



NAUSICÄ  
pour un cinéma durable

# PRODUCING MORE SUSTAINABLE MOVIES

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THE CHALLENGES OF THE ENVIRONMENTAL  
TRANSITION OF THE FILM AND AUDIOVISUAL INDUSTRY  
IN FRANCE AND EUROPE

2023

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## Abstract

This report stems from the desire to make information on sustainability issues in cinema, and more broadly in the audiovisual industry, more accessible. It is set against a backdrop marked by a proliferation of audiovisual content and the transition from traditional content consumption models to the advent of mass streaming. We are also part of a turning point, between the acceleration of collective awareness of environmental issues and the imperative to adopt concrete measures.

It becomes necessary to go beyond merely listing problems and the limited scope of criticism to explore the positive responses and solutions emerging worldwide in response to these major challenges. This report aims to decipher the various dimensions of ecology in cinema and the audiovisual industry, offering insights to construct a future in which the industry actively contributes to the development of new sustainable pathways.

### *Political context of the industry's transition*

The transition of the audiovisual sector is embedded in a political context that aims to support global and European sustainable development. International and European frameworks impose stringent emission reduction targets on the industry by 2030.

In 2015, the United Nations established the *17 Sustainable Development Goals*<sup>1</sup>, providing a roadmap to address global challenges such as climate change, environmental degradation, poverty, inequality, etc. In 2016, the *Paris Agreement*<sup>2</sup>, a legally binding international treaty for its signatory states, came into effect. Its goal is to keep the "increase in global average temperature well below 2°C above pre-industrial levels," continue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels," and aim for carbon neutrality by 2050.

In December 2019, the European Commission unveiled the *Green Deal for Europe*<sup>3</sup>, a roadmap for Europe to achieve climate neutrality by 2050. In June 2021, the Commission released a study titled "*Greening the audiovisual industry in Europe*"<sup>4</sup> providing recommendations to make the industry more responsible. This includes establishing a coherent and comparable data system, raising awareness at all levels, creating incentives for greater sector engagement, providing funds and investments for green technology providers, etc.

The transition of the audiovisual sector is part of a political context that aims to support sustainable development on a global and European scale. International and

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<sup>1</sup> [The Sustainable Development Goals - United Nations](#)

<sup>2</sup> [The Paris Agreement - United Nations Framework Convention on Climate Change](#)

<sup>3</sup> [Green Deal for Europe - European Commission](#)

<sup>4</sup> [Greening the audiovisual industry in Europe - European Commission](#)

European frameworks are imposing themselves on the industry, which must drastically reduce its emissions by 2030.

### *The two-sided responsibility of the film industry*

On one hand, the film industry has a responsibility regarding content production. To meet the goals of the Paris Agreement and those set by the Green Deal for Europe, the audiovisual sector, like any other sector, must reduce its greenhouse gas emissions by at least 55% by 2030 compared to 1990, implying a minimum annual decrease of 8%. Currently, the French audiovisual sector emits approximately 1.7 million tons of CO2 equivalent each year (cinema, television, advertising, streaming, archiving, projections). This is equivalent to 410,000 round-trip flights from Paris to New York or the consumption of 185,191 French individuals for a year, equivalent to the population of Reims, according to an Ecoprod study<sup>5</sup>. A significant portion of these emissions is attributed to production (development, pre-production, filming, post-production), with 25% generated solely during the filming phase. More sustainable practices and innovations can be implemented to minimize the impact of this production process, but changes are also needed in legislation, financing models, and training.

On the other hand, the film industry holds a significant editorial responsibility. The narratives conveyed by films, series, documentaries, etc., have a profound influence on society, shaping perceptions, attitudes, and behaviors. Cinema has the power to convey messages, accompany changes of mentality, and enable viewers to envision a livable and desirable future world.

By focusing on content production, without completely excluding the analysis of the editorial responsibility of the audiovisual industry, this report aims to provide a holistic view of the initiatives necessary to guide the audiovisual industry towards a more sustainable future.

### *Nausicä, pour un cinéma durable*

This report represents the results of the empirical and theoretical research process of the first edition of the *Nausicä pour un cinéma durable*, also simply called *Nausicä*. The association's purpose is to contribute to the acceleration of the social and environmental transition of the film industry and, more broadly, the audiovisual sector by engaging with professionals in this industry. Created by three students - Adrien Roche, Lison Julien, and Manon Biancarelli - the association aims to host projects driven by young individuals who share the same purpose. Shedding light on positive solutions is at the core of *Nausicä*'s identity.

The 2023 edition was led by the founding members and focused on the environmental transition of the production process of cinematic or audiovisual works. This

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<sup>5</sup> [Environment & Climate, New challenges for the audiovisual industry - Ecoprod](#)

report is the synthesis of this initial work. In 2024, a new group of students will explore a new facet of the environmental or social transition of the audiovisual sector.

## Methodology

This report articulates the learnings and conclusions of the first Nausicä project, Nausicä 2023's edition. The research process unfolded as a five-month journey across eight European countries, engaging with stakeholders implementing best practices, tools, regulations, and innovations to mitigate the environmental impact of productions.

The central theme of this report is sustainable filming, emphasizing the responsible production of films. Traditionally, production is distinguished from distribution or film exploitation, with the latter two phases not being the focus of the study. Furthermore, the study predominantly concentrates on initiatives related to environmental responsibility (energy, climate, biodiversity, etc.). Due to limited human and time resources, the decision was made upfront not to delve into social responsibilities to narrow the research scope.

These investigations do not constitute journalistic work. They were conducted for non-profit purposes and aim to maintain objectivity to the greatest extent possible.

This study is not intended to be exhaustive but aims to depict the dynamics at stake on regional, national, and European scales. It draws on theoretical and empirical research conducted between January and July 2023 in eight European countries, which are significant hubs for film production or leaders in ecological transition: France, the United Kingdom, Belgium, Germany, Italy, Spain, Denmark, and Sweden. Face-to-face interviews took place in various cities, including Paris, Strasbourg, Rennes, Bordeaux, Montpellier, Marseille, Lyon, London, Brighton, Brussels, Copenhagen, Stockholm, Hamburg, Berlin, Rome, Turin, Barcelona, and Madrid. Virtual interviews were also conducted with individuals located in other French regions (Corsica and Hauts-de-France) or in countries not covered by the itinerary (Czech Republic and Portugal). The project's preparation phase occurred from September 2022 to January 2023 in Lyon and Paris.

Most of the one hundred and fifty interviews were conducted face-to-face, meeting professionals in each country. When not feasible due to constraints related to the imposed itinerary or availability, interviews were conducted via video conference, typically lasting between thirty minutes and two hours. In-person interviews occurred in cafes, company premises, coworking spaces, on film sets, or in studios.

The interviewees were selected based on various criteria: key positions in structures at the forefront of the environmental transition in cinema, involvement in the development of concrete solutions (green innovations, green management policies, structures promoting circular economy, etc.), and expertise in the subject. It was also insightful to meet professionals less engaged in the social and environmental transition of cinema or

encountering difficulties in implementing solutions, to gather diverse perspectives and achieve the most comprehensive understanding possible of these challenges.

## I. Implementation of regulations and standards : which ones to choose ?

To accelerate the transition of the sector, three types of actors can have a role to develop regulations that aim to reduce productions' environmental impact to compel productions to reduce their environmental impact: national public bodies supporting the audiovisual industry, regional and departmental film funds and commissions, as well as private entities (broadcasters, production companies, associations, unions, etc.).

### A. National public policies

#### 1. The various national organizations observed

Most European countries have a national public body that supports the audiovisual sector. In the majority of the visited countries, this is a unique and direct national support organization, such as the National Center for Cinema and Animated Image (CNC) in France, the Institute of Cinema and Audiovisual Arts (ICAA) in Spain, the cinema department of the Ministry of Culture in Italy (MiC), the Swedish Film Institute (SFI), and the Danish Film Institute (DFI). In Germany, however, there are three active national organizations: the German National Film Fund (FFA), the Ministry of Culture and Media (Kultur Staatsminister), and the national fund for financing young directors (Stiftung Junger Deutscher Film). In the United Kingdom, there are two: the British Film Institute (BFI) and the British Film Commission (BFC). In Belgium, there is no national audiovisual sector support fund, only regional support funds.

The missions of these various public bodies include regulating the national film and audiovisual sector, providing financial support at different levels (writing, development, production, distribution, exploitation, and export), as well as promoting and distributing works nationally and internationally.

The role and influence of these organizations vary from country to country. The CNC is the most active national fund in Europe, offering thirty-two funding programs, including twelve for production.<sup>6</sup>

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<sup>6</sup> [Public funding for film and audiovisual works in Europe, a comparative approach - European audiovisual observatory](#)

These organizations have the ability to establish concrete objectives and actions for the audiovisual sector, aligning them with the Energy-Climate goals of the Paris Agreement, the Green Deal for Europe, and their respective countries.

They can engage in sustainable production by communicating and providing resources, tools, and quantitative studies to productions and the audiovisual sector in general, offering professional and initial training, influencing financial assistance (eco-bonuses or eco-conditionality of aid), and supporting and guiding suppliers and studios in their environmental transition.

## **2. Actions deployed by national organizations**

### **a) Gouvernance, communication, and access to information**

The first step for these organizations is to internally appoint one or more individuals responsible for ecological and energy transition. The encountered entities have organized themselves differently. Some, like ICAA, establish a specific department for CSR issues, while others, like CNC, assign these matters to a transversal strategic department such as the General Secretariat. Some, like SFI, choose to integrate these missions directly within their teams.

A fundamental mission for these entities is to communicate on sustainable filming issues to contribute to the awareness of productions. This can involve addressing environmental issues during meetings with productions, providing resources and tools related to sustainable production, or organizing theme days and conferences.

As national actors, these entities also play a key role in data collection and conduct audits on a national scale. In June 2021, the CNC<sup>7</sup> announced the launch of the *Plan Action !* to accelerate the ecological and energy transition of the sector. As part of this plan, CNC aims to conduct one study per year on Energy-Climate topics. The first study, released in 2022, focuses on the energy consumption of cinema theaters. The ongoing study examines the energy consumption of film studios. This step is essential for a better understanding of the ecosystem and the priority areas for action.

### **b) Initial and professional training**

Regarding initial training, in the various European countries visited, there are no ambitious policies to adapt these programs to sustainable production challenges. Given the sector's necessary adaptation, it is crucial for every student in film or audiovisual school to receive, at the beginning of their curriculum, a mandatory awareness session on the climate crisis and eco-responsibility in their professional activities.

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<sup>7</sup> [CNC](#)

CNC has started working on this issue. A three-hour awareness module has been created for first or second-year higher education students. The program is currently implemented in about thirty voluntary schools. The module was developed by the CNC with the assistance of La Base, Secoya, and Le Bureau des Acclimatations.

It appears essential for all school professors to also be trained in climate-related issues so that they can grasp the subject and integrate it into their courses. Faced with slow progress on the subject, it is often the students themselves who take initiatives, eager to be trained on environmental and social responsibility issues (organizing awareness days, working groups, etc.). While these initiatives are hopeful, they do not absolve national audiovisual support organizations and film and audiovisual school administrations from offering students awareness and training modules on environmental and social issues, tailored to the students' specialties (production, direction, etc.).

Regarding professional training, in all visited countries, it is not provided by public actors supporting audiovisuals but by private entities (associations, training organizations, sustainability consulting firms, etc.). This topic will be addressed in the section dedicated to private actors.

### **c) Financial incentive or binding instruments**

One of the most effective action levers for national audiovisual support organizations is the financial lever. The first strategy may involve encouraging sustainability by creating eco-bonuses, i.e., financial supplements distributed to the most virtuous productions. No encountered structure has applied this strategy on a national scale. The effectiveness of these eco-bonuses is generally limited because they rely on voluntarism, and often only highly committed productions apply.

The other possible strategy, this time binding, is conditionality of aid. It involves implementing environmental criteria that productions must meet if they want to receive financial support. For example: conducting a carbon footprint assessment, drafting an environmental action plan, using green energy on set, recycling all recyclable materials, etc.

We investigated the various eco-conditionality strategies for production aid adopted by public entities we encountered. Here is a table summarizing these different strategies as per our findings.

#### ***National european strategies***

<i>Type of regulatory strategy implemented on Energy-Climate topics</i>	<i>Public body supporting the audiovisual sector</i>
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Quantitative	National Center for the Cinema and Animated Pictures in France (CNC)
Qualitative	Institute of Cinema and Audiovisual Arts in Spain (ICAA)
Quantitative and Qualitative	German National Film Fund (FFA), Ministry of Culture and Media of Germany (Kultur Staatsminister), National Fund for the Financing of Young Directors in Germany (Stiftung Junger Deutscher Film).
No regulatory strategy	Ministry of Culture in Italy (MiC) Swedish Film Institute (SFI) Danish Film Institute (DFI) British Film Institute (BFI) and the British Film Commission (BFC)

The term "quantitative regulatory strategy" refers to a strategy that prioritizes imposing environmental criteria (Energy-Climate-Biodiversity) on as many productions as possible, even if these criteria are limited.

