Clean Mobile Power Initiative

THIRD DERIVATIVE | RMI

Charting the Path to Clean-Powered Productions

A Decarbonization Roadmap for Film and TV mobile power

Executive Summary / December 2025

Authors and Acknowledgments

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Clean Mobile Power Initiative

About the Clean Mobile Power Initiative

In 2023, to help identify and scale zero-emissions power technologies that meet the unique power, size, and mobility requirements of the film and TV industry, Netflix and The Walt Disney Company, with support from RMI and Third Derivative, launched the Clean Mobile Power Initiative (CMPI) (**https://cleanmobilepowerinitiative.org/**). This initiative set out to increase the availability of clean alternatives to diesel generators in the entertainment industry by unifying demand and accelerating supply for mobile batteries, hydrogen power units, and hybrid systems.

There are three main action pillars of CMPI:

- **Demand signaling:** Demonstrate growing unmet demand for clean mobile power solutions from major studios in the entertainment industry. Secure commitments from major production vendors to make these clean technologies available in all major markets.
- **Training and education:** Publish insights to inform the transition to clean mobile power technologies by 2030. Create training materials to accelerate the operational integration of these new technologies, specifically for the film and TV production industry.
- **Acceleration of supply:** Establish a technology accelerator targeting clean mobile power solutions for the entertainment industry. In November 2023, 10 companies were selected as a part of the Clean Mobile Power Cohort to participate in a two-year accelerator program, gaining bespoke access to industry consultants, testing events, and pilot opportunities with partner studios. These technology providers were selected based on their ability to produce a large-scale solution that could deliver 90+ kilowatts of power and 300+ kilowatt-hours of storage capacity, and meet the mobility and size requirements of the industry. The selected global companies with battery energy storage systems, hydrogen power units, or hybridized systems include Allye (**https://www.allye.com/**), Ampd Energy (**https://www.ampd.energy/**), Electric Fish (**https://electricfish.co/**), H2 Portable Power (**https://www.h2portable.com/**), Hone (**https://honeinc.ca/**), Instagrid (**https://instagrid.com/**), Joule Case (**https://www.joulecase.com/**), RIC Electronics (**https://ricelectronics.com/**), and Sesame Solar (**https://www.sesame.solar/**).

About Third Derivative

Third Derivative, RMI's global climate tech accelerator, is accelerating the rate of climate innovation. Third Derivative's inclusive ecosystem rapidly finds, funds, and scales climate tech globally. By uniting and aligning investors, corporations, and experts with the world's most promising climate tech startups, Third Derivative bridges finance and resource gaps to increase the speed to market. The flexible and highly curated remote accelerator program enables startups to focus on their unique needs and opportunities. Together, we are moving markets to achieve an equitable climate future. Learn more at **www.third-derivative.org**.

About RMI

Rocky Mountain Institute (RMI) is an independent, nonpartisan nonprofit founded in 1982 that transforms global energy systems through market-driven solutions to secure a prosperous, resilient, clean energy future for all. In collaboration with businesses, policymakers, funders, communities, and other partners, RMI drives investment to scale clean energy solutions, reduce energy waste, and boost access to affordable clean energy in ways that enhance security, strengthen the economy, and improve people's livelihoods. RMI is active in over 50 countries.

About This Roadmap

This roadmap serves as a guide for key stakeholders in the film and TV industry who are driving the transition to clean mobile power and larger decarbonization targets. It is intended for studios, equipment suppliers and rental companies, production executives, clean mobile power manufacturers, and on-set crew members who influence power planning, investment, and operations. Each plays a vital role in shaping demand, scaling supply, and enabling adoption.

Stakeholder-specific courses of action and recommendations can be found below:

- Production crew
- Studios
- Suppliers
- Line producers and unit production managers
- Executive producers, directors, and cast
- Unions, guilds, film commissions, and industry coalitions

Although developed with the film and TV industry in mind, the insights and strategies here are similarly relevant to individuals and organizations advancing clean mobile power in adjacent sectors — including live events, construction, and sports production. These audiences can draw from the frameworks presented to inform their own transitions toward reliable, cost-effective, and sustainable mobile power solutions.

This report was developed as a final deliverable within the CMPI for its partners and funders.

