SPARK

Clean Temporary Power by 2030

ALBERT

FOREWORD

The film and TV industry has always thrived on innovation – on imagining what's possible and bringing it to life. Today, that spirit of creativity must extend behind the camera to the way we power our productions. The climate crisis demands urgent action, and our industry has both the responsibility and the opportunity to lead.

SPARK is our call to action, to build a coalition around a permanent shift to clean power. Developed throughout 2025 by the BAFTA albert Sustainable Production Task Force in consultation with industry, suppliers, and energy experts, it builds on the foundations laid by initiatives such as A Screen New Deal: A route map to sustainable film production (2020), Screen New Deal: Transformation Plan for Wales (2023), The Fuel Project II: The Shift (2024), ACCELERATE 2025 (2025). Validated by independent experts from Imperial College London (via Imperial Consultants) for technical and economic viability, SPARK is designed to be practical, ambitious, and future facing.

Why does this matter?
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. The environmental and health impacts are undeniable, but so is the opportunity. Temporary power is one area where our industry holds direct influence.

> SPARK is our call to action, to build a coalition around a permanent shift to clean power.

By transitioning to clean solutions, we can reduce emissions, cut air pollution, and create quieter, healthier sets without compromising creativity.

Following the publication of BAFTA albert's landmark report and guide, ACCELERATE 2025, SPARK sets out a clear roadmap for all UK production types and genres that is supported by three pillars of action: **Reduce, Retool, Reskill**.

SPARK is designed for decision-makers, producers, suppliers, policy makers, and individuals across the production ecosystem. And while its scope is UK-based, its principles can inspire change far beyond our borders.

Support of SPARK signals the start of a collective movement as organisations ranging from broadcasters, media and production companies, suppliers and others not only support SPARK but internalise its recommendations to enable change.

This is just the beginning – as many more organisations are expected to join as the campaign grows and accelerates industry-wide action.

Success will depend on adoption of SPARK through collaboration across the supply chain, alignment with policy, and commitment from every corner of the industry. Together, we can ensure that the stories we tell are powered by solutions that protect the planet.

We can only meet our climate goals if we rapidly increase adoption of clean power. Let's spark the change.

APRIL SOTOMAYOR

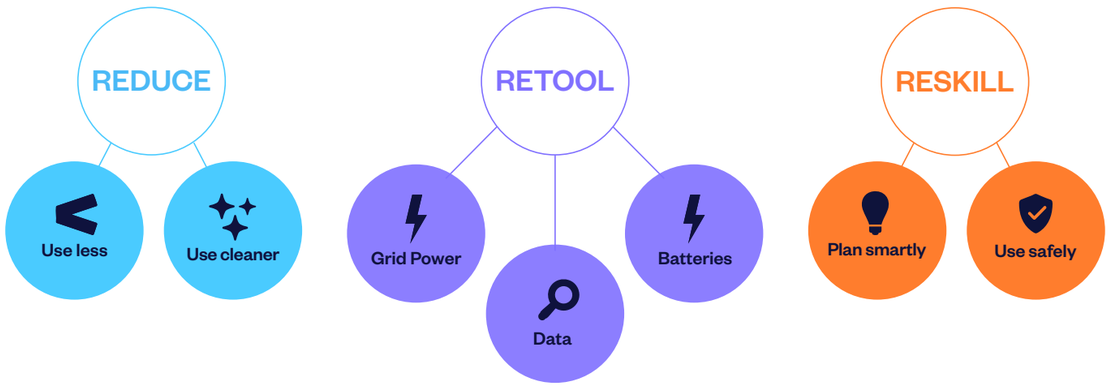
Head of Industry Sustainability, BAFTA albert

Sustainable Production Task Force, co-chair

CONTENTS

ENERGY & TECHNOLOGY TRANSITION

PILLARS OF ACTION



ENABLERS

EXECUTIVE SUMMARY

SPARK is the UK film & TV industry's roadmap for a permanent shift to clean temporary power. Developed in 2025 through research, consultation with stakeholders and energy experts, and validated by independent experts from Imperial College London (via Imperial Consultants), SPARK supports the Industry's Statement of Intent.[1]

SPARK is designed for all UK-based productions across all genres including films, scripted, unscripted, sport, and outside broadcasts, and is relevant to:

- Commissioning entities and financiers – decision-makers shaping and funding content
- Producers and Productions – those planning and delivering productions
- Suppliers – providing power and infrastructure
- Policy Makers & Support Organisations – enabling change through aligned policies
- Industry Practitioners – crew, sustainability professionals, and power experts

It is a living document to reflect technological and market developments, and designed to be optimistic but pragmatic, recognising the creative and variable nature of production.

WHAT'S CHANGING BY 2030?

Phasing Out:
- A phase-out of fossil-fuels and stand-alone generator use before 2030

Transitioning via
- Hybrid generators and HVO fuel, where necessary

Phasing In:
- Grid power
- Battery solutions and other clean technologies

SUPPORTED BY THREE PILLARS OF ACTION:

- REDUCE – Cut energy demand and emissions through efficient planning and equipment
- RETOOL – Upgrade infrastructure and technology for clean power
- RESKILL – Equip teams with knowledge and training to plan, budget, and operate clean power solutions

Delivering SPARK requires a united industry effort. Success depends on coordinated action to activate key enablers: using data and insights to guide decisions, providing skills and training to crews and suppliers, embedding clean power into budget lines to stimulate demand, and enabling the supply chain to scale through strategic financing. Clear and consistent communication and engagement will be essential to ensure this pathway is not only ambitious—but achievable.