The term "qualitative regulatory strategy" refers to a strategy that prioritizes imposing environmental criteria that go beyond data collection and demonstrate a commitment to action, even if it applies to a limited number of productions.

We emphasize that this typology is relative, somewhat schematic, and may evolve rapidly.

#### Quantitative strategy: The example of the CNC in France

As part of its Plan Action!, the CNC has implemented sustainable filming conditions for its financial support, requiring two carbon assessments - a prospective assessment before filming and an effective assessment post-production.

This measure applies to all live-action works, including fiction and documentaries, both feature films and short films, funded by the CNC. Sustainable filming conditions were gradually introduced throughout 2023 and became mandatory as of January 1, 2024. For digitally native works (animation, video games, virtual reality), the implementation of sustainable filming conditions is deferred as the tools are still under development.

The carbon assessment condition implemented by the CNC does not focus on achieving specific carbon outcomes; it is just the submission of the carbon assessment that is mandatory. The CNC has, however, announced potential targeted audits to verify the accuracy of the information provided. This measure can be considered quantitative as it applies to almost all works supported by the CNC.

The advantage of this strategy is to mobilize as many productions as possible on the subject and quickly obtain a large amount of data, which will help better understand production behaviors.

However, the limitations of such a strategy are neglecting the urgency of taking action, which would be more encouraged by qualitative constraints, and applying the same requirements to productions of vastly different sizes. It is noteworthy that the CNC officially plans to implement more stringent obligations starting in 2024, but these have not been announced yet. This analysis is based on what has already been implemented.

#### *Qualitative Strategy: Instituto de la Cinematografía y de las Artes Audiovisuales in Spain (ICAA)*

Compared to France, the ICAA's sustainable filming strategy is more qualitative than quantitative. In 2022, the ICAA implemented sustainable filming conditions for its production grants, taking a different approach from the CNC. The scope is more limited, as only profitable feature-length films are concerned. However, the requirements are more stringent. Beneficiary feature-length projects must provide a carbon tracking (both prospective and actual measurements) and a roadmap for reducing carbon impact. No control mechanisms have been announced yet.

The advantages of this type of sustainable filming conditions are encouraging productions to take action and focusing efforts on the most polluting productions (feature-length films).

The limitations of this type of sustainable filming conditions are obtaining carbon data that only pertains to a specific type of production (feature-length films) and not involving everyone in the effort (short films, series, etc.).

#### *Quantitative and Qualitative Strategy: German National and Regional Film Funds*

In 2023, the German government, under Claudia Roth's drive, the Minister of Culture and Media and member of the Green Party, announced the implementation of sustainable filming conditions for public production grants, applying to all three national audiovisual film funds and all federal funds. From July 1, 2023, all productions seeking public funds, whether national or federal, must comply with 21 environmental criteria, including 16 strictly mandatory ones (18 from July 1, 2024).<sup>8</sup>

Mandatory criteria include providing prospective and actual carbon assessments, providing a final report on efforts made post-production, having an eco-manager, using renewable energy for permanent sites (such as film studios and post-production studios), avoiding air travel if a train alternative taking less than five hours exists, ensuring a minimum

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<sup>8</sup> [Ecological standards for German Cinema TV, and Online / VoD Productions](#)

of 25% of vehicles used are low-emission vehicles, etc. Compliance with these criteria is verified by German national and regional film funds.

Optionally, productions can undergo evaluation by an independent third-party organization (IPO) authorized to grant the Green Motion label.<sup>9</sup> The costs incurred by the IPO are covered by the production.

Considering the scope and criteria, these sustainable filming conditions can be characterized as both quantitative and qualitative.

The advantage of such a reform is that it massively accelerates the sector's transition, leading to direct reductions in CO2 emissions for each production, notably through the prohibition of using airplanes for journeys under 5 hours, the requirement to shoot only in studios powered by green energy, etc.

Another consequence is the transition it triggers among suppliers and service providers in the German audiovisual sector. For instance, the vehicle rental company Sixt, often praised for productions, has developed a range of electric vehicles specifically for shoots, while the hotel chain Motel One, also popular for shoots, now primarily sources green energy, aware of the risk of losing part of its clientele if it does not align with the 21 environmental criteria.

Finally, a strong national policy helps harmonize various regional initiatives and supports less advanced regions.

However, potential risk of such a policy is to disregard the financial overruns it entails for productions or suppliers in the short term, especially for small productions. As highlighted by Stephen Lemuet, a documentary film producer at Bleu Iroise, "*the requirements of public actors and training must be adapted to the differences in size and nature of productions. If we all have a responsibility, this responsibility is differentiated.*"<sup>10</sup> Placing actors of very different sizes in the same basket risks discouraging smaller entities with fewer resources and creating a sense of absurdity, as they do not identify with the discourse and requested modalities.

#### No national regulation: Italy, Sweden, Denmark, Belgium, United Kingdom

Italy, Sweden, Denmark, Belgium, and the United Kingdom do not have a national sustainable filming strategy for their public grants. Note that the underlying contexts are quite different; Sweden and Denmark are not major audiovisual producers and have a very greener energy mix. In the United Kingdom, private entities (BBC, ITV, etc.) are more involved in regulatory issues. In Italy and Belgium, decisions are more regionally oriented.

#### **d) Support for suppliers and providers in their transition**

In some countries, public policy also extends to supporting suppliers in their energy and environmental transition. The British Film Commission (BFC) financially supports the

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<sup>9</sup> [Label Green Motion](#)

<sup>10</sup> [Nausică interview of Stephen Lemuet - Belgium Article](#)

energy transition of English studios, whether it involves renovating existing structures (90% of aid) or supporting the eco-construction of new studios (10% of aid).<sup>11</sup>

The positioning of public actors on the issue of the environmental transition of suppliers is a major, yet often overlooked, challenge that will shape the entire sector's transition.

## **B. Public policies at a regional scale**

Various structures supporting the audiovisual industry exist at regional, departmental, and local levels.

In the case of France, there are film commissions as well as financial support funds from local authorities.

Film commissions can take various forms: a service directly integrated into the local authority, an association with the primary purpose of welcoming film shoots, a limited liability company (EuRL), a public establishment for mutual cooperation (EPCC), etc. In France, there are 34 film commissions, all members of the Film France CNC network<sup>12</sup>, and their scope of action is regional, departmental, or municipal. Their missions include facilitating the establishment of film shoots, production and post-production activities in their territory and promoting their region and its resources to professionals in the cinema and animated image sector.

The second type of structures supporting productions are financial support funds directly managed by local authorities. They finance a film by indexing the aid to the film's budget, in exchange for certain imposed criteria.

These regional, departmental, and local structures are key players in addressing the issue of sustainable filming. Thanks to their in-depth knowledge of the specificities of their locality (protected areas, suppliers, technical teams, etc.), they are capable of guiding productions toward more virtuous choices.

However, there is variable commitment among these different structures regarding eco-responsibility and sustainability issues.

### **1. The most involved European regional organizations**

Here is a non-exhaustive overview of initiatives proposed by involved regional organizations in France and Europe.

#### ***Regional european initiatives***

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<sup>11</sup> [Nausică interview of Jeremy Pelzer - UK Article](#)

<sup>12</sup> [Film France CNC network](#)

<b>Bureau des images du Grand Est (Grand-Est, FR)</b>	PLATO Network and engagement contract
<b>Bureau d'accueil des tournages de Gironde (Nouvelle-Aquitaine, FR)</b>	List of sustainable providers
<b>Film Paris Région (Île-de-France, FR)</b>	Partner of Ecoprod, Carbon'Clap and sustainability guide Lead of the Green Screen Program
<b>Film London (London, UK)</b>	Lead of the Green Screen Program : Green Screen Certification, The Fuel Project, The Grid Project
<b>Wallimage (Wallonia, BE)</b>	Financial incentives and support for the studio transition
<b>VAF (Flanders, BE)</b>	Financial incentives based on the 17 UN sustainable development goals
<b>MOIN Film Fund Hamburg Schleswig-Holstein (Hamburg, DE)</b>	Initiator of the 21 german sustainable production criteria
<b>MFG Filmförderung (Baden-Württemberg, DE)</b>	Initiator of the 21 german sustainable production criteria
<b>Trentino Film Commission (Trentino, IT)</b>	Green Film
<b>Sardegna Film Commission (Sardinia, IT)</b>	Adaptation of the Green Film protocol to Sardinia <sup>13</sup>
<b>Barcelona Film Commission (Catalonia, ES)</b>	Sustainability guide <sup>14</sup>
<b>Cantabria Film Commission (Cantabria, ES)</b>	Best practices guide <sup>15</sup>

In France, The Bureau des images Grand-Est provides a "commitment contract" offering about twenty feasible measures, a list of local suppliers and service providers, and educational explanations. This "contract" is adapted to various localities. The PLATO network is a group of communities committed to the Grand Est region and the Bureau d'accueil des tournages in the policy of welcoming film shoots. The very local dimension of these communities supporting productions promotes eco-responsible actions on the sets. The film

<sup>13</sup> [Green Film Shooting - Sardinia Film Commission](#)

<sup>14</sup> [Barcelona Film Commission](#)

<sup>15</sup> [Cantabria Green Film Shooting](#)

commission in Gironde (Nouvelle-Aquitaine) compiles a list of eco-responsible service providers to guide productions. In the Ile-de-France region, Film Paris Région has collaborated with Ecoprod on the creation of a sustainability guide and the Carbon'Clap carbon calculator.<sup>16</sup>

In England, the London Film Commission, Film London, is among the initiators of the Green Screen Program, which was a program funded by the Interreg Europe fund from 2017 to 2022, involving eight European countries. As part of this program, all participating countries had to implement an action plan. Film London's plan focuses on three main points: the evolution of the Green Screen Certification tool, the introduction of new innovations, centered around The Fuel Project, and the establishment of the London Grid.

In Belgium, the Wallimage audiovisual support fund in the Walloon region now only supports committed projects. Since 2021, every producer seeking funding from the fund must meet certain environmental requirements. Moreover, from January 2024, a program to support Walloon studios in an eco-transition process will be launched. The Flemish audiovisual support fund, VAF, has also been a pioneer in eco-responsibility by implementing eco-conditionality and relying on the UN Sustainable Development Goals to guide productions.

In Germany, the audiovisual support funds in Hamburg and Baden-Württemberg were instrumental in the development of the German 21 sustainability criteria system. The Hamburg Commission also created the Shooting Card, an sustainability label, and a Green Filming Badge, now replaced by the national label Green Motion.

In Italy, the Trentino Film Commission was behind the Green Film certification, offering labeling based on six criteria: energy, transportation, food, materials, waste, and communication. Green Film is now used in various regions in Europe. Some, like Sardinia, have adapted the Green Film protocol to the specificities of their region.

In Spain, the film commissions of Barcelona and Cantabria have implemented sustainability guides for productions, tailored to the specificities of their locality.

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<sup>16</sup> [Carbon'Clap walkthrough](#)

## 2. Actions and means deployed by regional organizations

Organizations acting at the regional, departmental, and local levels are at the forefront of the sustainable production issue due to their role as intermediaries between national or European policies, and local on-the-ground stakeholders. They can act by creating tools such as guides, protocols, or directories tailored to their localities. Their concrete actions can also involve supporting local projects. Their intermediary position among multi-scalar actors also give them a role of communicators and information relays. They also have the power to impose constraints and incentives through eco-conditionalities or eco-bonuses.

### a) Creation of tools to guide productions

#### Sustainability guides

These guides are documents that compile a set of best practices to implement during film productions, covering various departments (Energy, Production, Lighting, Set Design, Costumes, Hair, Makeup, Waste, Studios). Regional, departmental, or local support structures can share existing guides with productions, adapt them to the specificities of their locality, or create new ones.

In the Grand Est region, Michel Woch, responsible for welcoming film productions in the Alsace part of the territory, has created a toolbox now called the "Engagement Contract"<sup>17</sup> to make life easier for productions aiming to adopt eco-responsible practices in the Grand Est. The ten-page document offers a list of around twenty initiatives that can be implemented - from waste management to responsible communication. It includes a directory of eco-partners that can be mobilized based on chosen actions, along with explanations for educational purposes. Once the production has chosen the actions it wants to implement and is aware of the means to do so, it commits in writing to "be a sustainable shoot." This is not an obligation but a moral commitment. This document is adapted for different communities within the PLATO network based on the shooting location, especially for the eco-partnership aspect. This support system has received very positive feedback on several projects, such as "*Une femme du monde*" by Cécile Ducrocq, "*Le Principa*" by Chad Chenouga, etc. This initiative differs from more conventional sustainability guides as it represents a moral commitment and is tailored to the reality of the field.

Other regions have adapted guides to their scale or created them from scratch, such as Cantabria or Catalonia, which even has a guide specific to the city of Barcelona. This guide pays attention to noise pollution in the city, promotes solidarity economy in the Catalan landscape, and addresses the connections with local communities.

#### Protocols and Certifications

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<sup>17</sup> [Nausică interview of Michel Woch - Grand-Est article](#)

Protocols differ from guides in that they precisely list a set of criteria, compliance with which may lead to obtaining certification or a label, subject to undergoing the evaluation process by an independent third-party organization. A label allows one to certify their sustainability approach.

