

Est.  
1841

YORK  
ST JOHN  
UNIVERSITY

Willment, Nina, Swords, Jon and Dales,  
Alexandra ORCID logoORCID: <https://orcid.org/0000-0002-0019-4349> (2024) Industry briefing: Environmental sustainability in the UK film and TV industries. Project Report. XR Stories.

Downloaded from: <https://ray.yorks.ac.uk/id/eprint/10675/>

The version presented here may differ from the published version or version of record. If you intend to cite from the work you are advised to consult the publisher's version: [https://xrstories.co.uk/wp-content/uploads/2024/08/60589\\_Environmental-Sustainability-Industry-Briefing\\_HR-1.pdf](https://xrstories.co.uk/wp-content/uploads/2024/08/60589_Environmental-Sustainability-Industry-Briefing_HR-1.pdf)

Research at York St John (RaY) is an institutional repository. It supports the principles of open access by making the research outputs of the University available in digital form. Copyright of the items stored in RaY reside with the authors and/or other copyright owners. Users may access full text items free of charge, and may download a copy for private study or non-commercial research. For further reuse terms, see licence terms governing individual outputs. [Institutional Repository Policy Statement](#)

# RaY

Research at the University of York St John

For more information please contact RaY at [ray@yorks.ac.uk](mailto:ray@yorks.ac.uk)

# xR StOries

INDUSTRY BRIEFING:

## ENVIRONMENTAL SUSTAINABILITY IN THE UK FILM AND TV INDUSTRIES



How the circular  
economy could help

Dr Nina Willment, Dr Jon Swords,  
Dr Alexandra Dales  
2024



UNIVERSITY  
*of York*



# Executive summary

The UK film and television industries are becoming increasingly aware of their large environmental footprint. Recent initiatives (such as [albert's Screen New Deal report](#)) have acknowledged the need for increased sustainability in film and TV. Yet, sustainability initiatives remain predominantly focused on the production phase of film-making. Shifting to adopt circular economy thinking and practices could ensure environmental sustainability is embedded at all stages of the film and TV supply chain. Examples of circular economy initiatives exist in the film and TV ecosystem, but at present there is limited research into the potentials of widespread adoption of circular economy thinking and practices into the UK film and TV industries.



SAMSUNG



# Context of the problem

Despite on-screen hits such as *Planet Earth*, *Don't Look Up* and *Cowspiracy*, off-screen the film and TV industries' engagement with environmental issues has been lacklustre until relatively recently. This is unsurprising given political messaging about the creative industries remains broadly growth-focused, something often seen as counter to environmental aims. The film and television industries are a key contributor to the UK economy, with combined spend by film and high-end television (HETV) productions reaching over £4.32 billion in 2023 (BFI, 2024). If the UK film and TV industries are to seriously address climate change and other environmental issues, they need to think differently about how products and services are produced, distributed and consumed. Focus needs to shift to consider all stages of the production pipeline, including design, pre-production, production and waste management.

'A Screen New Deal', co-authored by albert, the British Film Institute (BFI) and ARUP attempted to highlight what a sustainable film industry could look like. This report also highlighted the sheer extent of the environmental issues associated with current film production. They found that on average one tentpole film (a film with a budget of over \$70 million) generates 2840 tonnes of CO<sub>2</sub> during production. That is the equivalent to over 3.4 million car miles. They also found that the same tentpole production is extremely resource intensive, using amounts of plywood that would fill two cargo planes, or water bottle usage equivalent to the yearly average of 168 people (albert, BFI and ARUP, 2020).

Attempts have subsequently been made to encourage the film and television industries to be more sustainable, through the development of 'green' guidelines and greenhouse gas (GHG) calculators. In the UK for example, albert has developed a carbon calculator which productions can use to measure their carbon impact. Productions that successfully complete albert certification can then use the Sustainable Production logo on their credits (albert, 2024). Other examples of carbon footprint calculators exist outside of the UK, including the European 'Eureca calculator' (Eureca, 2024). Production sustainability guidance documents have also proliferated, with these documents aiming to help production teams identify particular areas where they can make carbon 'savings' e.g. by recycling or reusing water bottles. Examples of these sustainable production guides include the European Union's 'Green Screen' sustainability guidelines (Interreg Europe, 2024), Green Motion in Germany (Green Motion, 2024) and the Producers Guild of America 'Green Unified Best Practice' guide (Producers Guild of America, 2014). The majority of focus on improving environmental sustainability within the film and television industries is therefore focused on reducing carbon and greenhouse gas emissions within only the *production phase* of content creation (albert, 2024; Kaapa and Vaughan, 2022).