METHODOLOGY

To ensure SPARK is robust, representative, and actionable, a comprehensive due diligence and consultation process was undertaken:

INDUSTRY TASK FORCE FORMATION

A Sustainable Production Task Force was convened along with a dedicated focus group to address emissions from temporary power and identify potential solutions.

EVIDENCE-BASED APPROACH

The roadmap was grounded in sector-specific research and real-world industry experience to ensure relevance and feasibility.

SUPPLIER CONSULTATION

A structured engagement process was run by Creative Zero with Suppliers to introduce the key messages, barriers and enablers, the three strategic pillars, timeline and funding considerations. Feedback was actively incorporated in the expert review to refine the roadmap.

EXPERT REVIEW

Imperial College London Consultants provided an independent review of SPARK and its techno-feasibility, offering cross-sector insights and best practice recommendations which were incorporated.

INDUSTRY ADVISORY GROUP OVERSIGHT

The process was directed and endorsed by BAFTA albert's Industry Advisory Group, ensuring alignment with sector-wide decarbonisation targets and accelerating collective action.

GLOSSARY OF TERMS

TECHNOLOGIES

Battery – devices which convert chemical energy to electrical energy.

BESS – Battery Energy Storage System

Generator – portable power source based on internal combustion engine technology, typically manufactured to run on fossil fuels.

Hybrid Generators – use of multiple energy sources, predominantly batteries combined with generators.

Hydrogen Fuel Cell – technologies which convert hydrogen and oxygen to electricity through an electrochemical reaction.

Renewable Technology – non-resource depleting energy systems that generate clean energy directly at the location where it is used.

Solar PV – Solar Photovoltaic, commonly referred to as solar panels, converts sunlight into electricity.

ENERGY SOURCES

HVO – Hydrotreated Vegetable Oil. A lower-carbon, interim fuel made from waste vegetable or animal fats.

Certified HVO – HVO fuel that has been certified by an independent body to meet specific standards for sustainability and quality, ensuring it has not been produced from virgin crops to avoid land use change and deforestation.

Clean Fuels – low-emission alternative to fossil fuels.

Green Hydrogen – hydrogen produced by renewable energy sources.

Grid Power – electricity supplied from the National Grid.

Renewable Energy – energy derived from natural sources such as solar, wind, hydro, geothermal, or biomass that are replenished at a higher rate than they are consumed.

OTHER TERMS

Average Power – Mean energy use over time.

CO2e – Carbon Dioxide Equivalents. Metric used to standardise all greenhouse gases to one common factor.

Energy Storage – energy reserve for later use.

kW – Kilowatt. Unit of energy used to describe how much energy an item of equipment will use, or the amount of energy a generator or battery can deliver.

kVA – Kilovolt-amperes – the complete amount of power that is being used in a system, such as a generator.

kWh – Kilowatt Hour. A unit of energy measurement, used in energy meters to measure consumption over a period of time and specifies the capacity of a battery storage unit.

NOx – Nitrogen Oxides – primarily nitric oxide (NO) and nitrogen dioxide (NO2), which are pollutants formed during combustion.

OB – Outside Broadcasting

Temporary Power – Short-term power supply, often referred to as 'location power'.

UPS – Uninterrupted Power Supply. Continuous stable power provided when primary source of power fails.

INTRODUCTION

SPARK is the industry's roadmap for a permanent shift to clean solutions for temporary power. Developed throughout 2025 in consultation with industry stakeholders and energy experts, it serves as a companion to the film & TV Industry's Statement of Intent.

SPARK draws on guidance from previous publications like the Screen New Deal[2], Screen New Deal Wales[3], and The Fuel Project II: The Shift[4]. SPARK has also been validated by independent experts from Imperial College London (via Imperial Consultants).

Launched in 2025, it is a living ambition rather than a one-off static document and will be reviewed annually to reflect changes in technology, innovation and market trends, ensuring stakeholders are kept updated with the latest guidance and information.

Embracing an optimistic but pragmatic approach, SPARK encourages using the right solution for the 'job in hand' to suit the variable and creative nature of the industry. Built on several informed and future-facing assumptions that may change and evolve, any exceptions or adjustments in the lead up to 2030 and beyond will be clearly communicated in subsequent updates.

WHO IS THIS FOR?

Designed to pave the way for an industry-wide transition, SPARK covers all UK productions of every genre and production type, including scripted, unscripted, sports and outside broadcasts. The plan is scoped for productions filming in the UK, where consultation with the supply chain and assessment of existing infrastructure, policies, and practices have provided a clear basis for the roadmap — though many of its principles also apply when filming abroad.

SPARK is primarily guided towards the following stakeholders:

Commissioning entities and financiers – or more broadly, those who hold ultimate decision-making power in relation to production/ content being agreed, funded, and created

Producers and productions – or more broadly those involved in the planning, supporting, producing of film & TV content in the UK

Suppliers – Our production supply chain, as well as those supplying the UK production industry with power options

Policy makers and industry support organisations – A broad group of organisations who support the industry and can align policies and efforts to enable parts of the plan (e.g. government & local authorities, guilds & unions, industry bodies, sustainability consultancies, and others)

Individuals – such as crew, experts and sustainability professionals

In addition, whilst not the primary audience, we hope that this document and its intended impact can inspire others beyond the boundaries of our industry and the UK.

WHAT DOES THE TERM "CLEAN TEMPORARY POWER" COVER?

In the context of SPARK, the term 'Temporary Power' refers to instances whereby a short-term electrical supply is used to provide power for the production or outside broadcast of audio-visual content.

'Clean Temporary Power' relates to the energy sources, technologies, and operating practices that can deliver significant reductions in emissions and pollutants whilst meeting the operational requirements of industry.