One of the most iconic in Europe is the Green Film protocol, developed in the Trentino region.<sup>18</sup> In 2017, the Trentino Film Fund and Commission created the T-Green evaluation system to guide productions filming in the region to be more environmentally friendly. Following the attention gained from various European commissions and funds, the Trentino Film Commission decided to adapt the tool to all types of productions and regions to make it usable across Europe. The Green Film protocol comes into existence. It adopts a very pragmatic, on-the-ground vision, focusing on the implementation of concrete actions. The certification, for example, does not require the calculation of the production's carbon footprint. This approach provides a "first-level" tool, simplifying its use and the costs associated with the certification body, as everything must be verified by a certification organization.

Green Film is not mandatory for the Trentino Fund, and producers applying for the fund choose whether they are willing to obtain certification or not. If they choose to do so, they can receive up to five additional points during the evaluation of their request. The tool has been adopted by several regions and European countries, including the Walloon Region in Belgium, Catalonia, the Spanish Basque Country, Majorca, Greece, Iceland, Denmark, etc., some of which have even made it mandatory.

In 2019, Green Regio committed to collaborating and empowering the industry to initiate the eco-transition process on a European scale by developing the Green Film tool. The primary goal of Green Film is to maximize collaboration among regional funds (MFG, Trentino, etc.) around a common system. In 2021, the national association of Italian film commissions, representing all of them, officially recognized the Green Film Protocol as an industry standard and a shareable tool to promote environmental sustainability on film sets.

### *Directories of environmentally friendly providers*

Film commissions can also create and provide to productions a list of local providers and suppliers considered the most "sustainable" (recycling centers, local and seasonal caterers, electric vehicle rental companies, etc.).

Two possibilities exist: indicating sustainable providers through a label or a sign on the traditionally shared list of local providers by film commissions or creating a specific list of "sustainable providers".

Some film commissions aim to develop their "sustainable providers" databases through a system of production feedback, in order to save time.

According to Marie Rateau<sup>19</sup>, in charge of Bureau d'accueil des tournages de Gironde, it would be also relevant to integrate departmental and regional initiatives to list

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<sup>18</sup> [Green Film](#)

<sup>19</sup> [Nausic  interview of Marie Rateau - Nouvelle-Aquitaine article](#)



eco-responsible providers on specific film tools, such as the Film France CNC website, which already lists filming locations nationally. The site is currently being fed by the commissions.

However, such lists of environmentally friendly providers often rely on somewhat arbitrary criteria. It is not always easy to define what is "sustainable provider" based on the declared commitments of suppliers. The question of harmonizing criteria that define a responsible provider is a major issue.

Despite these challenges, these directories are essential as they provide visibility to the most virtuous and forward-thinking projects and encourage suppliers not yet on the list to improve their offerings. They also allow productions and technicians to save time in finding better solutions. Because they are accessible to everyone, these directories also serve as a solution for professionals who cannot afford to use sustainability consulting services.

## **b) Support for local projects**

Support organizations for the audiovisual industry that operate at the regional or metropolitan level can also contribute by supporting the development of local projects.

### London Region: Reducing fossil fuels in the city

In London, various initiatives are emerging to reduce fossil fuels in the city and decarbonize film productions. As part of the Green Screen Program<sup>20</sup>, The Fuel Project<sup>21</sup> is a report launched in the United Kingdom in November 2022. As the name suggests, it focuses on emissions related to transportation during film productions in the London region. According to this report, 50% of a production's emissions come from the transportation of people and equipment, as well as generators.

Faced with this finding, the report proposes practical, low-carbon emission solutions to reduce greenhouse gas emissions. It specifically looks at batteries, hydrogen generators, HVO fuels, or second-generation biodiesel, and synthetic fuels compatible with diesel engines, produced from used oil, rapeseed, sunflower, or animal fat. The report also outlines the persistent challenges of these alternative fuels: availability of biodiesel, transparency in the supply chain, competition with food production, etc. This analytical project is the first part of a three-step plan: the second step is to study and list vehicle and thermal generator rental services in the London region, and the third is to support their transition and the development of a low-carbon offering, as well as to deploy an awareness campaign.

Since 2019, still as part of the Green Screen Project, Film London has been leading a project aimed at limiting carbon emissions, air pollution, and noise pollution within the metropolis by establishing a network of electrical power supply points that productions can connect to. This project, titled The Grid Project<sup>22</sup>, is partially funded by Interreg Funds, Mayor of London's Good Growth Fund, NBCUniversal, and the British Film Commission. A "pilot"

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<sup>20</sup> [Green Screen - Film London](#)

<sup>21</sup> [The Fuel Project - Film London](#)

<sup>22</sup> [The Grid Project - Film London](#)

version already exists in Victoria Park. The goal is to minimize the use of generators within cities and facilitate the reception of productions by providing them with a network of fairground power connections.

### Wallonia: supporting the transition of studios

The Walloon fund, Wallimage, is about to launch a studio eco-transition project in the region<sup>23</sup>. The goal is to reduce the consumption of animation and post-production studios by developing a three-year plan.

The year 2023 is dedicated to assessing the energy and environmental health of the studios: buildings, workflows, etc. In the second year, studios will be required to provide an action plan. This plan may include, for example, the installation of solar panels, the implementation of decarbonization solutions, etc. Support for these acquisitions will be provided through Wallimage, and a reflection on mutualization (including group purchases, for example) is also underway. Finally, at the end of this process, studios will be encouraged to obtain a certification such as EMAS or ISO. At the end of each phase, companies that have not achieved the objectives will lose their eligibility for funding. All of this is done in collaboration with the studios, aiming to support entrepreneurship and the sector's transition.

These various projects illustrate the impact that committed local actors with substantial resources can have. They can assist other stakeholders, such as studios, in reducing their impact, funding study projects, or facilitating film production by minimizing its environmental footprint.

### **c) The capacity for constraint and incentive**

The constraint power of regions as intermediate actors proves significant in terms of eco-production, especially in the absence of national policies. This constraint power can take the form of eco-conditionalities, subjecting productions to certain sustainability criteria in exchange for regional aid, or in the form of eco-bonuses, providing financial incentives to productions that meet sustainability criteria. The former option is thus the more stringent.

### Eco-conditionalities of aids

Several regions in Europe have implemented or currently apply eco-conditionalities policies.

In Flanders, for instance, the VAF has introduced eco-conditionalities<sup>24</sup> for its production grants. To ensure receipt of funds, small projects must select responsible actions from a list they intend to implement, while larger productions must additionally submit a carbon footprint report generated with the Eureka tool.

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<sup>23</sup> [Nausică interview of Benjamin Vanhagendoren - Belgium article](#)

<sup>24</sup> [Interview Nausică de Tim Wagendorp - Article Belgique](#)

Since 2023, Wallimage requires productions applying for aid to follow a "green" protocol but no longer specifies the tool to use to avoid unnecessary steps. Indeed, Belgian producers are often in the minority and must therefore adhere to the system imposed by the majority production (Carbon Clap, Albert, etc.).

### The different types of eco-bonuses

Eco-bonuses are more common because they are less restrictive for productions. Eco-bonuses can translate into additional points in the evaluation of funding applications. They can also directly correspond to a financial bonus based on compliance with certain environmental criteria.

Adhering to a green protocol comes with a cost, and to support this additional expense, Wallimage offers a financial eco-bonus that will only be granted to productions successfully obtaining certification or a label (more than 20 points out of 50 on the Green Film system). This translates to an additional contribution to the initial financing of €100/day of shooting in Wallonia.

In France, Corsica has also developed an eco-bonus system based on Ecoprod's recommendations<sup>25</sup>, providing a 15% bonus on production aid. Île-de-France<sup>26</sup> also has an eco-bonus system ranging from €23,000 to €75,000 for specific expenses related to innovative practices or technologies. The amount is decided in the steering committee simultaneously with the aid and follows the same disbursement modalities.

However, the national goal is more about unifying policies with the Plan Action I, an eco-conditioning system that is less restrictive when compared to certain regional policies in Europe, such as those imposed by the Trentino region, but has the advantage of being deployed on a national scale.

#### **d) Communication and knowledge hubs**

Regional organizations also act as communication and knowledge hubs regarding the eco-responsibility of the audiovisual sector through their communication networks, such as their websites, or through study projects.

Many film offices disseminate information about the eco-responsibility of productions in their regions on their websites. The Madrid Film Office positions itself as a hub for existing initiatives<sup>27</sup>. The site offers one of the best compilations of protocols, best practice guides, calculators, certifications, national and European reports.

Studies are also conducted by regions to gain a deeper understanding of certain eco-responsibility issues and to communicate about them. For example, in 2020, Film Paris

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<sup>25</sup> [Corsica - Eco-bonus](#)

<sup>26</sup> [Financial incentives - Film Paris Région](#)

<sup>27</sup> [Madrid Film Commission](#)

Région initiated a survey with Eco-Déco and ADC-MAD, with the assistance of sociologist Samuel Zarka, targeting teams responsible for set design on film sets. The aim was to gain better visibility into their practices, structural inertia within the industry, and possible courses of action.<sup>28</sup>

### **3. Regional challenges**

Regions are facing new challenges that directly impact the sustainability of productions: the increased number of shootings in certain regions, changes in policies at the national or European level, the decentralization of productions in some countries like France, etc. To address these new challenges, regional organizations can create new tailored tools or utilize existing ones. The roles and responsibilities of collaborators within these organizations must also evolve. Finally, there is a challenge of collaboration on various scales: within regions or between them, to have political influence or reach agreements on financing models.

#### **a) Rely on existing tools and adapting them to regional specificities**

The creation and use of tailored tools are significant challenges for regional organizations, as they must reconcile national and European policies with on-the-ground imperatives while fulfilling their primary mission: making the region an attractive territory.

Tools such as sustainability guides are at the heart of the matter. It is increasingly obvious that the proliferation of guides has led to some redundancy and a fragmentation of efforts. To maximize the impact of these guides and avoid sometimes unnecessary efforts, especially in smaller regional structures with limited resources dedicated to film sustainability, it seems necessary to harmonize these resources. This would create a more consistent and unified approach to environmental management on film sets, facilitating understanding and team adherence by avoiding unnecessary efforts, although some territories may require adapted guides.

Similarly, directories of service providers face the imperative of harmonization for practical reasons, as well as an imperative for precision and rigor that can find a regional-scale response. Regional organizations, particularly in France, must therefore address this issue while collaborating on a national level. This requires a reorganization of the roles of certain collaborators, and in some cases, the creation of dedicated positions, as seen in several commissions in the United Kingdom.

#### **b) Create new positions or missions**

The question of positions and missions dedicated to eco-responsibility within regional organizations is closely tied to taking charge of this theme. Given its increasing importance, it seems inevitable to create at least dedicated missions, and possibly dedicated positions.

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<sup>28</sup> [Circular't 2 - Film Paris Région](#)

Today, most English commissions have "sustainability managers" whose main role is to connect professionals, facilitate communication, and provide access to information to accelerate the transition. This is the case for commissions such as Film London, Screen Scotland (Scotland), Film Cymru (Wales), and Northern Ireland Screen (Ireland).

Mairi Claire Bowser, sustainability manager at Screen Scotland, leads three flagship actions in Scotland<sup>29</sup>: she identifies sector providers that she deems "green" based on subjective criteria and reports them to the Albert organization, which, after a second evaluation, incorporates some into its national database. She then implemented training for sustainability coordinators in the UK, with the help of Dörte Schneider Garcia, to address the lack of adequate training for people aspiring to these roles. Finally, she tries to build bridges between productions and suppliers by organizing theme-based workshops where production professionals and non-cinema entities meet. The first theme was zero waste, followed by a workshop on the construction and deconstruction of responsible sets.

The creation of "sustainability manager" positions, or at least the implementation of training for collaborators within commissions and welcome offices, would help facilitate communication, connections, and the management of lists of service providers.

### **c) Collaborate within regions and between regions**

Collaboration within regions and between regional bodies is essential to share knowledge and have greater impact.

#### *Collaboration within regions*

In France, the creation of the PLATO network in the Grand Est region helps establish stronger connections between film crews and local authorities responsible for their reception, thus promoting the implementation and emergence of eco-responsible initiatives. This solution takes the form of a network of municipalities in the Grand Est region (Épinal, Colmar, Nancy, Mulhouse, Metz, etc.), each designating a single point of contact who communicates with the film office.

This network provides logistical and financial support, allowing the equitable distribution of film shoots throughout the region and contributing to the overall dynamism of the region by avoiding an excessive focus on major cities. Without the support of these municipalities, many actions would be impossible to implement, as they have competence in waste management, public transportation, certain temporary connections, etc.

#### *Collaboration between regions*

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<sup>29</sup> [Nausică interview of Claire Bowser - United Kingdom Article](#)

In Germany, dialogue between the Länder, the 16 states that make up the Federal Republic of Germany, and the film commissions has, among other things, led to the creation of the 21 eco-responsibility criteria that productions supported by national or regional public funds must adhere to<sup>30</sup>. This dialogue ensures a consistent approach to sustainability throughout the film industry while highlighting the strengths and specificities of each region, giving political weight to the issue of sustainable filming.

