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Green Filming in Poland. An Interplay Between Necessity, Environmental Responsibility and Green Incentives

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The objective of this paper is to explore the sustainable management approach in film production by examining tangible green film policy solutions in Poland. Specifically, the article contributes to mapping the green film ecosystem in Poland. First, it points to different green screen practices, showing actions that promote an environmentally sustainable approach to film production. Second, it examines the challenges associated with implementing green film production in Poland, considering the conditions necessary for transforming film production into an ecological production framework.

Keywords: green policy, green incentives, green filmmaking, sustainable film production, green filming

JEL Classification Codes: Q01, Q56, Z18

Introduction

At the Paris climate conference (COP21) in December 2015 world leaders adopted the first ever legally-binding global climate deal (*Paris climate change conference*, 2015). The call to strengthen formal commitments to deal with climate change was echoed in Scotland at COP26 in November 2021. One consequence of extensive pressures on countries and their governments to urgently tackle ecological emergency was the EU strategic long-term vision "Clean Planet for All" (*Communication from the commission*, 2018). The proposal set out a global action plan to put the world on track to avoid climate change by net-zero greenhouse gas emissions. According to this proposal, every industry and every policy area are expected to adapt systemic change to become neutral by 2050 (Wachsmuth, Duscha, Eckstein, Herbst, Plötz, Duwe, Evans, Freundt, Umpfenbach, Bettgenhäuser, Hermelink, 2022). Therefore, the goal of climate neutrality in the audiovisual sector is among the issues within the framework of the European Green Deal.

The media field is considered one of the "most polluting, carbon footprint-producing and, socially unequal sectors" (Lopera-Marmol, Jimenez-Morales, 2021). However, research stated that the motion picture industry is not perceived publicly as environmentally harmful (*Sustainability in the Motion Picture Industry*, 2006; Maxwell, Miller, 2017). In fact, ecological hypocrisy (Ingram, 2000) used to be ignored in the audio-visual industry, including exploitation of natural resources (overuse of energy, overproduction of clothes and decorations), racism (whitewashing or blackface) and sexist behaviour (Me-Too movement). Some authors also point out that introducing sustainable practices in the motion picture industry is not straightforward (Özdemirc, 2016) according to several structural, industry and policy constraints.

Currently, the overriding issue is to prepare systemic solutions enabling an efficient green transition of the film industry. This involves not only meeting legal requirements or adapting green tools in the film industry, such as carbon calculators, but also rethinking the potential behind of the greening process.

In this article, the aspect of implementing green practices will be examined from the perspective of material ecology covering the production cycle and material impacts of that production (Ivakhiv, 2013). This emerging science prompted us to narrow our research endeavours to the review of green practices in the film production in Poland as it is a new area. This subject is becoming more and more popular, as evidenced by the growing number of events promoting green solutions in the industry (e.g. Green Film Production Laboratory by KIPA) or conferences related to this topic. However, despite much attention from the public, there is little research on setting green practices as a part of film policies. Therefore, the article

attempts to trace the dynamics of green filming in Poland. The objective is to review the actual state of green filming in Poland and identify challenges in transforming the film industry into a more sustainable ecosystem. Thus, Thus, we discussed conditions of environmental sustainability in film production, reviewed recent film greening initiatives, and described the involvement of key players. The article applies desk research (based on market reports, institutional data, policy documents, and regional green filming policies) to study green screen practices as well as individual in-depth interviews with the representatives of the film industry. We identified people with the greatest access to information on green filming in Poland, those who are in key positions to understand a situation to share with us their insights on the topic (Head of Film Producers Alliance in Poland KIPA: R1; former Krakow Film Commissioner: R2; an independent film producer, former coordinator at the Regional Film Fund Krakow: R3). The analysis allowed us to form a comprehensive picture of the film industry's recent activities in sustainable development and its associated challenges.

Table 1. Interview respondents

R1	Head of Film Producers Alliance in Poland KIPA
R2	Independent producer, former Krakow Film Commissioner
R3	Independent film producer and former coordinator at the Regional Film Fund Krakow

Source: own study.