BACKGROUND AND RATIONALE

In 2024, BAFTA albert established the Sustainable Production Task Force as part of its efforts to create a comprehensive industry blueprint. The Task Force's mandate was to identify a path towards a sustainable future for behind-the-camera operations, with data from the albert toolkit and Task Force input providing a consensus for prioritising temporary power:

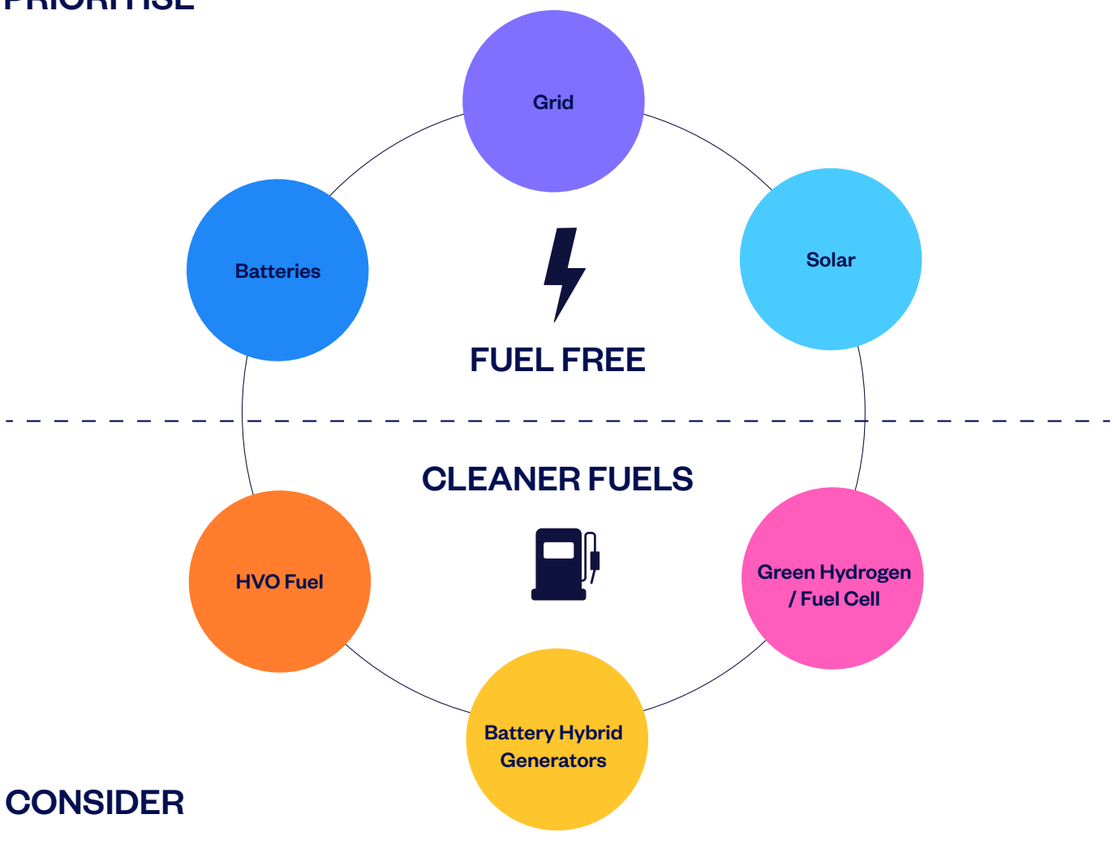
Designed to pave the way for an industry-wide transition, SPARK covers all UK screen production types – films, scripted and unscripted TV, sports, and outside broadcasts – across every genre.

The industry has already seen success in phasing out the use of traditional generators towards cleaner alternatives, with over half of productions now incorporating at least some clean power solutions when filming on location, but with much more work to be done.

- Problem – For decades, diesel generators were traditionally the default choice for productions. In 2024 alone, more than 3 million litres of fossil fuels were used for the provision of temporary power[5], despite the introduction of cleaner solutions. With more than half of all UK productions requiring temporary power[6], there is a need to accelerate the transition to clean solutions.
- Opportunity – Productions have direct control or influence over temporary power procurement, and transitioning away from diesel offers immediate benefits, including reduced air pollution and noise.

THE CLEAN SOLUTIONS

PRIORITISE



CONSIDER

CHOOSING THE RIGHT CLEAN POWER SOLUTION

Every production has its own unique set of requirements and circumstances and needs the flexibility to find the right solution for the job at hand. SPARK is not intended to be overly prescriptive, but to set out as clearly as possible what can be achieved by those using the pathway. This section should be used as a decision guide to help productions match their operational needs with the cleanest and most practical solutions available today.

PRIORITY CLEAN SOLUTIONS

(Adopt first wherever practical)

These options deliver the lowest emissions and optimal performance for most UK productions.

- UK grid power – the cleanest, most cost-effective and reliable primary source of electricity.
- Battery technology – a key enabler for flexible, on-site clean power storage.
- On-site renewables – can supplement battery solutions where space and conditions allow.

SPECIALIST CLEAN SOLUTION

(Use where conditions are suitable)

- Green hydrogen fuel cell units – suitable for specific high-power or hard-to-electrify applications.

TRANSITIONAL SOLUTIONS

- Hybrid systems – combine generators and batteries to deliver substantial emissions savings, particularly when operated with HVO.
- HVO (Hydrotreated Vegetable Oil) – a lower-carbon, interim fuel for reducing emissions where electrification is not yet feasible.

Exceptions – Due to the unique characteristics of the industry there may be a role for Hybrid + HVO beyond 2030 in limited circumstances. Examples of this would include: contractual requirements for added resilience, particularly in outside broadcasting; limited availability of BESS; or unforeseen circumstances or force majeure.