Executive Summary

For decades, the global film and TV industry has relied on diesel generators as the means for powering film sets on and off studio lots.[i] These generators have enabled crews to film in novel locations and adapt quickly to changing schedules, and have become an ingrained part of the production of films, TV series, and live broadcasts. However, diesel generators are not a perfect solution: they are noisy; are powered with fossil fuels, whose price is volatile; they create harmful emissions; andforce those nearby to inhale noxious fumes that damage health.

Fortunately, new technologies are emerging that can deliver clean, quiet, and healthy solutions for productions of all scales.

Driven by the expansion of renewable energy generation, the continuous and rapid decline in lithium-ion-based battery costs, and the development of emerging hydrogen technology (specifically hydrogen power units, or HPUs), new clean mobile energy generation and storage solutions are quickly emerging as suitable replacements for diesel generators. These solutions are essential not only for offering co-benefits to film productions — such as quieter operation, reduced cabling needs, and cleaner air — but also for freeing them from the fluctuating price of fossil fuels, allowing for better budgeting and a smoother production process.

Focus on emissions

Although diesel generator emissions from productions total only approximately 700,000 tons of CO_2e per year at a global scale, they account 15% of a production's total Scope 1, Scope 2, and Scope 3 business travel (air and accommodations) emissions.[1] Without cleaner options, this share of production emissions will only grow as other emissions-heavy areas of production move away from fossil fuels.[ii] For productions looking to meet sustainability and climate goals, clean mobile power solutions are a necessary place to focus their decarbonization efforts.

This roadmap outlines market-ready clean mobile power solutions, a set of guiding "north star" objectives to align the industry on scaling adoption, and collaborative strategies for the film and TV industries in the United States, Canada, and the United Kingdom to reduce diesel generator use across productions and scale clean mobile power adoption. Findings and recommendations are informed by stakeholder engagement and real-world pilots conducted through the Clean Mobile Power Initiative.

A commitment from the industry

The adoption of clean mobile power supports the climate targets established by major film and TV studios over the past several years. For instance, BBC Studios, Disney, Netflix, and Paramount UK have

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i Diesel generators are the prominent fossil fuel generators used on productions; however, in certain geographies, full-size as well as "putt-putt" generators can also be fueled by gasoline. Clean mobile power solutions offer a strong replacement option for these fossil fuel generator types.

ii For scale, in 2024 global GHG emissions totaled 53.2 Gt CO2e. Therefore, diesel generators account for 0.0013% of global emissions. Source: **https://edgar.jrc.ec.europa.eu/report_2025**.

