production companies, explained above, the fluctuating and on-off schedules make any consistent application of power management or skills training very challenging.

If coordinating power management across organisational and role-specific divisions can be challenging, location shooting presents another major imposition on power. For one, all location shoots must have permission and / or a licence depending on whether they are on public or private land. Local authorities issue licences so that disruption to any public spaces can be managed effectively. This process of managing licencing and checking that conditions are being met is also often outsourced, as councils have cut costs. Where an employee of the Council would have been the film coordinator to liaise with and administer filming licences, this is now often outsourced to a third-party company. Such concerns, as we will see below, run the risk of leading to what Kaapa and Vaughan (2023) call the 'responsibility deficit', whereby it is difficult to locate the 'owner' of responsibility over governance and management of sustainability on AV sets. Would this fall under the remit of the film company, the council, a sustainability coordinator, or a sectoral body like BAFTA? The lack of clear responsibility often

leads to its absence and, consequently, to loosened or ineffective application of sustainability standards.

The complexity in locating the most efficient means of managing and coordinating sustainability is therefore present at multiple levels: firstly, the level of policy sub-sectoral overlap; secondly, at the level of the production process; and finally, at the level of the council where filming takes place on public property. Such concerns have emerged as a focus of attention in the AV industry, with distinct international, country-specific, municipal, regional and local approaches to sustainability coordination. The next sections will evaluate how the industry has been attempting to tackle these environmental concerns in the sector with a focus on clean mobile energy and how these concerns and remedies play out in relation to power management. We provide a case study of the Camden Council's generator policy to demonstrate how the complexities laid out above contribute to challenges in implementation before presenting how a granular understanding of power management might offer insights into opportunities for green transitions in the AV industries.

4. Accessing power that is environmentally sustainable

As noted above, in 2025, BAFTA albert produced the 'SPARK' report with the aim of providing practical support for industry leaders seeking to use clean energy resources in their move to more sustainable production processes. The problem was clearly laid out: "In 2024 alone, UK productions burned over three million litres of fossil fuel in generators, and more than half of all productions relied almost entirely on fossil fuels." (BAFTA albert, p.1). Previous reports by the BFI, BBC and Arup (2020) found significant under-reporting of emissions data and called for greater transparency and accuracy in reporting, a recommendation that is shared by the CoSTAR Foresight Lab (2025). Whilst appearing to be a simple task, reporting is compromised by commercial confidentiality and a lack of agreement on the measurements themselves, both of which have created substantial obfuscation of transferable benchmarks, and with them, barriers to progress on effective sustainability management.

Despite these complications, the SPARK report, alongside others such as the US based Rocky Mountain Institute 'A Decarbonizing Roadmap for Film and TV Mobile Power (Loewen et al. 2025) and the BAFTA albert 'Climate Action Blueprint', highlight the need to move towards greener generators and fuel sources such as Hydrotreated Vegetable Oil (HVO), solar and electric. They also recognise the potential sustainability savings generated by accessing energy via the grid. This latter point could provide a key area for local or regional film infrastructure development as the UK grid transitions to cleaner energy.

The Grid Project (Film London, 2023) is a key innovation here. With funding from the Mayor's Good Growth Fund, NBCUniversal, Interreg Europe's Green Screen and the British Film Commission, the project designed an approach to supply green energy via the mains network, with their key intervention being the installation of an electrical feeder pillar at a central unit base in Victoria Park. The evaluation of any reported impact on emissions is yet to be published, with the data calculations proving especially challenging but the impact on *local* air quality by using the grid rather than diesel generators is self-evident. Similar infrastructure approaches have been adopted with substantial success internationally – such as the City of Vancouver's Reel Green initiative (2026) – and utilising infrastructure could be deployed more productively at commonly used base sites across the country too.

There is also broad agreement across reports that transport with diesel or fossil fuel powered trucks (lorries) for transportation and movement of base camps, equipment and people have a significant impact on emissions. The Film London Fuel Projects (2023; 2024), for example report that the burning of fossil fuels for transport and power account for around 50% of the total greenhouse emissions from the screen industries in London. These reports acknowledge the key issues of supply chains which are particularly important for a sector that is heavily reliant on outsourcing during any production. However, the reports also acknowledge that a transition to cleaner fuel supplies would come at a cost to existing suppliers: "To decarbonise, the total cost of ownership (TCO) to London's suppliers would rise from £39 million in 2023, to £54 million in 2030, to £63

million in 2040." (Erickson et al, (2024) p.6). There are examples of some large production companies encouraging the use of cleaner energy sources such as electric generators through increasing the demand for clean mobile power, providing training and incentivising production partners. Such interventions include the Clean Mobile Power Initiative and anecdotally a requirement by some producers for outsourced filming companies to use electric generators and vehicles when filming outdoor sports events live for their channels. Similar large contractual incentives from the industry could support local companies to invest in what is otherwise an expensive transition.