Film production and environmental sustainability

The climate change and the challenge to decrease the greenhouse effect are the key features of the public dialogue all over the world. Film industry has become aware of its impact on climate change (Hjort, Nannincelli, 2022), and thus reducing waste takes precedence (Calawerts, 2022). Film production is highly resource intensive because of high level of CO2 emissions. According to the Report of the American Sustainable Production Alliance each film production with an average 70 mln USD budget produces a carbon footprint of 3,370 tons, the equivalent amount absorbed by 3,709 acres of forest in a year (*Carbon Emissions of Film and Television Production*, 2021). This process might be affected by different factors including the number of cameras, fuel, food waste or multiple filming locations. However, according to the United Nations Sustainable Development Goals (SDGs) practicing sustainability means more than carbon emissions. To follow a path of sustainability green filming needs both greener productions and liveable wages (SDG 8), gender equality

(SDG 5), and responsible production and consumption (SDG 12) (Calawerts, 2022). UN World Commission on Environment and Development (Brundtland Commission) describes sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (*Report of the World Commission*, 1987). Holistic approach towards sustainability is also formulated by the United Nations in the Agenda 2030 that build bridges between all three dimensions of sustainability as defined by the World Business Council for Sustainable Development – social progress, environmental balance and economic growth (UN Social Development Network).

The "Green Report 2020" by Cineregio, European network of regional film funds calls the film industry for the move from "take-make-waste to accelerating circular economy" (*The Green Report*, 2020). According to the EU Action Plan for the Circular Economy: "In a circular economy the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value" (European Commission, 2015). Bridging sustainable film production and circular economy might strengthen the film sustainability workflow. In the film industry, this issue, especially the issue of green production, becomes the focal point of pro-social activities. An example is Netflix as an international market player, which in its Environmental Social Governance Report in 2021 showed an extensive catalogue of actions to reduce CO2 (*Environmental Social Governance Report*, 2021).

Several "green" terms were coined to describe "all the practices ranging from the pre- production, production and post-production to the publicising of an audio-visual product: documentary, television series (including those of streaming platforms), videogame, film, festival or an advertisement" (Lopera-Marmol, Jimenez-Morales, 2021). Among them are green filming, green filmmaking (Victory, 2015), green shooting (Lopera-Marmol, Jimenez-Morales, 2021), sustainable film production (Wróblewska, 2020, 2021) all meant to be a resource- efficient concept providing a sustainable contribution not only to climate change but also to social justice and equity. Green shooting policies can be:

- tangible such as components that can be transformed to be sustainable, e.g. eco--vehicles, recycling bins, vegan makeup, etc. or
- intangible aspects related to the well-being of work teams, tolerance of multiculturalism, gender equity, concern for animal and human respect, and the environment (Lopera-Marmol, Jimenez-Morales, 2021).

In this article, we aim to explore sustainable thinking in managing film production focising on tangible green film policy solutions. The terms green filming and environmental sustainable film production are seen here as leading concepts

within environmental management (Kääpä, 2018) in the film industry. According to Cubitt, we understand the concept of sustainability in film production as "the balance between the material base of production and the anthropocentric management of the industry" (Kääpä, 2018, 6). This involves the need "to make the media more committed to sustainability" (Cubitt, 2017, 14) through building the infrastructure for communication that adheres to ecological principles.

Research on media sustainability has a long tradition of manifesting interest in environmental film content, in ecological activism and philanthropy of celebrities (Starosielski, Walker, 2016; Caraway, 2018; Kunelius, Roosvall, 2021; Vaughan, 2019), rather than in industry operations towards sustainable filmmaking (*Sustainability in the Motion Picture Industry*, 2006). Currently, research on green production has moved its focus towards material impact of media industries and practices (Vaughan, 2019). It examines green film policies and green production mechanisms enabling an environmentally sustainable turn (Lopera-Marmol, Jimenez-Morales, 2021; Maxwell, Miller, 2012; Bozak, 2011). The topic has been well received in all areas of the creative industries providing opportunity to use new sustainable management tools and to offer contribution to this area.