There may also be a limited number of bespoke technologies which are unable to adopt HVO as a transition fuel and do not yet have a cleaner alternative solution readily available.

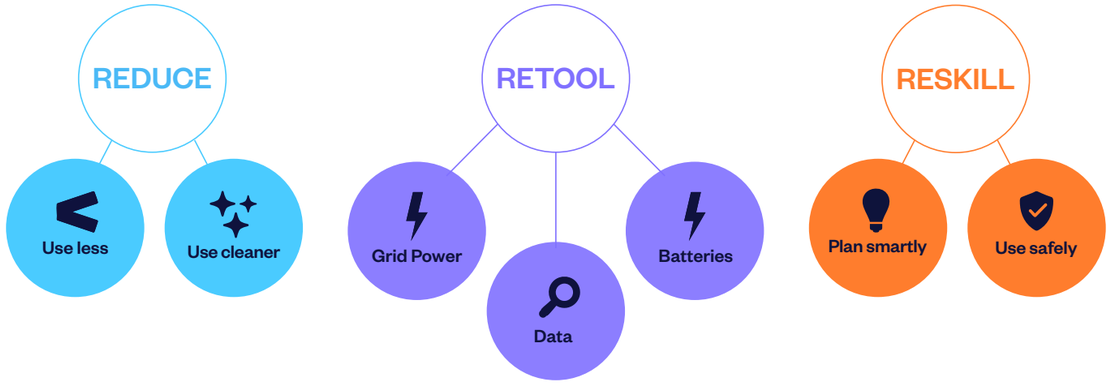
One eye on the future – Horizon scanning and annual updates are needed to reflect changes in market trends and technologies

Throughout the research and development phase, a broad range of roadblocks were identified. Solutions have been earmarked and now need to be developed so that we can overcome these challenges and pave the way for the smoothest and fairest route to achieving clean temporary power by 2030.

SPARK FOUNDATIONS: THE THREE PILLARS OF ACTION

The development of SPARK has provided the foundation for identifying the three pillars of action that will guide the industry's transition away from generators to clean temporary power by 2030.

Main actions identified in SPARK can be summarised by the following three pillars:



REDUCE

Reducing energy demand and emissions is key to the transition to clean technologies.

- Energy demand – reduce power requirements with efficient equipment, effective planning and good working practices
- Emissions – reduce emissions and pollutants by switching power sources and embracing new technologies

RETOOL

To enable the technological transition there is a need to retool our industry and develop the required infrastructure.

- Energy efficient equipment – particularly low energy lighting and heating/cooling
- Technical transition from combustion engine to clean temporary power solutions
- Installation of accessible grid power outlets of various types and specifications
- Deployment of digital data logging and reporting solutions

RESKILL

Equip teams with knowledge and training to integrate and operate clean power solutions safely and effectively.

- Provide knowledge and support to plan and incorporate clean temporary power, including
  - Understanding power requirements
  - Budgeting for clean power solutions
  - Embedding clean power during planning & production
- Educate people on the safe and efficient use of new solutions and technologies through
  - Required skills development, training, and certification
  - Full adherence to safety & compliance standards
  - Effective design and practical application of clean power options

A successful clean power transition depends on progress, not perfection. Productions can take meaningful steps today by phasing out the most polluting options, using transitional fuels and hybrid systems to maintain continuity, and steadily adopting scalable clean power technologies as the new standard.

ENERGY SOURCES & TECHNOLOGICAL SOLUTIONS

This section models how the transition to clean power could be achieved by 2030, by illustrating how energy sources and technologies could evolve with the full support detailed throughout SPARK.

The accompanying graphics are indicative and are designed to help visualise the ambition behind SPARK's calls to action – such as reducing energy demand, retooling infrastructure, and reskilling the workforce.

They show a phase-out of fossil fuels, the temporary role of transitional fuels like HVO, and the increasing adoption of electricity from the grid, hydrogen, and on-site renewable energy solutions.

The underlying data draws from the Fuel Project and Screen New Deal reports and reflects our bespoke approach for the UK Film and TV industry.

These scenarios are illustrative of our ambition and should not be interpreted as definitive forecasts; the actual energy mix will depend on future decisions, technological developments, and industry uptake. Including these graphics helps contextualise the scale of change required and mitigates the risk of misinterpretation by clarifying that they represent directional goals rather than fixed outcomes.