In Germany as well, communication is at the heart of this collaboration, notably through the Keen to be Green initiative<sup>31</sup>. This series of digital seminars results from the collaboration between regional organizations and associations of professionals in the audiovisual industry. These webinars illustrate the strength of regional organizations (Film Fernseh Fonds Bayern, Filmförder Hamburg Schleswig-Holstein, Film- und Medienstiftung NRW, Hessen Film und Medien, Medienboard Berlin-Brandenburg, MFG Baden-Württemberg, Mitteldeutsche Medienförderung (MDM), and Nordmedia – the Film and Media Society of Lower Saxony/Bremen) in terms of communication.

#### **d) Rethink and adapt regional spending obligations**

Some productions raise concerns that the spending obligations imposed by regional funds can sometimes lead to environmentally absurd choices. Regional support funds for the audiovisual industry all impose a spending obligation within the regional territory on the productions they support to stimulate the local economy. This obligation takes the form of a percentage of the aid granted by the fund. In France, most regional funds supporting the audiovisual industry require supported productions to spend at least 100% of the aid amount in their territory. These expenditures often include accommodation, catering, hiring technicians, equipment rental, etc.

It sometimes happens that filming locations change at the last minute, and productions still need to meet this spending obligation if they do not want to repay the aid granted by the regional fund. Some opt to hire technicians or rent equipment in the region but have them travel to the new filming location, which is an environmentally unfriendly choice. Some productions are even willing to make "artificial" expenditures in a region to obtain aid from that specific region.

Given the limitations of this model, the German production company Tam Tam Film reflects on the possibility of evolving this system of regional spending obligations towards greater adaptability and inter-regional cooperation. The idea is to successfully "exchange" regional spending requirements with another production company that needs to spend money in that region. This requires great flexibility on the part of regional funds<sup>32</sup>.

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<sup>30</sup> [MFG Film Förderung](#)

<sup>31</sup> [Keen to be Green - Location Germany](#)

<sup>32</sup> [Nausicä Interview of Andreas Schütte - Germany Article](#)

Thus, public actors supporting the audiovisual industry, whether at the national or regional level, are key players in addressing the issue of sustainability and advancing the sector's transition. However, they are not the only ones who can take action.

## **C. Consortia, private actors supporting public entities**

In some countries, private actors (broadcasters, producers, associations, unions, etc.) join forces, whether with the public or not, and form consortia, that is, groups of organizations sharing a common goal; here, the environmental transition of the sector. They engage in lobbying efforts to influence regulations and standards. These consortia have undeniable advantages: creating forums for exchanges and discussions among the various professions in this industry, high visibility within the sector and among the general public, and significant financial and human resources.

### **1. The various observed consortia**

#### **a) France: Ecoprod**

In France, several industry stakeholders joined forces in 2009 to create the Ecoprod<sup>33</sup> collective. The founding members included the French Environment and Energy Management Agency (ADEME), Audiens (a social protection group specialized in the culture, communication, and media sector), the Ile-de-France Film Commission, the Regional Directorate for Business, Competition, Consumer Affairs, Labor, and Employment of Ile-de-France (DIRECCTE IDF), France Télévisions Group, and TF1 Group. In 2021, Ecoprod transformed into an association with founding members including Audiens, CANAL+, the Superior Technical Commission (CST), the Film Paris Region Commission, France TV, and TF1, supported by the CNC.

The association now boasts over 350 members, and its day-to-day activities are managed by a permanent team led by Pervenche Beurier.

Ecoprod supports the industry in its ecological transition with three main objectives. Firstly, it brings together the industry by creating spaces for dialogue and cooperation with French and European institutions. The association also plays a significant role in raising awareness and providing training through the publication of studies and the identification of best practices and innovations in the field of sustainability in the film industry. Finally, it focuses on creating tools that allow professionals to pragmatically reduce the ecological footprint of their activities, including a carbon calculator, practical fact sheets, guides, and a label.

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<sup>33</sup> [Ecoprod](#)



This consortium can boast of being one of the first industry organizations to work towards its transition and offers one of the most comprehensive sets of tools freely available to productions and technicians.

#### **b) United Kingdom : Albert and AdGreen**

In the United Kingdom, large-scale initiatives have also emerged, leading to the implementation of widely used carbon calculators, internationally recognized certification, and a national directory of committed service providers.

##### *We are Albert*

We are Albert<sup>34</sup> is a think tank integrated into the charitable artistic institution BAFTA. Established in 2011 at the initiative of a British broadcaster, the BBC, followed by ITV, Channel 4, and Sky, they aimed to calculate the carbon footprint of their streaming productions.

Albert has set two main objectives: to reduce the industry's impact by eliminating waste and carbon emissions while making positive contributions, and to inspire the industry by providing the means to create a new vision for a sustainable future.

To achieve this, the organization has developed online training and specialized tools such as a carbon calculator, certification, a guide to incorporating sustainability into storytelling, and a list of so-called "green" suppliers - an unique tool in the industry.

We previously discussed the difficulty of compiling a list of responsible service providers nationally, considering the complexity of updates and criteria selection. Nevertheless, Albert, specifically a two-person team, has successfully built such a list over the years, both nationally and across Europe.<sup>35</sup>

To identify relevant companies, the team uses various methods: industry research, direct outreach by companies, or suggestions from regional commissions.

The protocol involves the supplier completing a form with specific criteria. Upon receiving the form, the team verifies that the supplier provides a product or service specific to the film or television industry, ensures the website corresponds to the form's information, and studies the company's environmental policy to ensure responsible actions. They also highlight companies making special efforts by adding two labels: "100% renewable energy," indicating their energy supplier is renewable, and "Carbon Neutral," indicating they offset their carbon emissions. Approximately twenty suppliers are added each month.<sup>36</sup>

Today, this consortium has become a key player in international discussions on the sustainability of the audiovisual industry.

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<sup>34</sup> [We are Albert](#)

<sup>35</sup> [Sustainable suppliers - We are Albert](#)

<sup>36</sup> [Nausică interview of Jung Min Kim - UK Article](#)



### We are AdGreen

In 2020, expenditures for British advertising productions were estimated at £450 million, with no knowledge of their carbon footprint. To address this, Jo Fenn created AdGreen<sup>37</sup> with the goal of uniting the advertising industry to reduce its carbon footprint, inspired by Albert's model. AdGreen aggregates companies such as Havas, Accenture, Publicis Groupe, etc.

AdGreen aims to provide free resources, training, and tools (including its carbon calculator) to enable advertisers to measure and reduce their footprint. Ad Green also supports the sector through awareness, communications, events, and scientific reports. This collaboration focuses on the "big picture" and does not provide advice to individual productions.

To allow advertising stakeholders to benefit freely from these resources and tools, a voluntary tax on production expenses, paid by pioneering advertisers, has been implemented.

#### **c) Germany: Green Production Initiative and Green Shooting Group**

In January 2022, the "Green Production Initiative " was launched, bringing together public broadcasters (ARD, ZDF, WDR, etc.), private companies such as RTL and Sky Deutschland, as well as other representatives of the German audiovisual industry.

Within this alliance, a working group called Green Shooting, led by Carl Bergengruen and composed of experts, examined 100 German productions. They derived 21 sustainability criteria from this assessment. Following the government's commitment, these criteria were adopted by the entire industry.

#### **d) Denmark: BFTP (Baeredygtig Film & TV Produktion)**

In Denmark, ten major players in the industry, including the Danish Film Institute, Vision Denmark, prominent Danish broadcasters (Danish Radio and TV2), or producer associations, joined forces to support the creation of BFTP (Baeredygtig Film & TV Produktion)<sup>38</sup>, which promotes sustainability within the Danish audiovisual industry.

Led by Caroline Gjerulff<sup>39</sup>, BFTP provides a Danish translation of the Green Film manual, developed by the fund and the Trentino Commission, to any production. This guide offers all the information and steps to obtain the Green Film label through six criteria: energy, transportation, food, materials, waste, and communication. Today, TV2 and Danish Radio, the two largest Danish broadcasters, require their productions to use this manual and create an action plan.

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<sup>37</sup> [We are AdGreen](#)

<sup>38</sup> [BFTP \(Baeredygtig Film & TV Produktion\)](#)

<sup>39</sup> [Nausică interview of Caroline Gjerulff - Denmark Article](#)

As mentioned earlier, numerous tools already exist on a European scale. Therefore, there is no need to create new ones from scratch to save time and enhance clarity. BFTP has understood this issue by deciding to adapt an already existing Italian tool to drive progress in the Danish industry.

BFTP also conducts training sessions and operates a website that provides advice for all department heads, along with numerous articles.

## **2. Actions and means deployed by large consortia**

There's a certain correlation between the progress of countries in the sector transition and the presence of such consortia on the national territory. Indeed, these organizations appear to have initiated or accelerated the dynamics of sustainable filming in France, the United Kingdom, Germany, and Denmark.

### **a) Impact on regulations**

The involvement of these private actors can drive regulatory advancements, as public bodies rely on their research and developed tools to agree on uniform ecological standards nationally. In Germany, in 2022, several public funding organizations based in Hessen, Baden-Württemberg, and Hamburg made it mandatory to adhere to at least 18 criteria defined by the Green Shooting group for productions seeking their assistance. In 2023, this goes even further. The government, spurred by the Minister of Culture and Media, a member of the Green Party, Claudia Roth, decided to follow this trend and imposed this new regulation nationally. Since July 1, 2023, all productions wishing to receive public funds, whether national or federal, must meet a minimum of 16 out of 21 criteria.

In France, the work of Ecoprod since 2009 has had a significant impact on the industry's transition. They notably influenced the CNC's Plan Action ! .

### **b) Impact on knowledge and communication**

These consortia have obvious repercussions on understanding the industry's impact and identifying action levers through the publication of studies, writing and cataloging articles, as well as training.

The in-depth studies conducted by these consortia allow for a nuanced understanding of the complexity of the transition and guide professionals and regulatory bodies in their decision-making. Since 2009, Ecoprod has been involved in several studies in partnership with research laboratories and other organizations such as *Environment & Climate, New Challenges for Audiovisual Actors*<sup>40</sup>, demonstrating the economic, regulatory, and climatic necessity of adapting to environmental issues, or *Circul'art: The impact of film and*

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<sup>40</sup> [Environment & Climate. New challenges for the audiovisual industry - Ecoprod study](#)

*audiovisual decoration teams*<sup>41</sup>, highlighting ways to make the decoration department more eco-responsible. In 2023, Ecoprod is launching a comprehensive multidisciplinary study with several universities on the impact of sustainable filming in its organizational, sociological, financial, and environmental dimensions.<sup>42</sup>

They also contribute to raising the knowledge level of industry professionals by offering training, whether certifying or not. The BFTP has implemented training sessions attended by nearly eighty production managers, key players in the transition. Since 2022, Ecoprod has partnered with CST, INA, and La Fabrique des Formats to offer a series of short and certifying long-term training courses: Sustainability in decoration, sustainability in production management, and a program focused on production and distribution, training professionals as well as students.

These consortia also conduct monitoring work on a national and international scale, informing and raising awareness among professionals and the general public. They publish articles and centralize resources on the subject. The BFTP website, currently featuring about twenty articles, or Albert, publishing new articles every month, are good examples of knowledge sharing. Through these actions, they encourage the industry to unite around a common vision of a more sustainable production environment.

Finally, these groups create necessary spaces for information circulation and experience sharing. For example, for the past two years, Ecoprod has organized the Sustainable Production Summit, a large one-day gathering that mobilizes over three hundred professionals for conferences, debates, workshops, and experience sharing. They can also be the instigators of communication actions capable of mobilizing the industry, as evidenced by the Ecoprod Award at Cannes.

### **c) Impact on taking action**

This enhanced understanding of the industry's impact and the development of tailored tools encourage professionals on the ground to take action.

The carbon calculator dedicated to audiovisual productions, Carbon'Clap<sup>43</sup>, created in 2012, underwent modernization in 2022 and 2023, notably through participatory co-design sessions and field tests. Its use enables productions to implement green strategies to either avoid emissions or, at the very least, reduce them. The sustainable production Guide<sup>44</sup>, launched in Cannes in 2012, compiles numerous best practices to be applied before, during, and after filming. The Practical Sheets<sup>45</sup>, published in 2015, provide concrete tips for each profession in the industry. Finally, the Ecoprod Label<sup>46</sup>, launched in 2023 with the support of ADEME, offers productions the opportunity to follow a weighted list of criteria to establish a

<sup>41</sup> [Decoration practices - Study by Samuel Zarka, on the initiative of the Ecodéco Ciné and Film Paris Region collective](#)

<sup>42</sup> [Ecoproduction impact study - Ecoprod study, IRCVA, LIED, Master of Science Strategy and Design for the Anthropocene](#)

<sup>43</sup> [Carbon'Clap - Ecoprod](#)

<sup>44</sup> [Sustainable Production Guide - Ecoprod](#)

<sup>45</sup> [Practical Sheets - Ecoprod](#)

<sup>46</sup> [Ecoprod Label - Ecoprod](#)

sustainability score and, based on the score obtained, obtain the label after an independent audit by Afnor Certification.

In England, Albert also offers a carbon calculator tailored to the profession to measure the carbon footprint from pre-production to post-production. Productions can then undergo a certification process in which they must implement sustainable production techniques to reduce their emissions and offset residual emissions.