As HGVs contributed 20% of domestic transport CO_2 emissions in 2021 (gov.uk), decarbonising freight transport is considered central to achieving national net zero objectives. According to Gridserve, replacing the UK's diesel HGV fleet with electric HGVs would deliver emissions savings equivalent to the annual energy consumption of 2 million homes (Finnerty, 2025). Yet, while the film and TV sector is a heavy user of HGVs, there are major complexities in coordinating their use, with some productions using BECTU-unionised HGV crew, others opting for freelancers. While this applies to the diesel HGV fleet, the picture is even more complex with electric HGVs as regulations on driving licences restrict their applicability among film crews.

Other opportunities to encourage a transition to greener energy would be pro-actively through tax incentives at the national level or business rates relief at the local level through Local Authorities (gov.uk 2). The former has been highly successful in attracting productions in national and regional markets. In the UK the 'Audio Visual Expenditure Credit' (a tax rebate) is linked to expenditure per hour of content and to 'cultural' quotas such as the number of department heads that are UK citizens but does not currently connect to sustainability incentives. Linking these types of incentives to sustainable practices and emission controls could support both local and international investment and the transition to a greener sector. Green levies at a local level could enable local councils to invest in infrastructures, purchase batteries for production hire or support local SMEs in

the sector in their transition to sustainable practices. Levies on streamers at a national level could similarly provide investment in the transition of the sector.

In summary, the sector has demonstrated genuine willingness to lead its own transition to net zero, with a growing range of initiatives already in place. Yet translating this commitment into consistent practice remains difficult, shaped by the pressures of long NDAs, complex and varied business models, a fragmented and transient workforce, and the inherent tensions of a global industry operating simultaneously at local, national and international levels. To understand how these dynamics play out on the ground, we turn now to a place- and practice-based case study of filming in the London Borough of Camden, which illustrates both the progress made and the obstacles that remain.

5. The Case of Camden

Establishing sustainable protocols for filming in Camden highlights some of the issues in translating policy into practice at the local level. Camden is a popular location with a range of varied locations, from 1960s brutalist designed estates to parks, gardens, canals and regency terraces. It has been used widely in high-profile productions including *Paddington*, *Eternals*, *Spectre* and *Fleabag*. Combining a major touristic destination with a residential location, the borough provides both a culturally distinct but also (when required) a transferable metropolitan shooting location. Since 2013, Camden Council have outsourced licensing and administration of film permissions to FilmFixer who similarly act as an agent / intermediary for 17 other London borough authorities (FilmFixer, 2026). The current contract states that FilmFixer Ltd is "responsible for managing the licensing of all film making in the borough's public realm and managed buildings" (Camden Council (2023) p.1) providing the Council with 'concession income'. Crucially, Filmfixer is noted as an industry leader in sustainability and has spearheaded the 'Generator Project' in partnership with all the local authorities with which it holds a contract and it is therefore a good match for the Council's priorities as "Camden Council has declared a climate and ecological emergency and has committed to do all that it can to reduce greenhouse gas emissions in the borough by 2030." The Council, in awarding FilmFixer its contract for film

concession, cites under “Environmental Implications” that FilmFixer's “strong environmental policy and evidence that their advice and contract for filming operations are performed in a way that minimises environmental impact. They have founded the Generator Project of which Camden is leading the way to ensure clean air thinking is part of all Film shoots in Camden” (London Borough of Camden 2023b: 7).

The popularity of the diverse locations in a central, metropolitan area comes with both a cultural and environmental cost. In 2020, following complaints from residents regarding air pollution from generators used in film and TV production, a meeting was hosted by FilmFixer and Camden Events to discuss alternative fuel sources and generators. The meeting also raised the potential for a levy of £25-£100 per day for the use of diesel generators complimenting the parking surcharge for older diesel vehicles. At the meeting, discussions were had about the legality of this proposed levy, some proceeds of which would be ring-fenced to pay for enforcement of the rule and alternative energy forms. It is unclear whether this levy was ever attempted or passed beyond the proposal stage, and the coronavirus crisis in the coming months shut down filming for some time in the Borough of Camden and everywhere else. This potential levy was subject to consultation with the film and events industry, but it appears that it was never introduced.