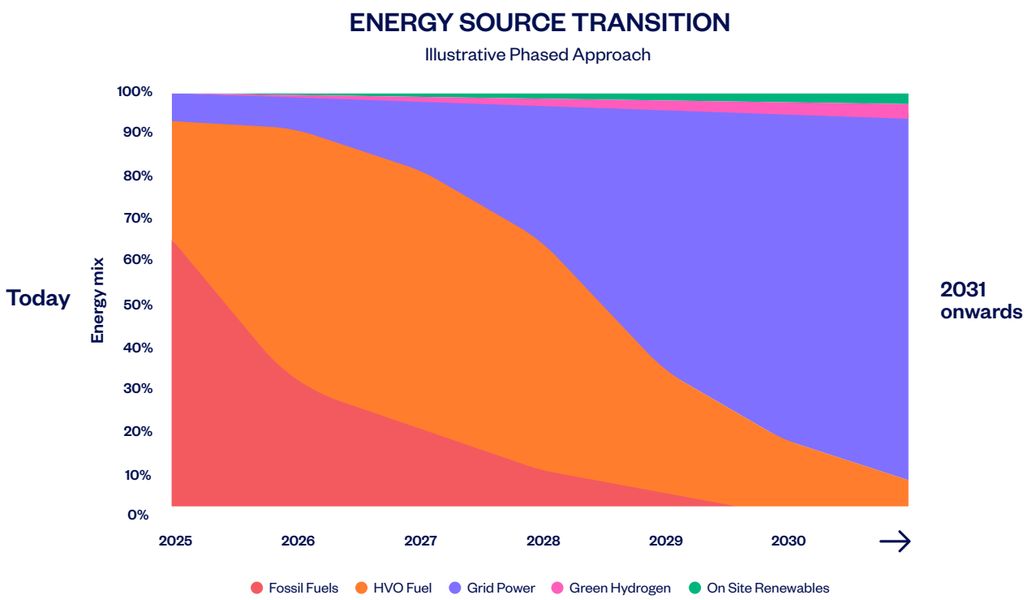


Figure 1 Energy sources: where the power comes from and how clean power is expected to be phased in by 2030 and beyond whilst fossil fuels are phased out.

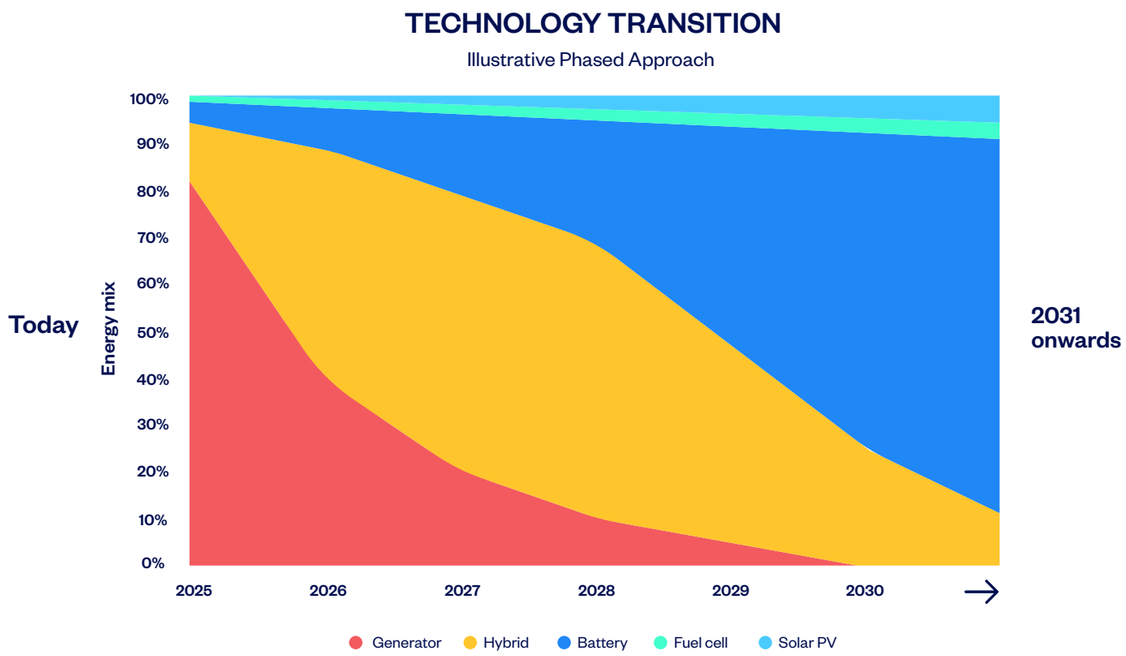


Figure 2 Technological solutions: how power is stored, distributed, or used on set and how these technologies are expected to be phased in as part of the transition, with generator use phasing out towards 2030.[6]

When planning power requirements, it is important to distinguish between:

- Energy sources – where the power comes from (e.g. grid electricity, renewables, HVO, green hydrogen)
- Technological solutions – how that power is stored, distributed, or used on set (e.g. batteries, hybrid systems, hydrogen fuel cells).

Both are essential. Clean energy sources reduce emissions, while the right technologies ensure reliability and flexibility in diverse production contexts.

The UK's commitment to decarbonising the national grid by 2030[6], combined with rapid advances in battery technology, provides a strong foundation for the industry's clean power transition.

Batteries, whether used as standalone systems, integrated into hybrids, or combined with solar, are expected to meet most on-set power needs.

The emerging innovations such as those discussed above will continue to expand clean power options over time.

Detailed information on each energy source and technology, including pros, cons, and key considerations, is provided in the Appendix.

KEY ENABLERS

ENABLER 1

DATA & INSIGHTS

The adage “what gets measured gets managed” underscores the crucial role of data-driven insights in fostering focus, accountability, and continuous improvement.

The current absence of a systematic approach to capturing, reporting, analysing, and sharing data-driven insights has made the **development of a digitised data strategy** a priority to address several challenges:

- Inconsistent data metrics
- Poor quality or missing data
- Insufficient quantity of data
- Manual effort/time requirements
- Margin for human error

Power Utilisation
Power-related data offers the necessary insights and evidence to accurately guide decision-making and investment planning. This data can be captured and reported by digital software and hardware solutions ensuring maximum accuracy with minimum effort.

Transition Metrics
To effectively measure progress and allocate resources, several transition metrics require consistent tracking, measurement, and reporting. The BAFTA albert toolkit provides a framework to capture these data points on a production-by-production basis and will be integrated into the albert ‘Next Generation Toolkit’ scheduled for launch in 2026. This will give suppliers clarity and consistency regarding key information to be provided to productions during and at the end of kit hire.

Industry Analysis and Insights
By combining power data with information on evolving energy sources and technologies, valuable evidence-based insights can be aggregated and built up over time. These insights can support producers, suppliers and other key stakeholders in making informed decisions. One potential avenue is through BAFTA albert’s industry sustainability reporting, which could provide a platform for analysing data and presenting insights in a way that supports shared decision-making across the sector.