One tentpole film (with a budget  
of over \$70 million) generates

**2840 tonnes of CO<sub>2</sub>**

during production  
(albert, BFI and ARUP, 2020)

# New research and evidence: The Circular Economy

The circular economy is a model of production and consumption which involves sharing, reusing, repairing, refurbishing and recycling existing materials. Products are therefore used for as long as possible, and waste is kept to a minimum. Shifting to a circular economy model could help lead to a reduction in global greenhouse gas emissions, a reduced dependence on raw materials and the creation of more durable products (European Parliament, 2023).

Adopting circular economy thinking and practices within the film and TV industries could prove an invaluable approach to making the UK film and television sectors more sustainable.

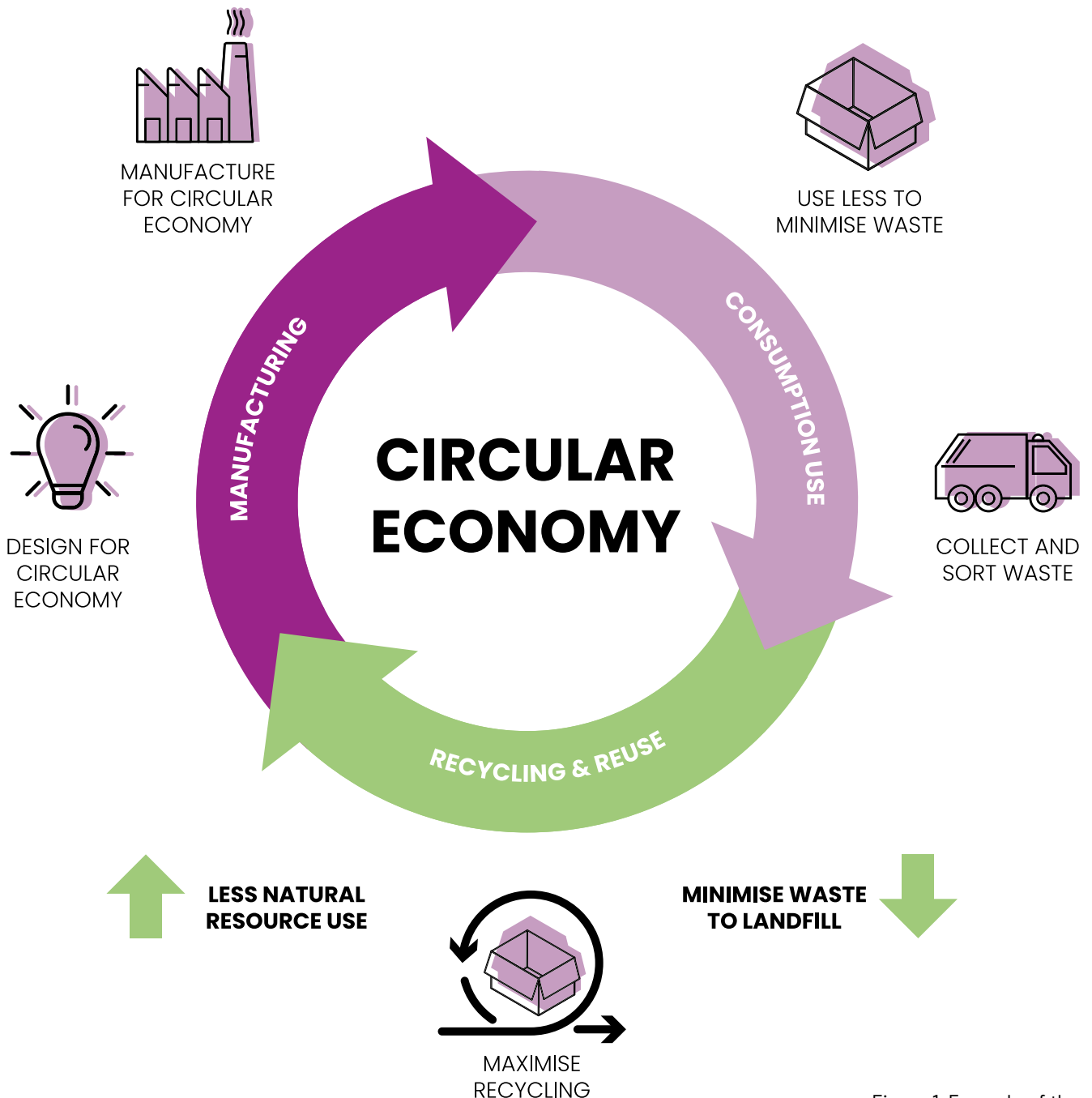


Figure 1: Example of the circular economy model.

