The Measure of Progress: Sustainability Across the Media Value Chain

A progress report across production, the digital factory, distribution, and consumption

By Barbara Lange

Abstract

The state of sustainability in media and entertainment remains unevenly integrated into engineering, operations, and procurement. While some organizations are beginning to translate broad commitments into practical decisions, progress across the sector remains fragmented. The clearest evidence of progress is a new emphasis on measurement, with better information about specific productions, post-production workflows, advertising campaigns, streaming tasks, and devices. This report reviews activity through the four domains of media workflow: green production, the efficient digital factory, sustainable distribution, and conscientious consumption. The overall direction is encouraging. The sector is beginning to develop the measurement methods, shared terminology, and practical evidence needed to connect technical decisions with accountability across organizational boundaries, though more work is needed to prevent fragmentation.

A Sector Moving from Ambition to Action

The media industry has spent much of the past five years building awareness and understanding the concepts of a sustainable media tech sector. Though practical integration of sustainability remains inconsistent, more stakeholders are starting to ask which operational decisions reduce energy, emissions, material use, and waste, and under what conditions. Measurement is becoming the bridge between ambition and action.

Recent data illustrate both progress and scale. British Academy of Film and Television Arts (BAFTA) albert reports that UK productions burned more than three million liters of generator fuel in 2024, with more than half relying almost entirely on fossil fuels for temporary power.[1] The International Energy Agency estimates that data centers consumed 485 TWh of electricity in 2025, a 17% increase in one year, and projects demand will reach about 950 TWh by 2030.[2] While not media-sector specific, together the figures expose a central tension: efficiencies are improving, but demand for compute, storage, streaming, higher-quality formats, and AI is also expanding.

We can understand progress through four parts of the media workflow: green production, the efficient digital factory, sustainable distribution, and conscientious consumption. Each has a different level of sustainability maturity.

Green Production: Making Commitments Operational

Production remains the most sustainably mature domain of the media workflow. Carbon calculators, environmental plans, coordinators, certification schemes, and guidance on travel, power, materials, catering, and waste are now established parts of the production vocabulary. BAFTA albert's 2025 ACCELERATE report drew on voluntary data from more than 2,500 productions undertaken in 2024, collectively reporting nearly 175,000 T CO2e.[3] Participation is substantial and a requirement in many countries, though differing boundaries and incomplete supplier data still limit comparability.

SPARK: Clean Temporary Power by 2030 shows how the field is becoming more specific. Developed by the BAFTA albert Sustainable Production Task Force and independently validated by experts from Imperial College London, SPARK sets out a practical transition away from fossil-fuel generators: phase out stand-alone generator use before 2030; use hybrid generators and hydrotreated vegetable oil where necessary during transition; and phase in grid connections, batteries, and other clean technologies.[1]

The remaining gap is execution at scale. Efficiencies gained per shooting day may be outweighed by travel, scale, or complexity. Despite these challenges, green production offers the rest of the value chain a useful model: identify the material issues, assign responsibility, measure the outcome, and communicate progress.

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The Efficient Digital Factory: Revealing the Hidden Footprint

After capture, content enters the so-called "digital factory" of ingest, editing, visual effects, rendering, localization, media management, security, storage, archiving, and preparation for delivery. These processes span facilities, on-premises equipment, private infrastructure, public cloud, and increasingly, AI. Moving a workload to the cloud can reduce capacity needs and enable dynamic scaling, but it doesn't eliminate environmental impacts. It changes their location, ownership, and visibility.

The principal challenge is the gap between corporate reporting and engineering decisions. ESG reports rarely reveal the energy a specific transcode uses, whether cloud outperforms an on-premises workflow, or whether travel avoided by remote production exceeds added infrastructure demand. The EBU's review of cloud-energy tools found delayed data reporting and differing provider methodologies, useful for retrospective reporting but less effective for real-time optimization and decision-making.[4]

At the 2026 Media Tech Sustainability Summit (MTSS), Clear Cut Pictures and Cut the Carbon described their work to quantify post-production, where embedded variables had long made consistent measurement appear out of reach. Their experience shows that organizations can move from generalized concern to a repeatable operational system by consistent data collection, defining boundaries, and making results useful to the people managing facilities and workflows.[5]

The next step is energy transparency: timely information attached to the workload, asset, or service at a granular level that people can act on in near real-time.

Sustainable Distribution: Measurement Becomes an Engineering Discipline

Distribution is now the most active measurement frontier, spanning broadcast, satellite, cable, streaming platforms, delivery networks, home networking, and receiving devices. Because these systems are shared and owned by different parties, the footprint of viewing depends on allocation methods, audience scale, geography, electricity mix, device type, resolution, and whether the analysis describes average impact or the consequences of a change.

Greening of Streaming (GoS) has shifted the debate from speculative carbon-per-hour claims to direct power measurement and controlled testing. Two GoS papers at the 2026 SMPTE Media Technology Summit cover methods for evaluating encoding and streaming workflows.[6] One connects Remote and Local Energy Measurement with its lab test bench, known as OWL (Online Watt Lab). Cross-testing on a smart plug showed agreement within 0.2% at one-second intervals, while a vendor cloud path underreported a four-watt device by 9–11%. The important point is the ability to combine real-world field data with reproducible laboratory testing to provide a more reliable picture of streaming energy use.