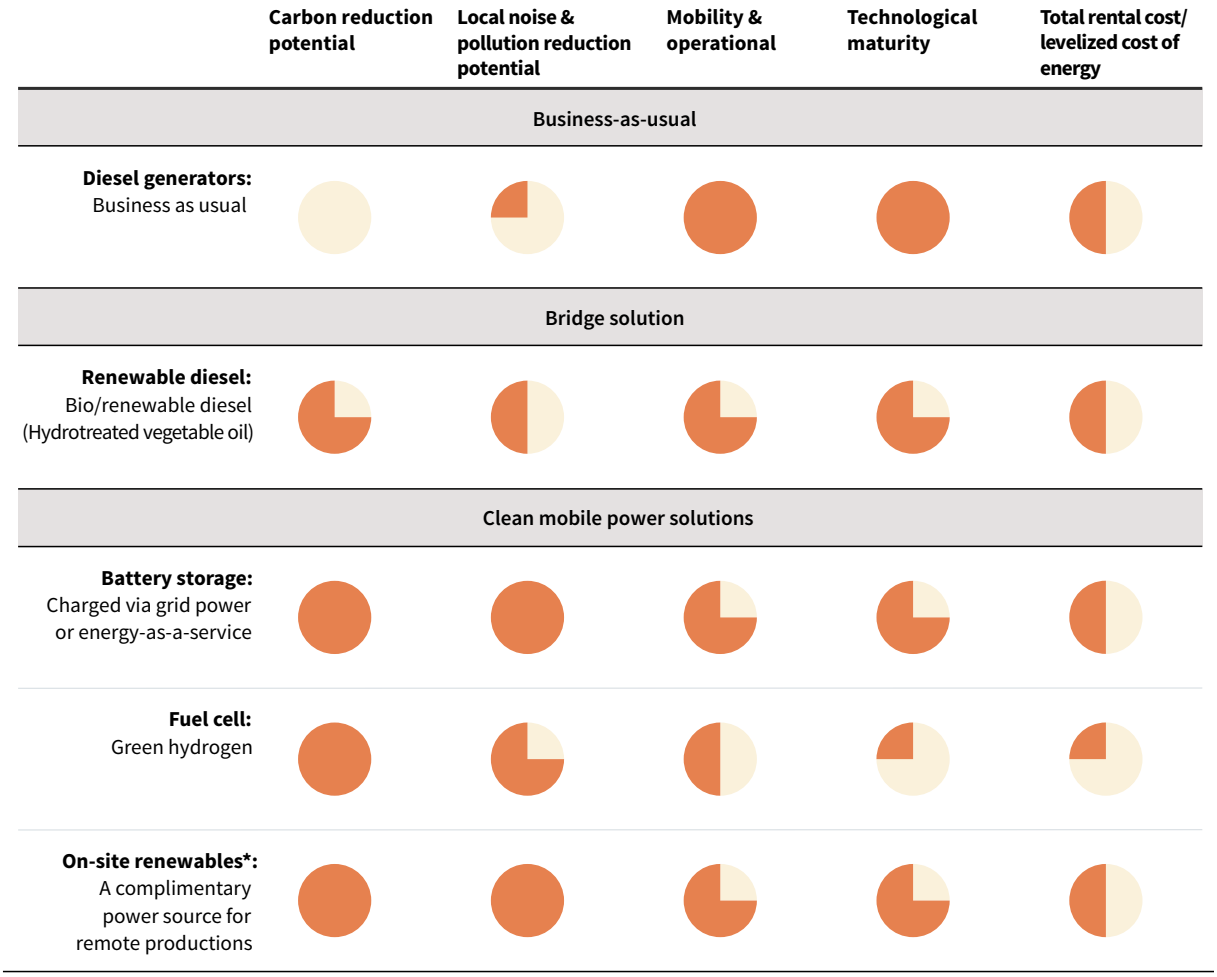
committed to halving their operational (Scope 1 and 2) emissions by 2030; Sony has committed to reducing operational emissions to zero by 2030;[2] and NBCUniversal has also committed to achieving carbon neutrality by 2035 for operational emissions.[3]

The move away from diesel is already happening

In addition to meeting necessary climate goals, the clean mobile power transition also supports operational and experiential improvements for the production crew as the industry moves away from diesel generators and the many inconveniences associated with their use on sets. Exhibit ES1 outlines some of these benefits, showing how clean mobile power solutions — such as battery energy storage systems and HPUs — can reduce noise and air pollution, improve mobility and operational flexibility, and provide cost savings.

Exhibit ES1

The multitude of benefits derived by clean mobile power



*On-site renewables do not meet the required power capacity of a production set alone, but are an important clean power generation technology to be used in combination with battery storage and fuel cells.

Source: RMI analysis

Despite these benefits, the use of diesel generators has remained high across the industry due to their portability, integration into existing operational systems, low upfront per unit cost, ease of refueling, and inertia. However, in recent years, studios globally have begun to adopt clean mobile power on production sets. In 2024, Netflix used clean mobile power technologies on all scripted productions under its direct management. As a result, almost half of those productions reduced generator fuel use by more than 20%, and 15% of productions reduced generator fuel use by more than 50%. Netflix is also working directly with its production partners to share findings and best practices to encourage clean mobile power technology usage for its productions not directly under its purview as well.[4] Meanwhile, in 2024, Disney achieved 38% progress toward a 46% reduction of Scope 1 and 2 emissions by 2030 across the entirety of its operations, including studio productions.[5]

How we get to clean mobile power

Transitioning to clean mobile power in the film and TV industry requires coordinated action around a set of five shared objectives:

1. **Reduce overall energy demand on productions.** Efficiency measures can reduce overall energy demand by up to 49%; rightsizing to address actual power needs means serving productions without spending on unused energy.

2. **Increase availability of fit-for-purpose clean mobile power units.** Although clean mobile power options are widespread, units tailored to the entertainment industry remain scarce. Studios can band together to send market signals to manufacturers and rental houses that demand for industry-specific clean mobile power exists.