International green screen practices – institutional solutions

Initiatives and campaigns to raise awareness in the field of sustainable filmmaking are an emerging driver in the USA, UK, and European film production. A variety of green incentives have already been implemented including green guidelines, certification systems, rewards, carbon calculators and training programmes, on-set recycling strategies, as well as databases on locally produced food and 'second hand' set construction materials (*The Green Report*, 2020). These green practices can be integrated into the workflow of any film production.

Green initiatives, believed to increase the adoption of sustainable practices, were introduced across Europe and the USA. Among them are the US Green Production Guide from 2010 (an online toolkit designed to reduce the film, TV and streaming industry's carbon footprint established by the Producers Guild of America Foundation's PGA Green Committee and the Sustainable Production Alliance (SPA), and Interreg Europe's Green Screen project (2017–2021) which aimed at improving policies and achieving quantifiable success in reducing the carbon footprint of film and TV productions in eight EU regions. An important step towards building the foundations for sustainable production on the European market is the signing of the Manifesto for sustainable filming in 2019 (*The Green Report*, 2020) by 28 members of Cineregio, an independent network of regional film funds, including the Polish Łódź Film

Fund. This large-scale project facilitates the sharing of best practices among partners, potentially inspiring green changes at every stage of film production.

The Media and Audiovisual Action Plan (MAAP, 2020), a sectoral and strategic document from 2020, aims to boost European film and other audio-visual entertainment media based not only on ecological indicators but also on social and technological indicators. A key goal is to help the film industry become carbon neutral by 2050. It is expected to be achieved by sharing best green practices and putting a stronger focus on ecological sustainability in the Creative Europe Media funding programme. This document emphasizes the importance of financial incentives supporting the development of green productions. This emphasis is reflected in the enhanced financial support to the recovery and transformation of the industry (e.g. The Next Generation EU budget, Creative Europe, Horizon 2020, a new investment equity platform MediaInVest).

Some experts vote for making it mandatory for productions to have a green seal (*European Film Forum*, 2021). Certification systems and CO2 calculators, such as the EMA Green Seal initiated by the American Environmental Media Association (https://www.green4ema.org/ema-green-seal-production), the British Albert Certification and Albert carbon footprint calculator (https://wearealbert.org/); as well as the Italian GREEN FILM Rating System (https://www.trentinofilmcommission.it/en/green-film/), can become fundamental triggers in encouraging environmentally sustainable behaviour in film producers. In 2017, it launched a T-Green Film, a tool for promoting environmental sustainability in the film industry. It was the first regional fund in Europe to certify production companies that work in a more environmentally sustainable way. When applying to this Fund, producers declare which environmental-sustainability criteria listed in the GREEN FILM Rating System they wish to comply with during the shooting. The project receives for that several green points. Based on that a project receives an additional contribution by the Film Fund. During and after the shooting, APPA – Provincial Agency for the Protection of the Environment, a public and independent certifying body, verifies whether the criteria are being complied with. If the verification is positive, the production receives from APPA the GREEN FILM environmental-sustainability certification and Trentino Film Fund confirms the additional contribution. (https://www.trentinofilmcommission.it/en/green-film/).

Certification systems and CO2 calculators typically provide systematic monitoring of emissions and award sustainability certification to individual productions (Sorensen, Noonan, 2022). Currently, there is no international standardisation regarding the tools used for carbon offsetting. Across Europe, various national and regional initiatives measure carbon footprint, such as the Green Screen project's consultation for understanding carbon (Jetter, 2020). These include the Eureca

calculator (https://www.eurecafilm.eu/), Carbon Clap in France (http://www.carbonclap.ecoprod.com/), Production Environmental Accounting Report (PEAR) in the USA (https://www.greenproductionguide.com/tools/), the Green Shooting Card in Germany (https://greenfilmshooting.net/blog/de/), and the E-Mission Label in Belgium. These tools play a supportive highlighting the importance of sustainable practises in the film industry.

The initiatives undertaken by international film institutes and funds are also noteworthy. Starting in 2022, the German Federal Film Board (Filmförderungsanstalt) has introduced a requirement to calculate the carbon footprint and estimate the environmental impact of all film productions financed from federal funds (Etteldorf, 2022). Currently Reallabor initiative was launched in Germany (2021-2022), tasked with defining minimum standards for sustainable production by 2023. These standards encompass areas such as:

- organisational activities aimed at reducing the environmental impact of audio-visual production,
- environmental analysis of the film projects, including carbon footprint calculation,
- energy efficiency in production processes,
- transport and mobility considerations in audiovisual production,
- sustainable practices in set design and mak-up.