1

ENABLER 2

SKILLS & TRAINING

Learning and development is essential to ensure productions are equipped to succeed and that crew can use new technologies safely and competently in their roles.

The BAFTA albert Task Force, alongside wider industry partners and consultancies already active in this space, has a critical role in supporting and coordinating these efforts.

Skills & Training are initially focussed on two distinct areas:

1) For productions

- Effective planning and budgeting for clean power
- Understanding power requirements and the relevant solutions
- Budgeting for clean power solutions
- Embedding clean power during planning & throughout production

2) For suppliers and crew

- Safe and efficient use of new solutions and technologies
- Ensure skills, training & standards (e.g. BS 7909) are relevant to clean power solutions
- Safety & compliance is updated accordingly
- Effective design and use of clean power options to give maximum results

2

ENABLER 3

FINANCE & FUNDING

The everchanging environment that the film and TV industry is experiencing currently has resulted in a general notion that production budgets are feeling increasingly stretched, and feedback from stakeholders is that there will be low appetite to see significant production budget increases.

In many instances, cleaner options are already proving cost effective, aided by falling prices of clean tech such as battery[7] and solar. In addition to this, there are several solutions that can support the transition and mitigate against additional costs being passed directly on to productions.

Production Finance
Productions are generally time-poor, meaning planning and budgeting is most easily done based on precedent and the experience of the production finance and production management roles. The easiest plans to make are those similar to the most recent production worked on, which leaves little capacity in the schedule to explore or introduce new solutions on set. The role of production and budget planners will become even more important and need to evolve to reflect the changes in energy sources and technologies as laid out in SPARK.

Supplier Finance
As Suppliers look to invest in clean technologies, guidance and support to understand the total cost of ownership will help find an appropriate price-point to pass on to customers. As a rule of thumb, where there may be an increase in the cost of hardware, there can often be associated savings in fuel and logistics to factor in making many clean power solutions either cost neutral or cost efficient in certain circumstances and a broader data set of in depth cost/benefit analysis will help the case for support.

Additionally, efforts should be made to develop cost effective ways for suppliers to finance investments in clean tech, examples such as low-cost loans and the development of leasing models can reduce the burden of capital expenditure and be reflected in competitive pricing.

Funding Requirements
There are several elements of SPARK that will require initial investment to stimulate activities and ensure a smooth and fair transition. These elements have been dubbed “cost of change” and it is generally acknowledged that funding should not be the sole responsibility of individual organisations. It will be for each supporting organisation to determine their own funding strategy to achieve the vision of SPARK. Examples of these items include:

- Capital investment in grid infrastructure
- Dedicated resources to develop and deliver projects and initiatives
- Development of Skills & Training programmes
- Supplier support and incentives
- R&D and innovation activities
- Accelerator projects

3

ENABLER 4

COMMUNICATION & ENGAGEMENT

Effective communication and engagement are crucial for a successful transition. They build trust, reduce resistance, and ensure understanding of the changes, their impact, and their rationale. Clear vision, addressing concerns, and regular updates foster ownership and commitment, which are essential for successful change initiatives.

Through BAFTA albert there will be a communication and engagement programme with SPARK focusing initially on these key elements:

Case Studies
In-depth, transparent case studies offer an effective mechanism for peer-to-peer learning, inspiring others about the possibility of change. They also provide a valuable way to share lessons learned, helping to raise standards through collective learning.

Events & Webinars
Integration into industry events to meet people where they are and a programme of webinars can provide opportunities to land key messages and support collective learning.

Communications Channels
There are a host of communications channels that can be utilised to reach stakeholders, some of whom may not already be directly engaged in the topic but need to be aware. Supporters of SPARK are expected to engage their stakeholders through their appropriate channels with key messages.

Exploratory Clean Power Forum
Providing a platform for discussion, inspiration, sharing challenges and providing a feedback loop has been identified as an important part of the Transition. The BAFTA albert Task Force will work with the Industry Advisory Group to support how this initiative might run.

4

ENABLER 5

SUPPORT & RESOURCES

Toolkit Development
The BAFTA albert Toolkit is an effective way to guide production teams towards making sustainable choices and is also a good platform to collect data and build insights that can be reflected back to the industry. The Toolkit will be updated to align to SPARK to capture key metrics and signal best practice for those seeking production certification.

Guidance
Different groups across the industry – production teams, production companies, suppliers, and commissioning entities and financiers – require tailored guidance to understand what is expected of them. Some of this guidance will be provided centrally through BAFTA albert's online resource hub, while other elements, such as guidance for suppliers linked to contractual requirements, will need to come directly from the organisations or contract holders engaging them. In this way, all stakeholders receive the right information through the most relevant channels.

Searchable Locations
To support production teams in planning and operations, the potential for a searchable database and operating model could be explored. Such a resource would help production teams and other stakeholders identify suitable grid power locations.

5

ROLES AND RESPONSIBILITIES

COMMISSIONING ENTITIES AND FINANCIERS

- Consistent messaging to producers, including a request to engage with SPARK, to prioritise clean power solutions as detailed in the plan, and to gather and submit data.
- Review internal policies and documentation to reflect the evolving dynamics of the conversations (e.g. tech specs, contractual deliverables, guidance documentation for producers etc).

PRODUCERS AND PRODUCTIONS

- Set out the expectations with crew and heads of department ahead of joining the production.
- Engage with suppliers to work together proactively.
- Encourage suppliers and crew to engage with SPARK.