Instead, in 2024 the Council secured funding from the mayor's office for five air quality projects aimed specifically at filming stating that “These events represent a potentially significant source of air pollution and carbon emissions, with 910 licensed filming days in the borough in 2023.” (Camden.gov.uk). However, between 2024 and 2026 residents have made complaints about the use of diesel generators on a number of occasions, which have been reported in the local media outlet *Fitzrovia News* and on the @ChetwyndRoad Twitter/X account). One shoot in May 2022, for example, drew complaints for, among other things, the use of diesel generators (Rees 2022). While this complaint is four years old, it relates to a popular streaming platform which has elsewhere projected a long-standing dedication to reducing carbon emissions and improving the health of the planet,

it also uses SPV/Es. Thus, whilst progress has been made in the implementation of policies for a green transition across the sector this example underlines that enforcement and accountability remain problematic.

Ultimately, the Camden case highlights the issues and barriers that arise from mobile power use on film/TV sets. There is a clear call for more sustainable and mindful alternatives from the industry and from external parties, such as community groups and even councils. Yet, the implementation of innovative solutions like renewable generators or EV transportation seems to be lacking as per the ongoing protests against such activities. Local newspapers highlighted this shortcoming: "While Camden has a strategy to reduce air pollution, including a ban on engine idling, its own street marketing teams — The Film Office and Events Team — is allowing ICE equipment to be used and seemingly at odds with its own policy, in addition to the noise pollution this causes. This suggests the council is institutionally incompetent" (Rees 2022b). While this local reporting may be somewhat pre-occupied by its focus on a singular issue, there is clearly an acute concern among local residents about the impacts of incoming productions and their production protocols. While this case foregrounds the impact of energy choices at a local level and gives councils some power in actioning and / or enforcing greener practices, compromises are clearly evident. Accordingly, as compliance with the council's mandates seem to be ignored or avoided, more binding regulation or governance approaches might have a stronger ability to influence these choices.

6. Implications for training and skills development

As may be evident from the above, the local is only as powerful as the skills-base of the individuals implementing guidelines and policy in practice. Thus, green skills (including energy know-how) are a sustainability concern for the creative industries. This need for green skills was highlighted in Creative PEC's recent skills audit, which found that 43% of employers in the screen sectors (as defined by DCMS) identified sustainability skills as a key future workforce need, compared with 28% across the creative industries overall (Giles et al, 2026, p.18). Therefore, while green infrastructure requires investment in the grid, it also requires

economic support to update existing training provisions. BAFTA albert's training programme provides a route to upskill the workforce in the use of existing infrastructure and resources, this provides generalist tools and knowledge on climate awareness. The infrastructures and resources however vary greatly across the country and the globe (given that the sector is international) and therefore require bespoke approaches. The BFI's Screen Skills framework has been established in recognition of a skills and talent gap and the requirement of more bespoke practical training but has only been recently instituted, in addition the BFI, BAFTA albert and Screen Skills have created National Occupational Standards and checklists for sustainability roles in film and tv production (BFI, 2025). As yet however these roles are not required or normalised for all production processes and their ability to steer productions will depend upon a combination of the will of the production company they are working for (usually as freelancers) and the regulations or requirements that exist in any given set of contractual arrangements that span the production process.

For the purposes of this paper, we would like to underline that there is a need for people who are trained to understand and calculate the appropriate energy use for any given shoot. This is a complex task which requires an in-depth knowledge of the production process in addition to understanding how power supplies ebb and flow throughout a production day. Currently, industry practice and work culture norms significantly over-inflate the energy needs as this is a risk averse sector where any disruption to current production practice is often resisted, particularly if there is a fear or perception that this could disrupt smooth running of the production process. Consequently, quick decisions are made on securing (more than) ample power for the shoots, leading to the use of generators that are oversized and inefficient. Instead, a key recommendation that SPARK, for example, makes is to shift to using hybrid or more renewable sources for generators as the industry waits for a wider shift in production culture, access to cleaner generators and infrastructure.

In practice, using HVO or electric generators is only part of the solution if there are insufficient skills to understand how power can be used more efficiently and

sustainably. There is a clear appetite in the industry to engage in these practices with SPARK recommending incentives and support to help in this transition. Upskilling existing electricians in the workforce through paid or accessible training for freelancers working in this area would be a start, but this training should comply with industry agreed standards and align with the National Occupational Standards framework. Such a major investment would need to be backed up by policy and economic resources to allow it to be rolled out across the industry.

Training is also needed from school age onwards. The sector relies upon a wide range of skilled workers from dancers to construction workers and understanding what sustainability means in theory and in practice will support a change in the over-riding and under-lying production cultures. Currently, for example, it is virtually impossible for someone who is sub-contracted through several other companies and / or freelancers to suggest or implement a change during a shoot. The shoot is set and each person works as directed. In manufacturing, the 'lean production' model often encompasses the ability for workers to stop production if an error occurs or quality is compromised. Whilst this isn't directly transferable to the AV industry (immediately stopping production is drastic and costly) it should be possible for workers to point out where productions could be more sustainable and where possible, they should be empowered to action a change either immediately, for the next shoot or the next production. Upskilling in this respect would work alongside empowering those working in each department. This is a cultural shift which is always difficult and, even more so, where there are multiple outsourced companies and freelance individuals involved.