### ***Consortia in Europe***

<b>ECOPROD</b>	<ul style="list-style-type: none"> <li>- Carbon calculator : Carbon'Clap</li> <li>- Ecoprod label</li> <li>- Guide for sustainable production, sustainable animated pictures, film shooting in natural areas</li> <li>- Guides designed for each branch</li> <li>- Trainings</li> <li>- Studies</li> </ul>
<b>ALBERT</b>	<ul style="list-style-type: none"> <li>- Carbon calculator : Albert</li> <li>- Albert certification</li> <li>- Guide, Telling Climate Stories</li> <li>- Sustainable suppliers list</li> <li>- Trainings</li> </ul>
<b>GREEN PRODUCTION INITIATIVE</b>	<ul style="list-style-type: none"> <li>- 21 sustainable filming criteria</li> <li>- Green Motion certification</li> </ul>
<b>BFTP</b>	<ul style="list-style-type: none"> <li>- Green Film Guide translation</li> <li>- Trainings</li> <li>- Articles</li> </ul>

### **Key Recommendations**

#### **1. National public organizations supporting the audiovisual industry:**

- Implement eco-conditionality for production grants, with criteria extending beyond the provision of one or more carbon footprints. Emphasize concrete actions during filming. It is also essential to raise standards for large-scale productions with significant anticipated impacts.
- Launch a national plan for initial and professional training in sustainable filming.
- Provide financial support to suppliers and service providers for the development of low-carbon solutions for the industry.

#### **2. Regional public organizations supporting the audiovisual industry:**

- Facilitate connections between sustainable regional productions and stakeholders.
- Support sustainable local projects and suppliers through specific referencing of engaged regional actors or financial support.
- Create dedicated positions or missions for sustainable production within regional organizations.
- Promote collaboration between regional organizations to develop harmonized solutions at the national level.

#### **3. Consortia:**

- Promote collaboration between private and public sector stakeholders to accelerate the transition.
- Encourage private and public sector stakeholders to take action by creating sustainability tools and training programs and actively participating in sector research and regulation.
- Fund research, tools, and training.
- Conduct large-scale awareness campaigns.

Coordinated action at the industry level is necessary to bring about profound transformation. Public actors should regulate at both the national and regional levels, allocate funding for training programs, and support professionals in their transformation to expedite the transition. Private actors, through their collaboration, can maximize their influence on and support for these regulations and contribute to the financing of this transition.

However, the mere participation of private actors in these consortia is not sufficient. Producers, broadcasters, and other financial partners must implement concrete and ambitious actions at the scale of their companies and projects.

## II. What measures should be instituted throughout the production process?

According to Laurent Tesseyre, production designer: "*The environmental approach must be comprehensive at all levels.*" Given the climate urgency, it is imperative that all stakeholders - broadcasters, producers, technicians, suppliers - involved in audiovisual content demonstrate genuine commitment and implement concrete actions to reduce the environmental impact of productions, whether in the pre-project phase, during, or post-production.

### **A. The necessary commitment of private financial partners in productions**

To gather the necessary budget for their productions, producers seek funding from various private stakeholders who contribute to the financing. Among these partners are broadcasters (television channels and streaming platforms), distributors, SOFICAs, and banks. In 2022, for example, broadcasters contributed to 29.7% of the budgets for French film initiatives (EUR 271.5 million)<sup>47</sup>. In 2021, SOFICAs participated in the financing of half of the French films that exceeded one million admissions in theaters, including *Eiffel*, *Aline*, and *Boîte noire*.<sup>48</sup>

As essential actors in this funding, their capacity for impact and responsibility is significant in the industry's transition. To continue benefiting from their financial support, producers have no choice but to comply with the constraints imposed by these financial partners. Moreover, these stakeholders have financial power enabling them to support sustainable projects and innovations.

#### **1. The necessary commitment of broadcasters**

Many European broadcasters (both traditional and streaming platforms), by participating in the analyzed consortia above, aim to 'do better' and contribute to reshaping the industry. However, this commitment alone is not sufficient if it is not accompanied by strong obligations and investments, especially in countries lacking national regulations.

##### **a) Implementation of ambitious sustainability guidelines**

In recent years, the European Union has become a major player in corporate social responsibility (CSR) standards and regulations. In this context, most major broadcasters have implemented CSR policies at the company level, seeking to demonstrate their contribution to sustainable development challenges.

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<sup>47</sup> [Film Production Review 2022 - CNC](#)

<sup>48</sup> [Information report on public funding for cinema 2023 - Senate](#)

However, these policies seem to focus primarily on their facilities - evolving infrastructure, employee mobility, waste management, energy efficiency, digital sobriety, etc. - and relatively less on content productions.

Recently, many broadcasters have started including eco-responsibility clauses in their pre-purchase contracts, representing a timid first step towards more sustainable content. Nevertheless, some broadcasters go further by adopting robust guidelines for both in-house productions and content produced in collaboration with external partners, aiming to make the film and audiovisual production process more sustainable.

### *Enforcing the use of sustainable filming tools: charter, carbon calculator, certification*

#### *Charter*

The first step for a company that has not yet taken strong initiatives may be to implement a charter for production partners, encouraging them to follow eco-responsible practices. Canal+<sup>49</sup> has created such a charter, distributed through all pre-purchase and co-production contracts. This charter encourages production companies to adhere to recommendations regarding technical equipment, waste management, transportation, etc. Newen Studios<sup>50</sup>, a subsidiary of the TF1 Group, has also established a sustainability charter through its Green Committee. This guide accompanies the group's producers from project initiation to the end of filming. While these charters have a significant impact on raising awareness among collaborators and partners, they are not binding and therefore have limited concrete impact.

#### *Carbon Calculator*

In addition to implementing a charter, a broadcaster can encourage or require partner producers to use carbon calculation tools to quantify their main environmental impacts. In Denmark, TV2, one of the largest broadcasters, chose to test the Green Producers Tool on six productions, including three shows and three films. For example, it was used in the Danish version of 'Dancing with the Stars.' Sustainability manager Ege Heckmann determined that emissions were reduced by 41% compared to the previous year's edition. According to Irene Albertsen, production director for Nordisk Film, a Danish production company associated with TV2 on the 'Graverne' project, the tool has a strong educational impact, motivating teams to see concrete results from their actions.<sup>51</sup>

#### *Certification/Label*

A stronger commitment is to obligate supported productions to obtain certification or labeling. To address its most polluting productions, a broadcaster may set a threshold

<sup>49</sup> [Canal + eco-responsibility charter - Canal+ Group](#)

<sup>50</sup> [Newen's eco-responsibility charter - Newen Studios](#)

<sup>51</sup> [Nausică interview of Ege Heckmann et Irene Albertsen, Denmark Article](#)

beyond which productions must be labeled. This threshold could be a 'carbon threshold'; for example, all productions forecasted to emit over 300 tons of CO<sub>2</sub>eq must be labeled. Alternatively, it could be an 'economic threshold'; for instance, all productions with budgets exceeding five million euros must be labeled. Another option for the broadcaster is to set a quota of productions to be labeled, such as 10% of its productions per year. The limitation of a quota-based goal is that it may not compel larger, more polluting productions to get labeled.

For several years, the BBC, ITV, Channel 4, UKTV, Sky, and Netflix have made Albert certification mandatory for their productions, both delegated and executive. For example, as part of the Sky 0 project<sup>52</sup>, Sky Group, a British media and telecommunications conglomerate, aims to reduce carbon emissions by 50% and achieve net zero by 2030. In this context, Sky Group mandates the use of the Albert protocol among its subsidiaries. The Sky Original series '*Romulus*,' directed by Matteo Rovere, the first Italian production considered 'carbon neutral,' is a notable example of this commitment.

In France, TV shows like '*Top Chef*' from the M6 Group and '*Un Si Grand Soleil*' from France Télévisions are among the first to be labeled. However, French broadcasters aspire to produce in a responsible way more broadly. During the second season of the Eco-production Conferences, an event organized by Ecoprod, representatives from the leadership of TF1, Canal+, M6, and Mediawan publicly announced their intention to standardize carbon impact measurements and Ecoprod certification. Gérald-Brice Viret, General Director in charge of Channels and Programs at Canal+, stated that '*All our original creations scheduled to air in the next 24 months must be sustainably produced. We will shoot to have the label on 100% of our productions.*'<sup>53</sup>

### Support innovative solutions

In some cases, these groups also possess sufficient financial power to invest in innovative and more sustainable solutions. Netflix supported the company EODev by asking the rental company, TSF, to test the GEH2 mobile solution, an electro-hydrogen generator replacing a thermal generator, on several shoots, including that of *Lupin*. The Sales Manager at EODev emphasized that this support from Netflix to TSF "allowed the development of a highly relevant mobile solution for cinema."<sup>54</sup> Sky Group supports battery solutions tailored to film shoots from the company Green Voltage.

### Engage studios

To address the ecological urgency, broadcasters also have the power to take action by constructing studios or renovating their production studios with an environmental approach.

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<sup>52</sup> [Sky 0 Project - Sky 0](#)

<sup>53</sup> [Replay "Adapting the audiovisual sector: major groups in action" - Ecoprod](#)

<sup>54</sup> [Netflix tests hydrogen for zero-emission filming - EODev](#)



In France, France Télévision Studios, a subsidiary of France Télévisions, decided to involve its studios in Vendargues, partially dedicated to the production of the daily series '*Un si grand soleil*,' in the sector's ecological transition by implementing an environmental management approach.<sup>55</sup> Various actions are in place, including the storage and reuse of certain sets, assembled with minimal glue for easy disassembly, the production of fertilizer from cafeteria food waste using a dryer, and the valorization of wood waste from the studio's carpentry through the company Papier Soleil, etc.<sup>56</sup>

Sky Studios in Elstree, North London, was designed from the outset with sustainable materials and technologies, making it one of the most ambitious eco-responsible studios. Broadcasters must encourage productions to reinvest in these studios, which are short-circuit production sites where resource sharing is facilitated.<sup>57</sup>

### **b) The challenge of adapting these directives at the national and local levels**

Broadcasters are often sprawling enterprises with branches and subsidiaries in different countries. For example, Sky Group has subsidiaries in Italy, Sky Italia, and in Germany, Sky Deutschland. The challenge for these groups is to successfully implement a global environmental policy while adapting to the local and regional context.

#### Appointing key contacts to broadcasting companies

To carry out these directives, key contacts need to emerge internally and act as a bridge between the leadership of broadcasting companies and productions at the local level. This role can be fulfilled by an individual, a think tank, or an sustainability unit.

#### Facilitating the adaptation of directives to local and regional contexts

These contacts will help address certain difficulties in implementing these directives. Indeed, not all countries and regions are at the same level of transition, and some changes are more or less feasible in the short term. Gabriele Raciti, producer and sustainable development coordinator at Sky Italia, discusses the challenges faced by the Italian subsidiary in achieving Sky Group's goals. Although the Italian context has improved in recent years, it is not sufficient to meet the group's target. There is a lack of funds for some productions, often smaller ones, such as small series, which, for example, cannot afford to pay a qualified eco-consultant on set, a lack of committed suppliers able to offer "green" products and services, and a lack of infrastructure for access to electricity, public transportation, etc. Gabriele Raciti then tries to push for the implementation of Sky Group's environmental policy while respecting the differences between territories, taking into account project budgets, and respecting creativity.<sup>58</sup>

<sup>55</sup> [Our environmental commitments - France Télévisions](#)

<sup>56</sup> [Nausică interview of Laure Gerardin - Occitanie Article](#)

<sup>57</sup> [Sustainability - Sky Studio Elstree](#)

<sup>58</sup> [Nausică interview of Gabriele Raciti - Italy Article](#)

## 2. The necessary commitment of SOFICAs and financial institutions

SOFICAs are financing companies in the film and audiovisual industry designed to raise private funds through a tax incentive to finance the production of films and audiovisual works. Some financial institutions, such as COFILOISIRS or COFINE, and certain banks like Neuflyze OBC or Banque Palatine, also contribute to financing film and audiovisual production in France through their credits and discounts.

Two ideas emerge from the 2020 study conducted as part of the Green Screen Project on carbon footprints.<sup>59</sup> Like public actors and broadcasters, these financial partners have the ability to condition their support on adherence to environmental criteria. For example, they can integrate eco-responsibility criteria into the financing application forms of SOFICAs. Even more ambitious is the idea of a new "sustainable" SOFICA that could attract investors willing to participate in a green fund. In this spirit, IMPACT SOFICA was approved in 2023, the first socially impactful SOFICA, which could have its counterpart in environmental impact.

A preferential rate can also be taken into consideration, proposed by the mentioned financial institutions, for loans granted to sustainable projects.

## B. The necessary commitment of the production

### 1. The conductor's responsibility

The executive producer is primarily responsible for securing all the necessary capital to produce the film. This involves seeking funding from various sources such as CNC, regional entities, distributors, broadcasters, SOFICA, and others. The executive producer is accountable for the successful completion of the film for those entities that have invested money, assuming legal and financial responsibility as the guarantor of the project's successful outcome. In his role as a financial guarantor, he collaborates with the production manager in directing expenditures and managing the budget.