These standards will be introduced as requirements for producers in 2023 (*Mehr Nachhaltigkeit in der Filmwirtschaft*, 2022). In 2021, the French CNC adopted the CNC Plan Action, which includes a three-year plan to implement an ambitious environmental policy in audiovisual production.. As part of this plan, the Environmental Transformation Observatory will be established to conduct research on the environmental impact of film production and distribution, including in cinema halls. Starting in 2023, it will be obligatory for producers in France to prepare carbon footprint estimates, and from 2024, public support will contingent upon the implementation of certain sustainable production procedures (*Lancement par le CNC du Plan Action*, 2021).

Therefore, we can find different examples of financial systems rewarding green practices in film production. A notable example is the Swedish Regional Film Fund, Film i Skåne, which, with the support of eco-consultants, has developed environmental criteria for selecting film productions for co-financing. It also offers financial incentives if the film production company meets environmental objectives during production (*The Green Report*, 2020; https://filmiskane.se/en/node/24). In Poland, the movement for more green practices in the film industry has recently begun with bottom-up manifesto of "Film for Climate" action and the introduction of green incentives by four Regional Film Funds, covering tangible green shooting policies.

Green approach to film production in Poland

The Polish Producers Alliance (KIPA), along with the Łódź Film Commission and the Regional Film Fund in Łódź are among the key actors developing the fundaments of green filming in Poland. The Łódz Film Fund is the first Polish film fund to introduce guidelines for green filming for film producers applying for its grants (*Wytyczne – Zrównoważona produkcja filmowa*, 2019). Since 2019, KIPA has been encouraging film producers to take on the role of green production ambassador in Poland. Its activities include an Agreement for Sustainable Audio- Visual Production 'Film for Climate', a bottom-up initiative linking KIPA, regional film commissions, and some production studios (*Film dla klimatu*, 2023), publishing a green guide for film and TV producers "Eco Must-Have for Producers" (Głowacka, Krymarys, Leszczyńska, Mazepa, 2022), and introducing a Climate Film Prize (Nagroda Klimatyczny Film).

The problems the world faces with accelerated climate change and environmental disruption are particularly acute the film industry. "We need more cultural awareness and social and political policy on the matter, from studios' carbon- footprint transparency to governmental regulation of e- waste recycling" (Vaughan, 2019, 192).

Film production stakeholders need to become more and more aware of the environmental and social effects of screen use. Film production companies should be regulated toward greater sustainability. "The important thing is that we aware of the impact and that we want to limit it, because the aim of the European Green Deal is climate neutrality, and it applies to all Europeans and all activities, wheter it's film or heavy industry" (R1).

Film production in Poland is at the very early stage of greening. "In recent years, several organisations have been created to deal with it in a dedicated manner. We, of course, stay in direct contact with them. We set common goals for KIPA and, for example, the filmmakers' union or organizations like Film Women" (R1).

Initiatives for greening the film industry in Poland have adopted the guiding principle of the 6Rs: refuse, reduce, reuse, repair, recycle, and rot, which are fundamental to the circular flow of goods (Głowacka, Krymarys, Leszczyńska, Mazepa, 2022). This was the starting point for formulating categories of products and services to be delivered in an eco-friendly way. "Some regional film funds in Poland e.g. Krakow Film Fund has declared to prioritise eco-suppliers when choosing products and services for film production including catering, accommodation, transport, costumes etc. Preferred are suppliers with green certificates and also used or recycled products. However, for now, sustainability is rather an aspect taken into consideration than an actual, formal assessment criteria" (R3).

According to respondents, the impact of the film industry on the climate is considered insignificant compared to other industries.. Moreover, different types of audio-visual productions have a different impact on the climate, which depends on a number of factors including the film's budget and the type of production. "High-budget productions usually have a big impact, do not have budget restrictions, so they can afford more, even more shooting days" (R1).