To take a pertinent example of where the knowledge and training gap becomes explicit, there are currently some strict compliance issues around transporting, loading and unloading lithium-ion batteries with a capacity that exceeds 100Wh and lithium metal batteries that exceed 2g of lithium. Such items are classified as 'dangerous goods (class 9) and their use in production logistics thus invokes 'The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment

Regulations 2009' (GB) and 'The carriage of Dangerous Goods and Use of Transportable Equipment Regulations (Northern Ireland) 2010' (NI). These regulations state that a Dangerous Goods Safety Advisor must be consulted to ensure compliance with the regulations. Anyone driving a vehicle containing these batteries must hold an 'Accord Dangereux Routier' (ADR) vocational training certificate issued under appropriate regulations in GB or NI following an examination and this must be renewed every five years. The full qualification requires between 6 and 10 exams with costs of up to £200 per person. Furthermore, there are additional requirements around the extent to which a battery with full charge can be transported by road which is beyond the scope of this paper.

The above complexities are largely missing from current considerations of the transition of the sector to a more sustainable model of production. They highlight the need to consider legislation that might be prohibitive or require companies to obtain additional support for compliance purposes. They also foreground the need for a cross sectoral approach that can identify where moving to greener initiatives in one sector has implications for other sectors, specially licensed drivers for example. In this case it is not just the need for vehicles to be electric but to consider the implications of transporting and moving large capacity electric power sources to facilitate practice. Such questions exceed the AV industry's provenance, but regardless profoundly shape its day-to-day.

7. Conclusions

Generator use and grid access are an increasing focus for the film and TV industry. Guidelines, policies, practical suggestions and some limited incentivisation is already taking place. Both SMEs and freelancers face limitations in terms of upgrading their gear and practice to meet sustainability standards. A number of major media companies, including global streamers, are shifting industry practice simply through the volume of their financial investment in production. Yet, the sustainability metrics embedded in requests by a large organisation like a global streamer on a small local operation providing services for the production can be overwhelming or out of scale for the local operation

(despite also providing an incentive for companies to upgrade their sustainability preparedness). Without additional support there is a risk that a move to a more environmentally sustainable model may compromise the financial sustainability of SMEs and freelancers. Thus, to accelerate – sustainably – the transition to a lower carbon footprint, the sector needs government support to help the remainder of the sector to follow suit in switching away from diesel generators[6]. Possible areas of support include:

- *A review of regulations and licensing to remove unnecessary obstacles and support to access appropriate licensing;*[7]
- *Skills development for production set energy management, including the skills needed to accurately estimate energy requirements (to avoid over-provision of diesel-based mobile energy supply);*
- *Review of incentives to use battery-powered generators*[8]*, replacing the use of diesel generators.*
- *Scoping the potential for grid infrastructure development to support sustainable location shooting.*

There may be some scope for an intermediate government intervention to help address temporary market failure in the transition from diesel generators to battery power. At this stage, there does not appear to be an appetite, either from industry or policy, to put mandatory regulations in place due to their potential impacts on competitiveness and disadvantaging creative industry investment. Yet, more feasible developments enabling the transition are emerging at a local level. The sector overall has recognised generators as an issue, as larger production companies are leading the way in developing innovative permanent alternatives to diesel generators, but their sectoral adaptation is dependent upon

[6] Whilst noted as part of the broader issue, skills are not included in the recommendations here which are specifically focused on the removal of diesel generators entirely as a step change in production processes.
[7] Whilst the authors recognise the need for robust health and safety legislation a review would highlight where technology has surpassed existing legislation. For example, it could assess whether this specific license is required to load and unload electric generators and batteries or just carry them or whether the license is still required for batteries that are safety checked for stability prior to transportation.
[8] The authors would like to note that battery powered options are not unproblematic. The extraction of rare metals needed for batteries is extremely destructive in terms of both environmental and social sustainability and welfare (see: Svampa, 2019; Jerez et al, 2021). This is potentially storing a problem for the future and requires continued innovation to find better, more sustainable solutions for the planet and all that share it.

both infrastructure and the extent to which production is outsourced. The task is to support the bulk of the sector, including the large number of SMEs into adapting to and utilising alternative energy supplies to facilitate a permanent change that creates a new ‘norm’ in the production process.



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