SUPPLIERS

- Engage with SPARK to help shape business planning and investment decision making aligned to the plan.
- Work with production companies and crew to collaboratively drive progress on energy efficiency, good working practices, procurement of clean solutions and the safe and efficient use of clean technologies.

PLACE-BASED FOCUS

Local & regional authorities can play a vital role in supporting infrastructure development and making grid power accessible for production teams. This group of stakeholders can also align policies to support the uptake of clean technology, supporting both carbon reduction and cleaner air in the places they serve.

Film offices can support production teams in planning to prioritise grid connections, and signposting towards local suppliers of clean technologies. They can also work in lockstep with local & regional authorities to develop suitable plans for infrastructure deployment, while communicating the project to their varied stakeholders.

Studio owners, event locations, sporting venues, organisers, landlords and relevant authorities should install appropriate and accessible grid infrastructure, reducing the need for additional mobile power solutions on site while supporting the uptake of battery technologies through accessible recharge facilities.

APPENDIX

MOVING ON FROM DIESEL & PETROL

Fossil fuels are a non-renewable energy source that release carbon emissions and create air pollution, contributing significantly to climate change and reduced air quality. Phasing them out in favour of cleaner, renewable energy sources is crucial to meet industry decarbonisation targets and should be done in the near term.

This section provides detailed information on each energy source and technology, including pros, cons, and key considerations. The energy sources and technologies are listed in alphabetical order.

ENERGY SOURCES

Electricity from Mains Power
Electricity is supplied directly from generation to customers via the power grid. The UK has ambitious plans to provide clean electricity on the grid by 2030 and will provide one of the cleanest and most efficient sources of energy. In the context of this plan, electricity from the grid can be used to either power a production directly, to recharge battery systems of various sizes, or a combination of the two for additional flexibility and reliability.

Pros
- Ease – simplest and most efficient route to clean power
- Cost – one of the most cost-effective methods to reduce emissions
- Reliability – broadly reliable and stable power supply, minimising disruption to productions

Key considerations
- This relies on commitments from UK Government to ensure the rapid, continual decarbonisation of the grid.
- Priority – grid power should be the priority starting point for all stakeholders when considering clean power options
- Renewable tariffs – until the UK grid is fully decarbonised, prioritisation should be given to ensuring grid connections are backed by renewable energy tariffs where practically possible

Green Hydrogen
Hydrogen is a clean fuel that, when consumed in a fuel cell, produces only water. Hydrogen can be produced from a variety of resources which are often assigned colours as a reference, such as coal (black/brown) and natural gas (grey), nuclear power (pink) and renewable power like solar and wind (green). Green hydrogen whereby renewable energy is used to electrolyse water is currently the only recommended option of SPARK.

Pros
- Zero Emissions – green hydrogen is a type of clean fuel that produces no harmful emissions at point of use
- Renewable energy – green hydrogen is produced from renewable energy sources
- Power demand – green hydrogen can deliver large quantities and long durations of power

Cons
- Highly Specialist – requires specialist handling, management and logistics
- Budget – is currently an expensive fuel with significant development required to bring price parity with other solutions

Key considerations
- Green hydrogen is currently the only clean option available, and other colours of hydrogen should not be considered.

HVO
HVO (Hydrotreated Vegetable Oil) is a synthetic diesel which can be made from a variety of sources. SPARK focuses on certified HVO, ideally made from used cooking oil.

Pros
- Compatibility – drop-in alternative to diesel and compatible with majority of existing generator fleets
- Reduced emissions – net carbon emissions can be reduced when considering the carbon absorbed by the original feedstock source
- Cleaner burn – HVO burns at a slightly higher temperature than conventional diesel with less sulphur content, reducing engine build up on wear
- Storage Duration – fuel can be stored for long periods of time

Cons
- Emissions – combustion of HVO still produces emissions and pollutants, calculations vary widely depending upon feedstock, production methods, calculation methodology
- Cost – HVO is typically slightly more expensive to produce and purchase than conventional diesel due to the production process and current supply limitations
- Availability – the supply of HVO is currently limited, as global production capacity is still catching up to growing demand. This is forecasted to become exasperated by competition from other sectors such as shipping and aviation
- Ethical sourcing – concerns can arise if virgin vegetable oils are used as feedstock instead of waste products, which could raise issues related to land use, food security, and deforestation. Sourcing from verified waste streams is a key part of its sustainability

Key considerations
- Certified – HVO must be sourced from a Renewable Fuels Assurance Scheme (RFAS) accredited supplier and the associated Renewable Fuel Declarations for the batch should be provided to the production.
- Transition fuel – HVO should be seen as a transitional fuel for use with existing generator fleets or with battery hybrid solutions. HVO use should not support further investment in combustion generators. Priority should still be given to grid power where possible.

On Site Renewables
There are several ways to generate power from renewable sources, the most practical option being solar power which is also the most abundant of all energy resources and can even be harnessed in cloudy weather. Wind power is also an option, with small-scale turbines being used on construction sites and music festivals, but more work is needed to fully understand its potential for the TV & film industry.

Pros
- One of the cleanest forms of energy
- One of the cheapest forms of energy
- Solar is the most abundant of all energy sources
- Can be effectively mounted on trailers, including as microgrids.

Cons
- Light level dependant – may see reduced generation if there is heavy cloud cover, shading from trees etc.
- Seasonal – Variability of effectiveness due to a number of factors, including shorter daylight hours in winter
- Additional technology – requires a battery to capture and use renewable energy effectively

Key considerations
- Practical considerations such as available space and logistics need to be factored in when considering solar and wind.

TECHNOLOGICAL SOLUTIONS

Batteries
Batteries store chemical energy which can then be converted into electricity on demand and can be recharged, allowing them to be used many times.