# Existing examples of circular economy initiatives within the film and television industries:

**Raw Materials/Sustainable Design:** The **Grid Project** (UK) allows TV and film productions to access renewable energy, via an electrical feeder pillar located at a key unit base in London's Victoria Park. During its soft launch, the feeder pillar powered seven productions and one event, saving over 2800 litres of diesel and 7.6 tonnes of CO<sub>2</sub>.

**ECOR** (The Netherlands) created a composite panel which can be used as a building material, from agricultural and urban waste. As highlighted in the Screen New Deal report (2020), ECOR collaborated with Twentieth Century Fox and Noble Environmental Technologies to use ECOR composite panels as the set for a popular television series. These panels were found to be more sustainable and cost-efficient than the hardwood products and panels usually used for Hollywood sets.

**Production/Distribution:** **Unusual Rigging** (UK) provides rigging and stage engineering equipment for the live events and TV/film industries. They actively design their rigging products for disassembly and resource recovery. In 2014, they introduced an asset tracking system, which gives each product a material passport. This allows Unusual Rigging to conduct predictive maintenance on items, to ensure their use continues for as long as possible.

**La Cabinerie** (France) supplies original spare parts for many brands of cinema projectors. Refurbishing cinema projectors saves precious resources and increases the projector lifespan by an additional fifteen years on average. The cost of retrofitting is around 60% cheaper than purchasing a new projector, and can increase energy efficiency by up to 65%.

**Consumption/Waste Management:** **CAMA** (UK) collects sets, props and waste materials after they have been used for productions. These items are then catalogued, and the dataset made available for production managers to search, so they are able to reuse items for new productions.

**The Ontario Green Screen (Canada)** is an organisation which consists of 30 government, industry, unions, guilds and trade association partners, with the aim of promoting more sustainable film and television production in the Ontario region. The organisation has partnered with Second Harvest, a food redistribution organisation, to redistribute any unused production catering to local communities. Since 2019, Second Harvest have donated 39,000 meals from production sets to local agencies, worth over \$140,000.

The Grid Project (UK) pilot scheme saved over

**2800**

litres of diesel and

**7.6**

tonnes of CO<sub>2</sub>

Ontario Green Screen and Second Harvest (Canada) have donated

**3900**

meals from production sets to local communities, worth over

**\$140,000**

# What are the next steps for the UK Film and TV industries?

- **Sustainability reporting across the entire production pipeline should be made mandatory for UK based film and TV productions, with tax credits and incentives linked to sustainability and circular economy criteria.**

The importance of thinking holistically about the environmental issues of film and TV cannot be underestimated, and embedding circular economy thinking and practices could be a key way in which the UK film and TV industries begin to grapple with this issue. All UK based film and TV productions should be made to report on their environmental sustainability across the entirety of the production. These sustainability reports should be publicly available. The Government should also investigate the feasibility of linking positive sustainability action (including adoption of circular economy practices) to the levels of tax credits and incentives which productions receive.

- **Industry level accreditations should be developed which recognise organisation's commitments to adopting circular economy practices within the UK film and TV industries.**

Organisations within the UK film and TV industries should learn from existing best practice examples, to understand how they may embed circular economy practices into their own businesses. Industry level accreditations should also be developed which recognise organisations who have committed to circularity.

- **Additional research should be conducted into the potential opportunities and challenges of circular economy approaches to support their successful adoption into the UK film and TV industries.**

There is limited research into the wider challenges and opportunities of embedding circular economy approaches into the film and TV industries (Vaughan and Käätä, 2022). More research is therefore needed to further understand the potentials and limitations of circular economy approaches in order to support adoption for organisations within the UK film and TV industries, and to better understand where circular economy learnings from other industries may benefit UK film and TV.