The executive producer often takes the initiative in a project, and the production manager is the first technician hired by the production. As key figures in the early stages of the project, they can consider sustainable production from development through pre-production. They play a crucial role in promoting eco-friendly choices: organizing the production process to facilitate responsible initiatives, selecting committed technicians, and seeking guidance from trained professionals.

Therefore, they bear a special responsibility for the industry's transition. Romain Rousseau and Maxime Delauney, executive producers at Nolita Cinema, have embraced this responsibility *'by taking care of the planet throughout the life of their films, initiating various*

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<sup>59</sup> [Consultation for understanding carbon assessment - Etude Green Screen Project](#)

*eco-friendly initiatives and actively participating in the environmental transition of the sector. All while providing, of course, powerful emotions and intense reactions’.*

Pascal Guerrin, General Manager of Bonne Pioche, even refers to a triptych of executive producer-production manager-director. The director is often best positioned to set an example and drive a strong dynamic within the artistic and technical team.<sup>60</sup>

This was evident, for instance, during the filming of *'Homme au bord de la crise de nerfs'* in Drôme, directed by Audrey Dana, who, through her vision and influence, instigated the sustainable approach on set.

## **2. Implementation of an ambitious sustainability plan**

### **a) Reorganizing the production process**

The producer and the production manager must take into consideration the factors of time and organization if they want technicians and actors to fully participate in the sustainability process.

#### Extend the pre-production time

Today, one of the major challenges is to give technicians more time to prepare for a project. Indeed, this preparation time is crucial for implementing a sustainable approach because it is time-consuming: technicians need time to change their work habits, find new service providers and suppliers, and identify new locations that align with this approach.

For example, Gaël Chevalier, a location scout, emphasizes that searching for accommodations close to a shooting location cannot be done at the last minute, risking not finding suitable options and having to travel, thus resorting to car use.<sup>61</sup> Monika Gebauer, a Berlin-based costume designer, points out that second-hand costumes require much more research than new costumes.<sup>62</sup> This observation holds true for all professions.

In recent years, we have observed an opposite trend. Preparation times continue to shorten, the industry operates more and more on a just-in-time basis, and technicians are constrained by being hired late in the projects. However, this lack of time complicates, or even makes it impossible, to address environmental issues.

The problem here is the cost of extending the preparation time because it implies increasing the duration for which technicians are hired and thus increasing their working hours. Producers must take this additional cost into account to enable technicians to implement concrete measures on their scale.

#### Extend the post-production time

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<sup>60</sup> [Nausică interview of Pascal Guerrin - Grand Est Article](#)

<sup>61</sup> [Nausică interview of Gaël Chevallier - Auvergne-Rhône-Alpes Article](#)

<sup>62</sup> [Nausică interview of Monika Gebauer - Germany Article](#)

The same applies to the end of shootings for some professions, as circular economy and recycling initiatives are also time-consuming.

For example, Igor Gabriel, production designer for the Dardenne brothers, identified that recovering materials for reuse is a time-consuming task. One solution could be to integrate a recycling day into the scheduled dismantling days to make the initiative possible and officialize it.<sup>63</sup>

### Automating the production process

We also observe that the audiovisual production process is still very little automated. This lack of automation leads to a lack of organization and, therefore, a lack of time for addressing ecological concerns.

Odile Levasseur, founder of Cineklee<sup>64</sup>, has implemented software to enable department heads to be more responsive and productive, thus freeing up time for environmental considerations. This includes features such as automatic quote generation, assistance in organizing professional networks, technician-tailored interfaces, personal catalogs, and more.

She has also engaged a sociologist, Emmanuel Cardona Gil, for a six-month study funded by the CNC. The study focuses on cinema's organizational and decision-making models, as well as its dysfunctions, to trigger necessary reorganization, such as extending preparation times.

The Belgian company TheGreenShot<sup>65</sup>, on the other hand, has developed a production process management application that allows productions to track their budget and carbon footprint in real time, facilitating the collection of data needed for "green certifications." The application can be used by the entire team to convey information from technicians to production members through department heads.

The advantage for production is obtaining the most precise data directly from the set, digitizing the entire administrative workflow, and having a single solution for budget tracking and carbon footprint monitoring. Technicians benefit by knowing their salary and expense status in real time and receiving digitized documents (employment contracts, call sheets, work plans, etc.).

TheGreenShot has already integrated various carbon calculators and certifications into its application to meet producers' needs, including Albert, Green Film, Doconomy, Ecoprod, and more. The company aims to integrate others, conducting ongoing research on existing solutions.

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<sup>63</sup> [Nausică interview of Igor Gabriel - Belgium Article](#)

<sup>64</sup> [Cineklee](#)

<sup>65</sup> [TheGreenShot](#)

At a time when carbon calculators, certifications, and other labels are proliferating, TheGreenShot's approach is to consolidate some of the existing tools into a single, user-friendly application instead of developing yet another tool.

### **b) Choosing committed technicians**

Producers and production managers also play a crucial role in recruiting professionals for film shoots. If they aim to implement an ambitious approach, they must ensure they gather stakeholders interested in and willing to participate in the initiative.

Antoine Brochu, a sound engineer in the Occitanie region, devised a system to power his sound equipment with solar energy, using a battery connected to solar panels. When hired for a shoot, he brings his equipment along.<sup>66</sup>

Concrete solutions were implemented on the set of the feature film "Rodéo," directed by Delphine Deloget and produced by Curiosa Films, largely due to the strong commitment of the production manager Mado Le Fur and the support of the production director. Here are some examples of ambitious actions: 90% of the set decoration was recycled, 415 kg of compost was shredded and used at the urban farm "Le Ferme à Raymonde" and in the gardens of Brest, etc.<sup>67</sup>

Similar initiatives were developed for "*Les Algues Vertes*," directed by Pierre Jolivet, thanks in part to the commitment of the general manager, Benjamin Clauzier.<sup>68</sup>

Therefore, the commitment of technicians creates a positive dynamic on set. This commitment should become a selection criterion or, at the very least, be valued in recruitment and on the set.

### **c) Seeking short and medium-term assistance**

Throughout Europe, companies have developed sustainability consulting services, and professionals have specialized in the field of sustainable production to assist productions in the pre-production and production phases.

New roles have emerged, and their status is not yet clearly defined as they are absent from the collective agreement. We will focus on the following definitions: the eco-manager, often part of a sustainability consulting company, intervenes upstream of the project to implement a green strategy, hand in hand with the producer and the production manager. They engage with all stakeholders and work on team awareness.

The eco-referent is on set, often daily, to ensure the proper implementation of this strategy. They are engaged as technicians.

<sup>66</sup> [Nausică interview of Antoine Brochu - Occitanie Article](#)

<sup>67</sup> [Nausică interview of Mado Le Fur - Brittany Article](#)

<sup>68</sup> [Nausică interview of Benjamin Clauzier - Brittany Article](#)

*By a specialized sustainability consulting company*

With the growing interest in environmental issues and the onset of regulations, sustainability consulting companies have appeared throughout Europe. Their role is to help production companies make their film and audiovisual productions more responsible.

These companies assist productions that seek their services in implementing an eco-responsible strategy, often organized around the 17 Sustainable Development Goals established by the UN, for a single project, multiple projects, or an entire company's projects.

In this context, they provide various services: tool creation, impact assessment, sourcing of committed service providers, team coaching, training, etc.

*Creation of tools and impact assessment*

To support production companies, these consulting firms create specific tools or use existing ones. For example, in France, Secoya<sup>69</sup> has developed two complementary tools: Secoset and Seco2. Seco2 is a carbon calculator that allows for a forecast and actual carbon footprint with financial and physical data. It has been approved by the CNC. SecoSet is a tool based on ten themes, broad enough to suit any type of project. It helps structure the eco-responsibility approach of a project and obtain certification from the company. The criteria are mostly not binding; they serve to raise awareness. They can also create guides of good practices or charters tailored to each project, as proposed by A better Prod.<sup>70</sup>

*Support in Pre-production and/or on Set*

The support provided can vary from one company to another. Many of them advocate for the involvement of an eco-manager in the pre-production phase and an eco-referent on the set. This is the case, for example, at Ecomuvi<sup>71</sup> or K is for knowledge<sup>72</sup>. Meanwhile, others believe it is unnecessary to send eco-referents on-site, as is the case at Creast<sup>73</sup>. According to them, it is preferable to raise awareness and train the production and technical teams before the start of production. The company simply sends a Creast collaborator who visits the set to ensure everything is in order (waste sorting, etc.).

*Search for and Support of Service Providers and Suppliers*

One of the challenges of this transition is also to find new committed service providers and suppliers or to continue working with the old ones if they are in a transition process. Lorenzo Vecchi from Zen 2030<sup>74</sup> has identified this as a priority. He bridges the gap between

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<sup>69</sup> [Secoya Eco-tourage](#)

<sup>70</sup> [A better prod](#)

<sup>71</sup> [EcoMuvi](#)

<sup>72</sup> [K is for knowledge](#)

<sup>73</sup> [Creast](#)

<sup>74</sup> [Zen2030](#)

foreign manufacturers and Italian suppliers to encourage the latter to develop a sustainable offer for Italian productions. Additionally, he meticulously identifies responsible suppliers by examining the entire supply chain and all scopes of carbon emissions. For example, for the food aspect of their list of green service providers, the Zen 2030 team met with all organic farms around Rome and selected the best ones based on the type and size of the farm, energy consumption, recycling, etc. They also assist suppliers in reducing their emissions.<sup>75</sup>

The challenge, of course, would be to share these lists with the general public, but the viability of their business model does not yet allow for it.

### *Training and Coaching*

These companies also contribute to raising awareness and educating the industry by offering training on the sustainability of the audiovisual sector for professionals. This is the case, for example, with Mrs Green Film<sup>76</sup>, a Spanish company that, through its training sessions, covers various topics: the main impacts of production on the environment, strategies to reduce them, current standards and global commitments, implementation of a green strategy, etc. To engage all professionals working on the project, these companies often offer complementary coaching for teams to familiarize them with these virtuous practices, such as A better prod.

### **Film sustainability consulting companies in Europe**

<b>France</b>	<ul style="list-style-type: none"> <li>- Secoya</li> <li>- A better prod</li> <li>- La Base</li> <li>- OptiCarbo</li> </ul>
<b>United-Kingdom</b>	<ul style="list-style-type: none"> <li>- Green Eyes Production</li> <li>- GreenShoot</li> <li>- Neptune Sustainability</li> </ul>
<b>Denmark</b>	<ul style="list-style-type: none"> <li>- Produced By</li> </ul>
<b>Sweden</b>	<ul style="list-style-type: none"> <li>- Greentime AB</li> </ul>
<b>Italy</b>	<ul style="list-style-type: none"> <li>- Ecomuvi</li> <li>- Zen 2030</li> </ul>
<b>Spain</b>	<ul style="list-style-type: none"> <li>- K is for knowledge</li> <li>- Creast</li> <li>- Mrs Green Film</li> </ul>

<sup>75</sup> [Nausic  interview of Lorenzo Vecchi - Italy Article](#)

<sup>76</sup> [Mrs GreenFilm](#)

### By an in-house sustainability manager

Some production companies prefer to internalize this expertise by hiring a full-time sustainability manager, who wears both the hats of an eco-manager and an eco-referent. SF Studios, a Danish production company, has employed Anne Ahn Lund as a full-time Head of Sustainability/Eco-Manager. Anne is present on the set for almost all of SF Studios' shoots. According to her, the advantages of being employed full-time are numerous: it is easier to build connections with the production and technicians, saving time and energy on the ground. Her involvement is also more comprehensive, as her full-time position allows her to intervene in the pre-production of each project, especially during the purchasing and rental phases to encourage the most sustainable choices. SF Studios' CEO, Lars Bjorn Hansen, emphasizes that Anne must be part of the company's identity and is just as important as a production manager.

Anne Ahn Lund's approach is also very educational. Her motto is not to use reproach or shame to convince teams to change their habits but to communicate as much as possible and motivate them. Anne intervenes during team briefings to explain the choices made regarding eco-responsibility. She tries to make sustainability fun and participatory, as seen with her small signs indicating the number of bottles saved on a shoot, etc.<sup>77</sup>

In France, the production company Jabu Jabu<sup>78</sup> has created an in-house eco-shooting department, represented by Virginie Lauret. She also puts her expertise at the service of external productions to the company.

### By freelancers

This new expertise can also be provided by independent sustainability managers. For example, Mathieu Thill is a freelance eco-manager and eco-referent. He relies on the Ecoprod label's standards to build his action plan. He intervenes upstream, where he takes the time, when possible, to call each department head to explain his approach and collaborate on a sustainability strategy, both during pre-production and the shoot.<sup>79</sup>

### By other types of structures

Other types of structures are emerging to support producers in implementing their sustainability strategy.

The Green Producers Club, founded by the Norwegian Mads Astrup Ronning, is a club bringing together professionals from the industry. It was created with the idea of forming a community within the cultural sector and facilitating work on sustainability. This club streamlines the exchange of experiences and knowledge through meetings involving all

<sup>77</sup> [Nausică interview of Anne Ahn Lund - Denmark Article](#)

<sup>78</sup> [Jabu Jabu](#)

<sup>79</sup> [Nausică interview of Mathieu Thill - Provence-Alpes-Côte d'Azur Article](#)



members and strives to unite the sector around a common method of measurement, the LCA (Life Cycle Assessment).