Related GoS testing shows why controlled methods matter. Its February 2026 analysis found resolution to be the dominant driver of encoding power in its dataset, explaining about 55% of observed variance, while bitrate affected encoding.[7] An August benchmark found playback energy across four formats essentially the same when devices had hardware decoding. GoS also published an initial incorrect comparison and reran it after external review, demonstrating how transparent methods improve results.[8]

CBC/Radio-Canada's CarbonIQ adds a commercial dimension to real-time measurement. Developed with Net Zero Media, it estimates Scope 3 emissions attributable to advertising campaigns across broadcast and digital delivery. Using the Global Media Sustainability Framework, the project assessed more than 20 variables, CBC/Radio-Canada's ability to influence them, and responsibility for each factor. Advertisers can receive campaign-level reports rather than relying only on spend-based proxies.[9]

We know no single delivery architecture is universally the most sustainable. Results depend on scale, scope of measurement, utilization, geography, and allocation method. ATSC Planning Team 9 is examining sustainability and media delivery, including ATSC 3.0, but it remains planning work rather than a sustainability standard.[10] SMPTE's Study Group on Sustainability in Media is gathering use cases and requirements that may inform engineering documents.[11] Standards bodies must still align terminology, metadata, and interoperable energy signals. GoS recently submitted to IEEE a proposal for standards work directed at consistent end-to-end energy metrics.

Conscientious Consumption: Designing the Lower-impact Choice

The consumer end of the media lifecycle remains the least understood by the media-technology sector. Energy use takes place across millions of privately owned displays, streaming devices, routers, and game consoles operating under widely varying conditions. Media companies have little access to device-level energy data and limited influence over screen size, brightness, viewing time, replacement cycles, and household settings.

Progress is nevertheless being made, driven largely by manufacturers, regulators, and consumer policy. The EU Ecodesign framework and energy-labeling requirements now address display efficiency, standby power, automatic brightness control, software support, spare-parts availability, and repair information. Labels distinguish between SDR and HDR energy consumption—an important recognition that content formats and display settings affect power demand. The European Commission estimates that display power consumption per unit of screen area was 37% lower in 2020 because of ecodesign and labeling measures, and projects total display electricity use to decline from 84 TWh in 2015 to 62 TWh in 2030 despite increasing numbers and sizes of screens.[12]

Attention is also shifting from operational efficiency to product life. France introduced a durability index for televisions in January 2025.[13] The EU's Right to Repair Directive strengthens access to repairs and extends the legal guarantee when consumers choose repair over replacement.[14] These developments do not provide a complete view of consumption in the sector, but they show progress toward more efficient, durable, and transparent consumer technology.

Connecting Commitment, Action, and Impact

The Media Tech Sustainability Series is now formally integrated into the Media Climate Accord, or MCA. The Accord establishes a direction, while the MTSS provides education, case studies, regulatory context, and industry dialogue. In addition, the MCA's future recognition program will highlight credible industry impact. In this new approach, the MCA provides a commitment to action to impact structure.[15]

The 2026 MCA session at IBC 2026 illustrated what this looks like in practice. Sky presented a mobile clean-power system combining hydrogen fuel cells and sodium-ion batteries for a more sustainable and quiet power source; France Télévisions discussed sustainable approaches to building its Montpellier studio of the future; Formula E and HBS shared lessons from remote and centralized sports production, resource use, power, and logistics; and Vizrt added the supplier perspective on integrating sustainability into technology and business decisions.[16] The common message was not that one solution works universally, but that practical approaches can improve environmental performance while protecting reliability, scale, and the audience experience. MCA is also taking the conversation onto the show floor through sustainable-exhibitor badges and guided sustainability tours, giving IBC attendees a way to identify relevant work and ask vendors how sustainability affects product roadmaps and customer value.

The sector's greatest risk is fragmentation. Media organizations can contribute use cases and anonymized data; vendors can expose energy data and methods; researchers can create reproducible tests; procurement can score sustainability alongside price, quality, security, and reliability; and standards bodies can turn shared requirements into engineering practice. The industry needs more shared evidence and the ability to refine and normalize processes and data, while coordinating on progress.

Conclusion

Sustainability remains unevenly embedded in media technology, but the evidence base is improving. SPARK translates a quantified production problem into a practical transition. Clear Cut and Cut the Carbon bring measurement into post-production. CarbonIQ gives advertisers campaign-level information. Greening of Streaming connects field and laboratory measurement with closer examination of encoding and streaming workflows. The MCA is creating additional routes for organizations and individuals to participate.

The next phase requires that we advance evidence for real decision-making: direct measurement where possible, disclosed modeling assumptions, attributional and consequential approaches used appropriately, embodied-impact accounting, and absolute reductions tracked alongside efficiency gains.

Sustainability will become scalable when energy, carbon, materials, and equipment life are treated with the same rigor as quality, cost, reliability, security, and interoperability. The task now is to develop more consistent terminology, methods, and evidence across the media lifecycle. This measurement work provides reason for optimism. The picture is becoming clearer, creating opportunities for better decisions and even more progress in the future.

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About the Author



Barbara Lange, Founder and CEO of Kibo121, advises on sustainable technology strategies. Co-founder of MTSS, she advances media climate action, drawing on former SMPTE and HPA leadership.

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