3. **Decrease costs to parity or below diesel.** Increased economies of scale reduce per-unit costs, and again studios can lead the charge by establishing joint procurement mechanisms and advance market commitments to encourage industry. Novel insurance and financing strategies can further help de-risk projects, as can government incentives.

4. **Drive investment into product development and scale.** Ensuring that the clean mobile power needs of the film and TV production industry are reflected in the innovation priorities of the $40 billion (and growing) investment in emerging battery and storage technologies could have a transformative effect on this market. Coordinated purchasing strategies, coupled with supportive government policy, can further align these efforts to accelerate the development and large-scale deployment of clean mobile power solutions.[6]

5. **Promote adoption and literacy across crews.** Without the many hands that make a production work, clean mobile power adoption simply will not happen. Education, familiarization, and proving technological reliability in a “no mistakes” industry is essential for success.

Achieving these objectives will take collaborative, cross-industry action. Aggregated demand, executed through advance market commitments and joint procurement frameworks, can turn fragmented interest into predictable, bankable orders that give suppliers the confidence to invest in clean mobile power solutions. Furthermore, flagship pilots on major productions can showcase power reliability as well as operational and creative compatibility. And implementing innovative financing, insurance, and energy-as-a-service models spread risk and simplify adoption. Finally, government incentives and shared charging and refueling infrastructure will further reduce operational barriers and costs. Exhibit ES2 summarizes some of the critical actions needed to advance these objectives across stakeholder and time horizons.

Exhibit ES2

Critical actions for each stakeholder to drive the transition to clean mobile power

Objectives

1. Reduce energy demand on productions
2. Increase availability of CMP solutions
3. Decrease costs of CMP units and services
4. Drive investment into CMP technologies
5. Promote adoption, buy-in, and literacy on sets

	Short-term (1–2 years)	Medium-term (3–5 years)	Long-term (+5 years)
 Studios	- Continue and expand flagship pilot activities 2 4 5 - Engage suppliers and sustainability teams to assess feasible CMP use cases for current productions 4 5	- Structure and formally enter aggregated demand or advance market commitments with peer studios 2 3 4 - Begin integrating energy as a service contracts into recurring or large-scale productions to simplify logistics and costs 2 3 5	- Adopt CMP utilization requirements in green production policies, making CMP the default for specific loads or applications 1 5 - Formalize multi-year service or supply contracts with CMP providers 2 3 4 5
 Suppliers	- Collaborate with studios to find opportunities for flagship pilots 2 4 5 - Communicate to studios and film commissions the exact formal demand signals needed to drive CMP purchases 2 3 4	- Expand CMP fleet inventory 2 3 4 - Collaborate with studios and financiers to develop and access finance tools to derisk CMP purchases 2 3 4	- Co-invest in shared charging and refueling infrastructure in production hubs 2 3 4 - Enter long-term EaaS or supply agreements with studios or studio groups 2 3 5
 Producers	- Champion inclusion of efficiency measures, flagship pilots, and rentals of CMP technology available today 1 2 4 5	- Adopt Energy as a Service (EaaS) arrangements for recurring or large-scale productions 2 3 5 - Make CMP use the production default for specific load categories 1 4 5	- Publicly advocate for clean mobile power adoption 2 4 5
 Crew	- Ask for CMP units available today for pilots and regular rental 2 4 5 - Join introductory training or demonstrations on CMP equipment 5 - Contribute operational data and feedback on flagship pilots 5	- Participate in union discussions and trainings on CMP tech 5	- Develop and specialize in CMP-related roles 2 4 5 - Lead on-set implementation of fully CMP shoots on-location 1 2 5

Source: RMI analysis

By acting collectively, the industry can forge an aligned, accelerated pathway for clean mobile power adoption, establishing these technologies as the new standard for production power and setting a precedent for mobile energy solutions at large.