The importance of

**thinking  
holistically**

about the  
environmental issues  
of film and TV cannot  
be underestimated



## Additional reading

Albert (2024) *Carbon calculator and production certification*. Available at: [Carbon Calculator and Production Certification – albert \(wearealbert.org\)](#)

Albert, BFI and ARUP (2020) *A Screen New Deal: A route map to sustainable film production*. Available at: [Screen New Deal – albert \(wearealbert.org\)](#)

BFI (2024) 'Official BFI 2023 statistics reveal £4.23 billion film and high-end television production spend in the UK'. Available at: [Official BFI 2023 statistics reveal £4.23 billion film and high-end television production spend in the UK | BFI](#)

Ellen MacArthur Foundation (2023) *How to build a circular economy*. Available at: [How to Build a Circular Economy | Ellen MacArthur Foundation](#)

Eureca (2024) *Eureca – European Environmental Calculator*. Available at: [Eureca \(eurecafilm.eu\)](#)

European Parliament (2023) *Circular economy: definition, importance and benefits*. Available at: [Circular economy: definition, importance and benefits | Topics | European Parliament \(europa.eu\)](#)

Interreg Europe (2024) *Green Screen – Greening the creative industries: improving policy practices for the European Audiovisual industry*. Available at: [Green Screen | Interreg Europe](#)

Green Motion (2024) *Green Motion: Ecological standards and the green motion label*. Available at: [Ecological standards and the green motion label – find out more now \(green-motion.org\)](#)

Maxwell, R. and Miller, T.. (2012) *Greening the Media*. Oxford: Oxford University Press.

O'Leary, M. (2014) 'On Location: Greener film shoots can also save costs, report says', *Los Angeles Times*, 29 July [Online]. Available at: [On Location: Greener film shoots can also save costs, report says – Los Angeles Times \(latimes.com\)](#)

Producers Guild of America (2014) *Green Unified Best Practices Guide*. Available at: [PGA-Green-Unified-Best-Practices-Guide-REV.pdf \(greenproductionguide.com\)](#)

Starosielski, N. and Walker, J. (2016) *Sustainable Media: Critical Approaches to Media and Environment*. New York: Routledge.

Vaughan, H. (2016) '500,000 Kilowatts of Stardust: An eco-materialist reframing of Singin' in the Rain' in Starosielski, N. and Walker, J. (eds.) *Sustainable Media: Critical Approaches to Media and Environment*. New York: Routledge, pp. 23-38.

Vaughan, H. (2019) *Hollywood's Dirtiest Secret: The Hidden Environmental Costs of the Movies*. New York: Columbia University Press.

Vaughan, H. and Käätä, P. (2022) *Film and Television Production in the Age of Climate Crisis: Towards a Greener Screen*. London: Springer/ Palgrave MacMillan.





# About the authors

## **Dr Nina Willment – Research Associate in the School of Arts and Creative Technologies at University of York and Research Associate at York St John University**

Dr Nina Willment is an economic and cultural geographer with expertise in newly emerging forms of work in the cultural and creative industries. She graduated with a PhD from Royal Holloway, University of London, which was funded by the Economic and Social Research Council. She is currently working on a project which is exploring the geographies of virtual production, as part of her role at the University of York and York St John University.

[nina.willment@york.ac.uk](mailto:nina.willment@york.ac.uk)

## **Dr Jon Swords – Senior Research Fellow and Reader in the School of Arts and Creative Technologies at the University of York**

Dr Jon Swords is an economic geographer with an expertise in cultural and creative industries, and local and regional development. He has worked on and researched various parts of the creative industries, predominantly film and TV, heritage, and immersive media and technology.

[jon.swords@york.ac.uk](mailto:jon.swords@york.ac.uk)

## **Dr Alexandra Dales – Senior Lecturer in Business Management at York St John University**

Dr Alexandra Dales is an economic geographer with expertise in markets, circular economy, global production networks and sustainability in the creative industries. She is co-creator of the [Critical Sustainability Stories Tool](#) and has researched and led projects investigating the UK creative industry and the communication of sustainability and climate change. Alexandra is currently working with a large local authority to translate its public health good food strategy into creative cultural events that generate positive impacts for underserved urban communities.

[a.dales@yorks.j.ac.uk](mailto:a.dales@yorks.j.ac.uk)