Batteries come in a wide variety of forms, and different chemistries. In the context of this plan and our industry, batteries fall into several distinct categories:

1. Portable batteries that can be easily moved and positioned by hand or moved on a trolley. Generally, between 2-20 kWh of energy storage

2. Mobile battery units that can either be trailer or vehicle mounted and moved to where the power is needed. Generally, between 50-350 kWh of energy storage

3. Transportable battery systems that store higher amounts of energy but are not specifically designed to be moved on a regular basis. Generally, 500kWh and upwards

Pros
- Can store and move energy (ideally renewable) to where it is required
- Offer flexible, scalable power solutions that can be configured and expanded as needed
- Can be used in combination with other technologies such as grid power, generators and solar to provide long duration and resilient options
- Can provide cost efficiencies in certain situations

Cons
- Requires relatively high upfront investment compared to generators
- Store a finite amount of energy and need recharging, making planning and management of battery systems a core requirement

Key considerations
- Industry suppliers should be prioritising investment in battery technologies
- Producers should be considering how best to integrate batteries into workflows and planning, including end of life
- Ethical considerations, particularly in the raw materials used to produce, and disposal of batteries at the end of useful life

Grid Connections
It is feasible to connect to the UK's power grid in a variety of ways, allowing production teams to access power directly from grid connections, as a way of recharging battery system; or a hybrid blend of the two.

Types of grid connections:

1) Grid cabinets frequently used locations and venues may warrant investment in dedicated infrastructure.[8]

2) General power supplies can be accessed in locations that may not warrant investment in dedicated infrastructure, but can provide sufficient power for a variety of use cases, or be utilised to recharge battery systems.

3) Temporary power supplies are feasible for different sectors[9] and also in other countries[10] and could be developed for the TV & Film industry with support from energy grid stakeholders and policy makers.

4) EV charging infrastructure could be utilised to recharge mobile battery systems.

Pros
- Most efficient route to accessing clean power
- Cost effective solution

Cons
- Investment – Requires investment to provide appropriate access points
- Location – Some locations/ regions may not have sufficient grid infrastructure close enough to be accessible by production teams
- Requires support from landowners and policy makers

Hybrid Generators
The term 'Hybrid Generator' in the context of this plan broadly refers to the integration of a battery working in tandem with a generator. This solution provides the benefits of continuous power from the generator with the efficiency of batteries and can provide a useful stepping stone on the route to full electrification, particularly where grid power isn't yet accessible, or until there is greater confidence in full battery solutions.

Hybrid systems can also be configured to charge from multiple energy sources such as grid power, EV charge points and solar energy.

Hybrid solutions can also be considered a viable solution where there is a need for resilient, uninterrupted power, with the battery serving as a type of UPS.

Pros
- Can offer a relatively cost neutral solution when operated in an optimal configuration to maximum fuel savings
- Could be used with existing legacy generator fleets
- Provide flexible solutions for a range of use cases

Cons
- Can carry a cost premium depending on the configuration due to additional equipment, transport and logistics requirements
- Requires a larger space or vehicle to cater for the battery, generator and fuel tank
- Still reliant on fossil or HVO and the associated emissions

Key considerations
- A good near to mid-term transitional solution on the route towards full electrification in the long-term
- Particularly effective when used in combination with HVO

Hydrogen Fuel Cell
Hydrogen fuel cells (HFCs) generate electricity through electrochemical reactions, eliminating the emission of harmful substances, including carbon dioxide and other pollutants. HFCs are particularly effective as a clean power solution when used in conjunction with green hydrogen.

Pros
- Produces zero 'tailpipe' emissions
- Considered a clean solution when used in conjunction with green hydrogen as a fuel
- Can meet high power/ high energy demand applications, particularly in remote or off grid locations where alternatives are limited.

Cons
- Space – Requires a relatively large space for the HFC, the fuel compound and the safety perimeter
- Specialist needs – Requires specialist handling, transport and logistics
- The fuel needed is expensive option in comparison to other solutions
- Hydrogen solutions are relatively nascent and yet to scale up in the UK

Key considerations
For most production use cases, other clean power options are currently more practical and cost-effective.

Solar PV
Solar PV uses solar panels to convert sunlight directly into electricity. These panels contain photovoltaic cells made of semiconducting materials, typically silicon, that generate an electrical current when energized by light.

There are a number of use cases for solar to be used effectively, particularly when coupled with batteries, whilst various innovations have led to an expanding list of deployment opportunities such as ground mounted systems, mobile systems, battery integrated solutions, and flexible, light weight panels that can be mounted in ever creative circumstances such as on top of trailers, cabins and marquees.

Pros
- Price – Solar technology has seen significant price reductions over the past 20 years and are now a cheap option for generating clean renewable energy
- Simplicity – A variety of solutions all providing quick and simple deployment opportunities
- Reduces the demand on CTP solutions by providing direct energy to the production

Cons
- Sufficient space is required to deploy panels in sufficient quantities depending on the use case
- Only operate in daylight hours
- Come with seasonal variability due to longer or shorter daylight hours

Key considerations
- Should be seen as an additive part of an energy mix, rather than a standalone option. For example, used in conjunction with a battery system
- Requires space, additional transport & logistics considerations in some circumstances

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About BAFTA albert

albert is the leading screen industry organisation for environmental sustainability.

Founded in 2011, we support the film and TV industry to reduce the environmental impacts of production and to create content that supports a vision for a sustainable future.

albert is a BAFTA owned and industry backed organisation.

We offer online tools, training, events, practical guidance and thought leadership to all screen industry professionals with the aim of helping them to identify and act upon opportunities on and off screen that will lead to effective climate action.

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