Report context and considerations

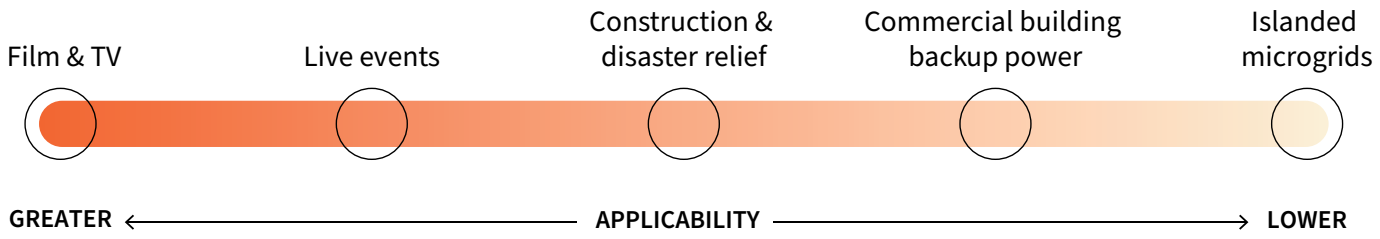
Why mobile power?

Although many areas of film production result in emissions, including use of carbon intensive grid electricity, air travel, acquisition and shipping of materials, accommodation, and catering services, our research focuses on the emissions related to the use of mobile power, primarily from diesel generators. In standard film production today, the use of diesel generators accounts for approximately 15% of the production's total Scope 1, Scope 2, and Scope 3 business travel (air and accommodations) emissions.[7]

Note on applicability to other industries

The focus of our analysis and recommendations in this report are tailored to the film and TV industry, but the learnings apply to a wide range of use cases for mobile power across industries including residential, commercial, and industrial applications. Exhibit ES3 outlines some comparable industries based on power size needs. These industries globally represent a combined market size of approximately $2.7 trillion, representing a significant opportunity to catalyze the advancement of clean mobile power technologies and scaling deployment.

Exhibit ES3 Clean mobile power applicability across sectors based on film and TV production power sizing needs



RMI Graphic. Source: **Grandview Research**; **Fortune Business Insights**

Applicability to other geographies

For this report, our analysis and tailored recommendations focus on the film and TV industry in specific geographies, including the United States, Canada, and the United Kingdom. However, these markets represent only a segment of the global film and TV industry. In fact, while our selected geographies reflect locations with some of the biggest production budgets, many other countries are outpacing them in the number of films produced, including India, China, and Japan.[8] The findings and recommendations in this report can, and should, be applied to productions in other markets, with consideration of geographic-specific conditions, such as availability of grid tie-ins, access to hydrogen fuel and batteries, and fuel and electricity pricing, to assess the feasibility and costs of transitioning from diesel generator use.

Endnotes

1 *A Screen New Deal: A Route Map to Sustainable Film Production*, albert, BFI, and Arup, July 2020, **https://wearealbert.org/wp-content/uploads/2020/09/200901_FinalDraft.pdf**.

2 *Sony Pictures A Greener World*, Sony Pictures Entertainment, January 25, 2024, **https://www.sonypictures.com/sites/default/files/2024-01/sony-pictures-a-greener-world_FINAL-1-25-24.pdf**; *2030 Environmental Goals*, The Walt Disney Company, February 2024, **https://impact.disney.com/app/uploads/Current/2030-Environmental-Goals-White-Paper-1.pdf**; *Our Net Zero Transition Plan*, BBC, 2024, **https://www.bbc.co.uk/aboutthebbc/documents/bbc-net-zero-transition-plan-2024**.pdf; "Paramount UK Sets Out Peak Sustainability Strategy," Paramount, October 11, 2022, **https://www.viacomcbs-mediahub.co.uk/press-releases/paramount-uk-sets-out-peak-sustainability-strategy**; "Sustainability," Netflix, 2025, **https://about.netflix.com/sustainability**.

3 "Environment," NBCUniversal, 2025, **https://www.nbcuniversal.com/impact/environment**.

4 *2024 Environmental Social Governance Report*, Netflix, 2024, **https://s22.q4cdn.com/959853165/files/doc_downloads/2025/6/2024-Netflix-Environmental-Social-Governance-Report.pdf**.

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6 Net Zero Insights, 2025, **https://netzeroinsights.com/**.

7 *A Screen New Deal: A Route Map to Sustainable Film Production*, albert, BFI, and Arup, July 2020, **https://wearealbert.org/wp-content/uploads/2020/09/200901_FinalDraft.pdf**.

8 David Hancock et al., "Global Film Production Hits Historic High, Surpassing Pre-Pandemic Levels," World Intellectual Property Organization, April 30, 2025, **https://www.wipo.int/web/global-innovation-index/w/blogs/2025/global-film-production**.

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