The organization offers a carbon impact calculation tool for producers to measure and help reduce emissions. The methodology involves working with CICERO, a climate research center, for emission factors. Today, there are more than 900 factors in the tool that consider the entire life cycle. Moreover, it only works in a bottom-up approach: production can only enter physical data, not financial ones. Technicians can be invited to the tool to input their data. Think, for example, of the production designer who has a lot of precise and technical data to enter (types of materials, measurements, etc.).

The advantage of this tool is that it allows for a quick and intuitive comparison of the impact difference between solution A and solution B, for example, the difference in impact between a vegetarian meal and a red meat meal.<sup>80</sup>

#### **d) Committing one's organization**

To be consistent, leaders of production companies cannot only commit to a few productions. They must standardize the approach across all projects within their company. To demonstrate this commitment, they can sign charters such as the Green Charter of the European Producers Club or become a signatory of the manifesto of the Collective CUT! (Cinéma Uni pour la Transition)<sup>81</sup>.

For larger structures, internal tools can be developed to ensure the same level of access to information for all branches, similar to the platform implemented by Fédération Studios that gathers existing tools and practices for all companies under its umbrella.

### **3. The issue of sustainability-related costs**

#### **a) In the short term, an investment in time and money**

Today, the sustainable approach often adds to the budget because both internalized and externalized support come with a cost. Sustainable solutions are often more expensive, such as green energy solutions, which represent a real technological surcharge. The extension of working hours, caused by implementing these new solutions, also increases wages and charges.

Some committed productions, convinced of the need to evolve the sector, bear this additional cost and contribute to the reflection. For example, the production company Bonne Pioche, which sought assistance from the consulting firm Secoya for all its recent film productions, or the company Haut et Court, have taken on this responsibility.

However, some small productions may not necessarily have the means to add these expenses to the budget. The producer and the production manager must then take on the

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<sup>80</sup> [Nausică interview of Mads Astrup Ronning - Denmark Article](#)

<sup>81</sup> [Collectif CUT!](#)

sustainability process with their team. Fabrizio Cecioni, a producer at Are Films, a small production company in Turin, and his team personally handle tasks such as team training and identifying committed service providers, working on most of their projects with them; Locanda Veggeana for catering, Imago VFX for post-production, etc.<sup>82</sup>

However, as explained earlier, a production can be eligible for bonuses or subsidies by implementing such an approach and thus offset these additional costs.

**b) In the long term, cost reduction of the sustainable production process through the integration of sustainability expertise and frugality**

In the near future, sustainable filming should, at a minimum, cost the same and, ideally, be less expensive than a so-called "traditional" production. Indeed, it is necessary to move towards a frugality model that advocates a form of moderation in the production and consumption of products and resources. In the context of production, this can materialize in several ways: reducing the number and length of travels, cutting down on purchases and favoring second-hand items and rentals, decreasing energy consumption, etc. All these actions lead to significant savings in a production budget. For example, Julien Tricard, a producer at Lucien Prod, produced "Les Incorrectes," a documentary about French athlete Alice Milliat<sup>83</sup>. He chose to work remotely, identifying local teams in advance to shoot around the world with a director who supervised the shoots via video conferencing. This decision helped lower production costs.

We also believe that, in the long run, production companies may no longer need to pay for external support. While partially delegating environmental concerns to specialized entities seems necessary given the urgency of the situation and the lack of training among professionals today, it could eventually contribute to disengaging teams. Gradually, the goal is for all professionals to invest themselves and integrate sustainability expertise into their respective roles. Sustainability consulting firms will need to renew their offerings over time.

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<sup>82</sup> [Nausică interview of Fabrizio Cecioni - Italy Article](#)

<sup>83</sup> [Portfolio Les Incorrectes - Lucien Prod](#)

## C. The necessary commitment from technical teams and suppliers

A guideline appears applicable to all professions in the film industry to make productions more sustainable. It is the rule of the 5 Rs, popularized by Béa Johnson: "Refuse, reduce, reuse, recycle, rot,"<sup>84</sup>. Whether in production coordination, in departments such as Hair, Makeup, Lighting, or even in the design of production studios, these rules dictate the fundamentals of a responsible and environmentally respectful approach.

Starting from this general rule, we have compiled a list of challenges and solutions encountered to make production sets more responsible, categorizing them by departments: energy and coordination, set design, wardrobe, makeup, hairdressing, lighting, studios. We then focus on animated filmmaking.

### 1. Energy

According to a 2021 study by the Sustainable Production Alliance analyzing 161 feature films, across all budget ranges, produced between 2016 and 2019 by production companies affiliated with the alliance, over 50% of the CO2 emissions from these films originated from fuel consumption. This fuel was used for thermal generators powering on-site studios and production vehicles.<sup>85</sup>

Therefore, addressing the energy supply is often the primary focus if a significant reduction in the carbon footprint of a film shoot is desired.

The initial approach is to aim for energy efficiency and attempt to decrease energy consumption. This is both environmentally and economically beneficial. Achieving energy efficiency involves having a clear artistic vision of what needs to be filmed to obtain the appropriate equipment, considering the necessity of shooting energy-intensive night scenes, and developing an optimization plan before the shoot (choosing the least energy-consuming equipment for each department, minimizing energy waste, etc.).

The second approach is to plan well in advance to identify connection points to the electrical grid, allowing the set to be powered directly from the grid. This solution is not always feasible, depending on factors such as impossible grid connection in the shooting area, cramped locations, and the need for long advance notice for permits. It is most effective when the country's electricity mix is relatively decarbonized, as is the case in France.

Otherwise, the challenge is to find mobile solutions that are cleaner than conventional generators. Mobile low-carbon energy solutions for small capacities are distinguished here from mobile high-capacity energy solutions.

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<sup>84</sup> [Bea Johnson - Zero Waste Home](#)

<sup>85</sup> [Carbon emissions of Film and Television Production - Study of the Sustainable Production Alliance](#)

### a) **Mobile low-carbon solutions : small capacities**

Mobile low-carbon solutions for small capacities mainly involve batteries that meet the needs of the production or specific equipment in the lighting department.

In Marseille, Rémi Pillot, founder of PESS Energy, refurbishes old batteries from German vehicles, turning them into trailers equipped with batteries suitable for film shoots.<sup>86</sup> These batteries are assembled in the company's workshops in Marseille. The two products offered by the company are the Wattman (with a capacity of 10 kWh and a power of 6000 W) and the Bobine (with a capacity of 5 kWh and a power of 3,000 W). PESS Energy also provides solar panel kits for rent to directly charge the batteries with solar energy. Other French manufacturers, such as Maluna Lighting, Forus Energy, TSF, etc., also offer trailer batteries adapted for film shoots.

On the other side of the Channel, the company Green Voltage offers its 20 k E-Gen, a battery trailer with a capacity of 70 kWh and a power of 20 kW. The trailer can also be recharged using solar panels.<sup>87</sup>

It's important to note that batteries alone do not constitute entirely satisfactory solutions. The extraction of raw materials for their manufacture is energy-intensive, securing supplies of rare metals needed for their production, such as lithium, is a significant current challenge, and the overall impact of a battery depends on the type of electricity (renewable or not) used to power it. In France, small-capacity battery solutions remain a much better option than thermal solutions. In the automotive sector, for example, numerous studies have shown that the emissions from electric vehicles used in France are 2 to 5 times lower than those of gasoline or diesel vehicles over the entire life cycle of the vehicles.<sup>88</sup>

### b) **Mobile low-carbon solutions : large capacities**

While there are currently small-capacity solutions considered low-carbon, such as batteries, it is more challenging to find low-carbon solutions capable of meeting the energy needs of an entire film set.

Here are three European companies that offer large-capacity solutions and that we have encountered: Mobilespace<sup>89</sup>, Maier Bros<sup>90</sup>, and EODEV.<sup>91</sup>

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<sup>86</sup> [Nausică interview of Rémi Pillot - Provence-Alpes-Côte d'Azur Article](#)

<sup>87</sup> [Nausică interview of Carmen Corbella- UK Article](#)

<sup>88</sup> [Are electric cars an ideal solution for climate ? - Bon Pote](#)

<sup>89</sup> [Nausică interview of Moritz Kromer- Germany Article](#)

<sup>90</sup> [Nausică interview of the Maier Bros team- Germany Article](#)

<sup>91</sup> [EODEV](#)

<i>Company</i>	<i>Solution</i>	<i>Other</i>	<i>Made in</i>
Mobilespace	Eco-Baze Hybrid Generator Truck: a 160 kWh battery coupled with a 100 kVA CEA thermal generator.	Rechargeable battery powered by solar panels	Hamburg, Germany
Maier Bros	Hybrid Generator Trucks: - Film Hybrid 30/60: a 110 kWh battery coupled with a 20 kVA thermal generator - Film Hybrid 100: an 18 kWh battery coupled with an 85 kVA LPG gas generator		Cologne, Germany
EODev	Hydrogen Electric-generator Group (GEH2): 100 kVA power (88 kW)	Capable of connecting to the grid or to generators powered by gas.	Monthléry, France

Regarding hydrogen solutions, three challenges still prevent it from being a viable option: the supply of hydrogen, which is still mainly produced from fossil energy, its lower energy efficiency, and its higher cost. Concerning hydrogen production, 94% of hydrogen produced in France today is made from hydrocarbons. EODev tries, as best as possible, to rely on green hydrogen, hydrogen produced from renewable energy, blue hydrogen, hydrogen produced from gas but with CO<sub>2</sub> capture techniques, or white hydrogen, hydrogen naturally present in the Earth's crust.<sup>92</sup>

A common challenge for these three solutions is the high manufacturing cost at present. Moritz Kromer, founder of Mobilespace, informs us that the manufacturing costs of an Eco-Baze truck are approximately twice as high as those of a conventional generator, which reflects on the rental price.

## 2. Production management

The main tasks of the production management team are to choose the set in collaboration with location scouts (natural or studio settings), ensure filming permits, and manage the transportation and accommodation of the crew. The production team also plays a role in selecting catering services and managing waste during filming.

<sup>92</sup> [Discovery of a large hydrogen deposit In France](#)

### a) Location selection, crew transportation, and accommodations

The initial consideration is whether it's possible to reduce the crew and equipment travel by filming in locations closer to each other, recruiting local team members when filming in distant locations, and having an appropriate number of technicians. For example, producer Julien Tricard, by hiring local technical teams for the shooting of "Les Incorrectes," reduced the carbon footprint of the documentary to 2TCO<sub>2</sub>eq compared to 12TCO<sub>2</sub>eq for a hypothetical scenario involving air travel, resulting in a CO<sub>2</sub> savings of approximately 83%.

Next, it's crucial to maximize the use of low-carbon transportation options such as high-speed trains, vehicles categorized as "low emissions" (electric cars, hybrid cars, trucks with CNG or LPG, etc.)<sup>93</sup>, public transportation, and encourage carpooling. For instance, Bonne Pioche succeeded in using 90% electric cars during the filming of "*C'est le monde à l'envers !*" directed by Nicolas Vanier.<sup>94</sup> Faced with a lack of fixed charging stations, they employed solutions from providers like Drop'n Plug<sup>95</sup>, offering electromobility solutions tailored to professionals' needs, with fixed and mobile charging options for all types of electric vehicles across France. To overcome the lack of electric charging stations in certain areas, new providers are emerging in the European territory, such as Freewire, which offers ultra-fast charging technology for electric vehicles that can be deployed anywhere.<sup>96</sup>

The issue of energy-consuming trailers also arises. Moritz Kromer of Mobilespace, for instance, suggests the "A9 Solar QUKA Artist Trailer," a 4-cabin trailer equipped with batteries and solar panels on the roof, capable of running on grid electricity or directly on solar energy.

Often, the simplest solutions are the most cost-effective and environmentally friendly. In the film "*Les Têtes Givrées*", directed by Stéphane Cazes, the team replaced a tracking device with a rental cargo bike. While not applicable to all types of tracking shots, such solutions can be practical.

Regarding accommodations, the primary goal is to cluster lodgings around production offices, set decoration workshops, and HMC zones to minimize the number of different pickup points. Another goal is to select more environmentally friendly establishments. For guidance in the search, one can look at labels and establishments like La Clef Verte, Ecolabel Européen, Mob Hôtels, Ecogîte, Hôtels au Naturel, Accueil Paysan, Bienvenue à la Ferme, or GreenGo, among others.

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<sup>93</sup> [French Decree on criterias that define low and ultra-low-emission vehicles](#)

<sup>94</sup> [Ecoproduction C'est le monde à l'envers ! - Bourgogne-Franche-Comté Film commission](#)

<sup>95</sup> [Drop'n Plug](#)

<sup>96</sup> [Freewire](#)

## b) **Catering**

Regarding catering, Gaël Rakovsky, founder and caterer at Pots and Pans, outlines various strategies for offering a more sustainable and humane catering service. These include selecting fresh and seasonal products, choosing local ingredients, opting for products from responsible or organic farming, purchasing items in bulk, using reusable tableware, and managing surplus food responsibly (donating to charities, providing doggy bags for the crew, composting food waste, etc.)<sup>97</sup>.