An important aspect of the pro-ecological activities in the audio-visual industry is the language used. There are subtle differences between the terms green production and sustainable production, which are often used interchangeably. However, the producer community in Poland, cantered around KIPA (Polish Producers Alliance), agrees that such activities should focus on Sustainable Development Goal 13: Climate Action. Simultaneously, the industry recognises the importance of building awareness about other issues, such as those covered by SDG Goal 8: Decent Work and Economic Growth, and gender equality (Goal 5). "In the case of audio-visual production, the other goals are of course important. On the other hand, the actions we have taken in the field of sustainable production and green production are mainly related to reducing the impact of the audio-visual industry on the climate" (R1).

There are many tools to stimulate an environmental turn in the film industry. A critical early stage in green production is building awareness and understanding the causes and consequences of environmental changes. Green guidelines or manifestos, though lacking legal force, play an important role in facilitating the adaptation to green changes.

Incentives for film producers (Bradbury, 2000) to implement green solutions should build a comprehensive system. This system should encompass the development of green film production standards, the adaptation of incentives in grant programs to encourage green production solutions, and the establishment of a mechanism to monitor the environmental performance of productions. What is more, certification schemes and other green requirements are increasingly being incorporated into e funding system. Imposing sustainability requirements determines setting new environmental rules into the criteria for film funding section. The scoring mechanism can be adjusted to encourage the adoption green practices in the film production. Such green incentives should be beneficial for producers, opening up new funding opportunities.

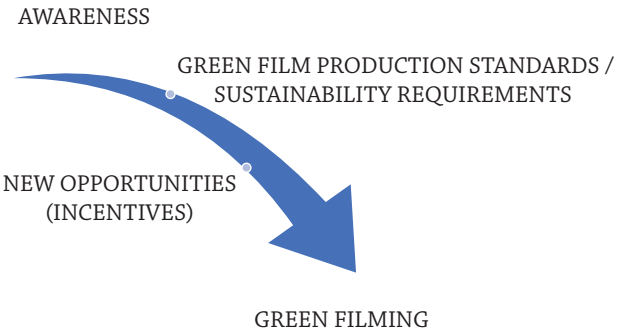
"Film production has a very strong impact. Therefore, it is of high importance to integrate various green incentives for example into grant schemes to ensure a better and more effective implementation of sustainable film production" (R3).

Green incentives play a crucial role in enhancing ecological awareness within the film industry. In some countries, certification schemes bolster the film funding system and influence production decision-making processes. However, this certification

often amounts to merely "a box-ticking exercise" (Sørensen, Noonan, 2022), failing to induce a profound transformation towards practicing green production. The Polish Producers Alliance KIPA, along with film experts, has proposed the inclusion of sustainable audio-visual production costs in the draft amendment to the Regulation of the Minister of Culture and National Heritage dated February 11, 2019. This amendment concerns the detailed list of Polish eligible costs, parameters of audio-visual works, and documents related to granting financial support for audio-visual production by the Polish Film Institute. However, these amendments have not yet been adopted in the legislation process.

The introduction of the eligibility of the costs of sustainable audio-visual production is one of the first steps taken by the Polish Film Institute in the area of ecological activities. Through information gathered from the settlement of projects financed by the film incentive mechanism, it will be possible to estimate the state of preparation of Polish audio- visual producers to implement sustainable audio-visual production methods. It will also open up the possibility of preparing activities in the area of audio-visual production subsidies granted under the Cinematography Act.

Figure 1. Graphic representation of environmental turn in the film industry



Source: own study.

Recent research outlines notable obstacles to sustainable production. According to Dutch study standard routines and a lack of consideration for sustainable film shooting methods are also important reasons for not implementing green measures (Keilbach, Spoler, 2022). Sørensen and Noonan (2022) examine the industrial, structural and policy obstacles that impede a profound shift for film production to be environmentally sustainable. Important obstacles are a tendency to maintain tested production methods, products and services (which is often related to work culture and hierarchical structure in the film production teams) and a general lack of awareness and low prioritisation of sustainability, what might be a result of hierarchically

loaded communication gap (*Green Matters*, 2020; Keilbach, Spoler, 2022). Other, leading constrains are:

- perceptions around financial constraints involved in green production;
  Interlocutors point to costs as a key factor that hinders producers from taking pro-ecological actions. Therefore, it becomes important to design solutions that will encourage manufacturers to implement sustainable production. Financial incentive systems are one of the crucial tools that are intended to stimulate or enforce specific attitudes and actions. Such incentives may be obligatory (e.g. the requirement to provide a Sustainability Plan with a grant application in a competition in Creative Europe) or optional, rewarded with additional funding.
- perceptions around time-related pressures;
  Time is the factor limiting the choice of ecological solutions. In the case of film projects, the final cost of making a film is determined, for example, by the number of shooting days, so the economic justification comes to the fore in this case. Important factors are citywide networks of power kiosks at most used parking and film locations which should be a must in bigger towns. In Poland, electricity infrastructure used for public mass events is underdeveloped in most towns. „The complex administrative procedures related to getting the access to electricity from the Tauron [electricity supplier in Poland] are the reason we used to rent diesel generators. I am not sure if they meet the Euro 6 vehicle emission standards. These generators are very expensive, so we usually rent this technical equipment" (R1).
- limited green infrastructure and supply chain options.
  The respondents agree that the most harmful to the climate is the use of transport (buses, trucks, cars, flights) and gensets or portable power stations that generate electricity on the set.
  "The power generators processing huge amounts of fuel are amongst the biggest polluters. This happens in the countries of Western Europe, and in Poland as well. Until recently procedures processing the applications of film crews to connect to the electricity were too complex to be used in practice. Currently, there are some ways to get a permission from a electricity supplier within a 48-hour period. If it would have worked well, a power generator would only be a kind of a reserve, and not the base for shooting a film outside the film studio" (Wróblewska 2020, 2021, 377).

A fundamental problem arises when it comes to waste management and sewage sludge treatment. In general, the level of environmental awareness in this area remains low. This is also due to the lack of specific environmental regulations at the national or regional levels in Poland. „Decoration waste is not sorted. The whole scenery goes to the bin. There is no one to sort it before you quickly jump to the

next shooting place. There are no companies or suppliers offering eco-services on the film set. Additionally, there is a constant problem with circularity of treating sewage sludge from wardrobes and toilets" (R1).

Behind these problems there is also an important issue that rises controversies among the film producers – the ecological side of digitalisation in the film industry. Minimising hardware usage does not necessarily lead to a reduction in environmental costs For example, digital equipment often relies on environmentally harmful Lithium-ion batteries. Additionaly, while analogue film-making equipment tends to be more durable than digital counterparts, the latter is associated with extremely high energy usage and heat emissions, especially in the distributed post-production process (Cubitt, 2015).

Conclusion

The film industry impacts the natural environment at all stages of value chain, from production and distribution to festivals and streaming. This impact spans various areas including waste management, energy consumption, transport, material usage, and food. The Green Screen project, financed by Interreg Europe and involving a partnership across eight European regions, including Poland's Podkarpackie Voivodeship, has demonstrated that audio-visual production can emit from 50 to 3,500 tons of carbon dioxide, depending on the size and budget of the project. Reducing the environmental impact of film and television production is now a part of the action program of the European Commission and its Member States.

Proper preparation of the Polish market for the introduction of methodologies to assess the environmental impact of audio-visual production will enhance the ability of Polish audio-visual producers to attract foreign co-producers. National and regional funds in Europe, including in countries like Belgium and Switzerland, are progressively requiring the presentation of sustainable audio-visual production plans by co-producers of films.

As the green transformation of the film industry is increasingly seen as a key driver in the evolution of the European audio-visual ecosystem (*European Film Forum*, 2021), Polish producers are also becoming engaged in green shooting practices. The film sector is gradually adopting sustainable production and distribution practices, moving towards sustainability. This shift has been facilitated by grassroots initiatives within the Polish film community, which aligns its standards with those applied by international entities. Among key driving forces of green filming in Poland are action plans and policy recommendations that are slowly being developed by Polish Producers Alliance and some regional film funds. So far, the central public film

body in Poland, the Polish Film Institute (PISF) has not yet decided to develop green standards or to offer certification for sustainability to individual productions.

However, ecological production is already becoming an important factor in the development of financing from EU funds. In the European Commission Decision on the adoption of the Creative Europe Program for 2021, adopted on May 26, 2021, and in particular its MEDIA component, the importance of sustainable audio-visual production has been repeatedly emphasised. The document stresses that the selection for specific priorities will focus on proposals presenting appropriate strategies to ensure a more sustainable and environmentally friendly (film) industry. In most priorities, presenting the application in terms of its sustainable impact on the environment will provide an additional 5 out of 100 points that can be achieved by 2021. The program is based on the assumption that the European Commission will begin research aimed at identifying effective and efficient methods for implementing sustainable measures in audio-visual production. At the political level, including in the framework of the Council of the European Union working groups, a dialogue has started on green audio-visual production, including the implementation of the joint carbon footprint calculator and the European guide to green production. The dialogue aims to create a "sustainable audio-visual production label" valid in the EU.

The issues of green film production rely on many dynamics that will affect the pace and development of the implemented policies. Therefore, the limitations of this research are related to the specific moment of development, subject to many new, emerging variables that will determine the pace and direction of changes introduced in Poland.

However, the study has an important practical dimension, as it illustrates the situation in Poland in the context of the European trend. It refers to good practices, key driving and restraining forces, and highlights the crucial issues that should be addressed. Further research on green filming should be conducted alongside the current implementation. With the first film funds' incentives toward green filming, it's important to monitor the use of these pilot opportunities and collected data. This includes how extensively they are used, how many producers are utilising them, what costs they cover, what actions they can take under the current economic and legal conditions, and the outcomes of CO_2 calculations. This information is crucial for developing optimal green film policies and strategies, with the goal of achieving film industry carbon neutrality by 2050.

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Additional information

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Streszczenie

Zielona produkcja filmowa w Polsce. Między koniecznością, odpowiedzialnością za środowisko a zachętami ekologicznymi

Celem artykułu jest przegląd aktualnego stanu zielonej produkcji filmowej w Polsce oraz wskazanie podejść do adaptowania rozwiązań mających na celu przekształcenie przemysłu filmowego w zrównoważony ekosystem. Artykuł stanowi przegląd ekosystemu zielonej produkcji filmowej w Polsce. Po pierwsze, wskazuje różne praktyki w zakresie zielonej produkcji rozpowszechniające zrównoważoną produkcję filmową. Po drugie, analizuje wyzwania w zakresie wdrażania zielonej produkcji w Polsce, mając na uwadze uwarunkowania dotyczące zrównoważonej produkcji filmowej.

Słowa kluczowe: zrównoważony rozwój, zrównoważona produkcja filmowa, zielona produkcja filmowa

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As an academic and researcher with a Ph.D. at Jagiellonian University, she boasts a noteworthy career in international project leadership, with specialised expertise in the film and creative industries. Between 2006 and 2014, she managed the Cinema Development Foundation, overseeing digitalisation projects such as the Małopolska Network of Digital Cinemas. Since earning her Ph.D. in Management Sciences from Jagiellonian University in 2016, Marta has been affiliated with the Department of Management, Media Economics, and Advertising. She co-authored and managed the "ErasmusXR: Immersive Experience and Technologies – From Creative Practice to Educational Theory" project (2020–2023), which was recognised as a 'good practice' by the National Agency of the Erasmus+ program. Since 2020, Marta has been contributing to the development of the concept for the new EIT Knowledge and Innovation Community dedicated to creative sectors within Una Europa. During the startup phase of EIT Culture & Creativity (2022–2023), she served as the Interim Education Director. Marta actively participates in international research teams for Horizon Europe projects, including PACESETTERS: Powering Artistic and Cultural Entrepreneurship to Drive The Climate Transition, and IMPULSE: IMmersive digitisation: uPcycling cULtural heritage towards new reviving strategies. She holds a scholarship from the French Government and is a visiting researcher in the CRESCINE project, focusing on boosting the international competitiveness of the film industry in small European markets. As the chairwoman of the Working Group for National Smart Specialisation 12 Creative Industries at the Ministry of Development and Technology, Marta contributes to shaping policies in the creative sector.
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