Another crucial aspect is significantly reducing the offering of red meat and consistently providing vegetarian alternatives. As a reminder, 100 grams of beef protein pollutes about 10 times more than 100 grams of chicken protein and 110 times more than 100 grams of pea protein.<sup>98</sup> Currently, catering services, as per production requests, often offer one or two vegetarian meals per week or a vegetarian alternative for all meals. To drastically reduce meat-based meals on a shoot, a solution could be to exclusively offer vegetarian menus, and individuals who specifically want meat can make a request. This shifts the mental burden, often on vegetarians who have to request special menus to match their dietary choices.

Actions can also be implemented at the production table, such as offering bulk products instead of individually packaged items and introducing a system for reusable water bottles, mugs, eco cups, etc.

Another issue is the purchase of "small items" (bread baskets, small appliances, bathrobes, etc.) that are often discarded after a shoot due to limited storage space at production companies. Nestor, a regie equipment rental company located in Noisy-le-Sec (93), founded by Mathieu Cauvin, has decided to include these items in its offerings, previously only available for purchase, to significantly extend their lifespan.<sup>99</sup> The company maintains and repairs them, allowing for reuse across multiple shoots. For example, for small fridges, the company covers them with protective covers, making them more durable and usable for an average of around fifteen films.

## c) **Waste**

It is important to organize a waste collection in three streams, preferably five throughout the entire filming process. To have the appropriate equipment (three-stream bins and signage) and ensure proper waste disposal to recycling centers after filming, the production company can enlist the services of specialized companies. This is the case with Fin2déchets, founded by Benoît Magne, which offers a collection and sorting service tailored to audiovisual productions in the Île-de-France region.<sup>100</sup> The company provides collapsible three-stream bins on the filming site, takes care of their collection, additional sorting, and

<sup>97</sup> [Pots and Pans](#)

<sup>98</sup> [What is the lowest-carbon protein ? - BBC News](#)

<sup>99</sup> [Nausică interview of Mathieu Cauvin](#)

<sup>100</sup> [Nausică interview of Benoît Magne](#)

deposits the different types of waste in appropriate sorting facilities. The company also produces a report on the quantity and nature of collected items for the production.

## 2. Set design

The construction of sets is a significant stage in the production process and not without consequences for the environment. It requires the use of many raw materials such as wood, paper, plastic, paint, and generates waste, as sets are still mostly discarded after use.

### a) **Material choices and new techniques**

To improve in this aspect, the first step is to consider the choice of materials. Some materials have a much lower impact on the environment and fit well within a circular economy approach. Here are three examples of solutions encountered for sets.

In Germany, the company SpeedSet offers alternatives to wooden set sheets, often single-use, by renting prefabricated panels made of recycled aluminum composite.<sup>101</sup> These panels, operating through a plug-in system, are quick to assemble and disassemble and can be reused about fifty times.

In the UK, set designer Chris Gilmour, founder of Vectar Sets, specializes in creating film and advertising sets using cardboard for major television channels such as ITV, BBC, or Channel 4.<sup>102</sup> This technique is still underdeveloped in Europe, yet it has numerous advantages: cardboard is 100% recyclable and biodegradable, emits 60% less CO<sub>2</sub> than wood in its manufacturing, and is very lightweight, 1.5 kg per m<sup>2</sup> compared to 11 kg per m<sup>2</sup> for traditional set sheets. If cardboard is not suitable, the wood used for sets should be as local as possible and certified.

In Nouvelle-Aquitaine, the company Circouleur, founded by Maïlys Grau, offers paints composed of more than 90% recycled paint, sourced from the end of pots collected from Veolia's sorting platforms.<sup>103</sup> The carbon footprint of these paints is twelve times lower than that of conventional paints. The paints are already used by cultural actors such as the Opéra national de Paris. According to ADEME, 28 million liters of residual paint are incinerated in France every year when they could be reused. The company currently produces only 80,000 liters per year, so it has a promising future.

The challenge is to make these new solutions known to professionals and train them in their use. For example, SpeedSet aims to train as many European builders and set designers as possible in the SpeedSet system by 2024. These new solutions and techniques undoubtedly need support from public authorities to finance and recognize the teams using them and to introduce them to a large number of professionals.

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<sup>101</sup> [Nausică interview of John Baker - Germany Article](#)

<sup>102</sup> [Nausică interview of Chris Gilmour](#)

<sup>103</sup> [Nausică interview of Marianne Rittaud - Nouvelle-Aquitaine Article](#)

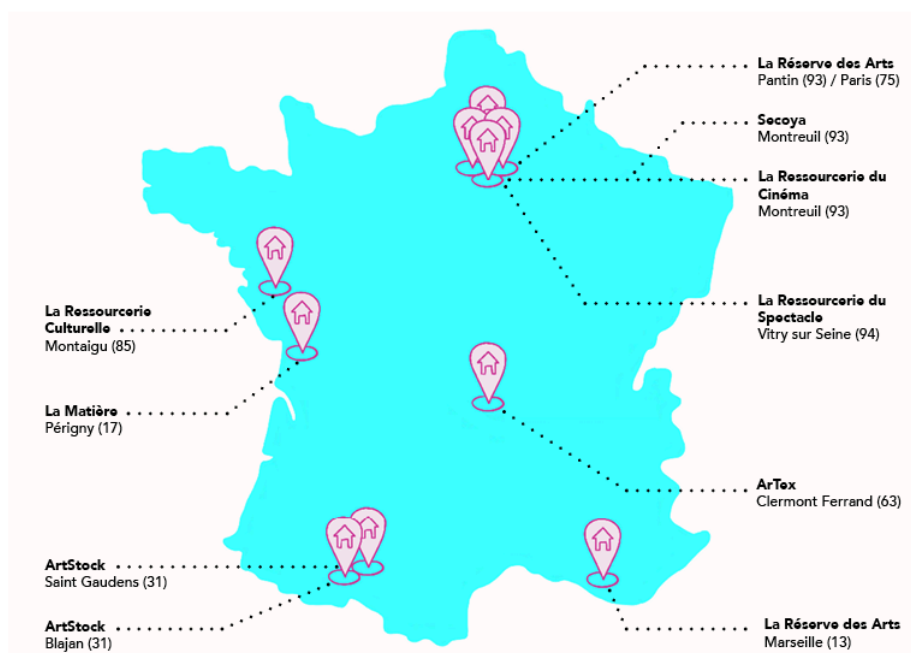


In France, the Eco Déco collective raises awareness among all decoration professions about a more ecological approach. The collective conducts several actions, including training decoration teams in eco-design, experimenting with new materials in its test laboratory, sharing experiences and new working practices, and providing a list of French recycling centers. It's worth noting that a key principle of eco-design is to think about the ease of deconstructing the set to recover as much material as possible.

## b) Recycling centers and waste collection points

To reduce the extraction of raw materials at the source, the effort is made to try to reuse sets and materials that have already been produced. A virtuous approach is to visit recycling centers to find materials that closely match one's needs. Far from hindering creativity, this approach can lead the decoration team to innovate.

In France, the most well-known network of artistic and cultural recycling centers is RESSAC. Here is the map of RESSAC recycling centers.<sup>104</sup>



These recycling centers mainly result from private initiatives, but some public entities are starting to address the issue. This is the case with the Lyon Metropolis, which aims to support the creation of an artistic recycling center in the Lyon area. The recycling center will be based at the former SNCF Technicentre in La Mulatière and aims to become a third place for artistic manufacturing and eco-responsible practices by ensuring the collection, transformation, and sale of materials used in shows, shootings, exhibitions, offering costume rentals, and equipment sharing. The recycling center will benefit from substantial support. In

<sup>104</sup> [RESSAC](#)

2024, the Metropolis will launch a call for expressions of interest (AMI) to find project leaders.<sup>105</sup>

After a shoot, it is essential to manage the end-of-life of the materials used for the sets. Some sets and materials can be directly deposited in the recycling center for direct reuse by other productions and cultural actors.

Other waste must be managed specifically. This is the case with paints, for example, which is a more challenging waste to handle. Manual cleaning of a paint roller is time-consuming, requiring an average of 20 liters of water and generating liquid waste. In France, we have encountered the solution Enviro Plus, a paint roller cleaning station.<sup>106</sup> It allows the cleaning of a paint roller in two minutes using an agro-solvent mainly derived from plant products and water that the machine recycles in a closed circuit. The process only produces solid residue, which is recovered.

### **3. Costume - Makeup - Hairstyling**

The HMC departments encompass the professions of costume, makeup, and hairstyling, all of which have varying impacts on the environment and health, depending on the working methods used.

#### **a) Costume Design**

Concerning costumes, the teams in charge of costumes can act on four main points to align with the principles of the circular economy: the reuse of already produced stocks, the origin of fabrics and dyes, the choice of protective covers, and costume maintenance.

To avoid buying new clothes, costume teams can visit costume rental warehouses. There are numerous dormant costume stocks in France, and initiatives are emerging to gather and make them available to costume teams. In Marseille, Anaïs Derderian, Albane Fleury de Witte, and Laëtizia Pommier, founders of the Sud Costumes project, aim to offer a varied selection of second-hand costumes in a warehouse located near Marseille (basic costumes, period costumes, etc.).<sup>107</sup> They also intend to include consumables for rent, such as hangers, irons, boards, screens, etc., to prevent costume teams from buying them and thus extend the lifespan of these products. The project follows a decentralization logic to avoid costume transport from Paris and contributes to the growing dynamism of the Provence-Alpes-Côte d'Azur region in terms of audiovisual production.

In the case of purchasing new clothing, it is essential to prioritize second-hand clothing (thrift stores). If the purchase of new products is unavoidable, especially for spare costumes for lead roles, the focus should be on favoring local fabrics made from natural materials, labeled or made from recycled products. Fast fashion brands should be avoided at all costs.

<sup>105</sup> [Nausică interview of Marie Goetz - Auvergne-Rhône-Alpes Article](#)

<sup>106</sup> [Enviro Plus](#)

<sup>107</sup> [Nausică interview of Anaïs, Albane et Laeticia - Provence-Alpes-Côte d'Azur Article](#)

Another challenge concerns the dyes used to transform fabrics. Inès Forgue, a student at ENSATT Lyon in the Costume Workshop program, is currently writing a thesis on eco-responsibility in stage and screen costume professions.<sup>108</sup> According to her, the costume team must implement systems for reusing dye baths to limit their use. New plant-based dyes are also in development.

The third lever of action concerns the protective covers used to protect costumes. The majority of products are currently transported in plastic covers, with a disastrous carbon footprint and a very short lifespan. In Pantin (93), we met Angélique Véronique, founder of Ma housse costaud.<sup>109</sup> Angélique offers fabric covers for rent, made in France. The covers are specially designed for the needs of the cinema, including an integrated pocket for storing the work plan. The rental system allows the sturdy covers to be reusable many times. The company takes care of the cleaning and disinfection of the covers.

Finally, costume teams can significantly reduce the impact of their activity by washing their products at low temperatures and air-drying clothes. Monika Gebauer, a set decorator in Berlin, also tells us that she uses Guppy Friends anti-microplastic laundry bags to prevent material friction and the creation and release of microplastics into wastewater.<sup>110</sup>

It is crucial to emphasize that these best practices require more preparation time for costume teams, who need to take the time to select better fabrics and visit warehouses to find suitable second-hand costumes. Without additional time and financial resources, there is little chance that things will move in the right direction.

## **b) Makeup and hairstyling**

Regarding makeup and hairstyling, the two main levers of action are the choice of products used and the consumption of disposables.

Firstly, it is important to examine the origin and composition of the products used (makeup, skincare, shampoos, cotton pads, etc.) by favoring organic or vegan cosmetics. Cédric Ferreol, founder of the cosmetic brand Nature Cos, emphasizes that the label "natural product," which simply indicates that the product must be composed of 95% natural origin ingredients, i.e., without substances derived from petroleum, is a first step but far from satisfactory.<sup>111</sup> Products labeled as organic must be composed of at least 95% natural ingredients, and among the plant components, a minimum must come from organic farming (no use of pesticides, no products of animal origin). The minimum percentage of ingredients from organic farming depends on various labels such as Ecocert, Cosmébio, Cosmos Organic, etc. Nature Cos not only offers certified organic products (Cosmos Organic) but also

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<sup>108</sup> [Nausicâ interview of Inès Forgue](#)

<sup>109</sup> [Nausicâ interview of Angélique Véronique](#)

<sup>110</sup> [Nausicâ interview of Monika Gebauer](#)

<sup>111</sup> [Nausicâ interview of Cédric Ferreol - Auvergne-Rhône-Alpes Article](#)

addresses packaging by offering containers made of PLA (cornstarch), some of which are refillable.

Another challenge is to limit disposable consumption and prioritize, for example, refillable water misters, reusable wipes for makeup removal, or more energy-efficient electric hairstyling tools.

#### 4. Lighting

Historically, the most commonly used lights in cinema are HMI, or metal halide lamps. Tungsten lamps and Light Emitting Diodes (LEDs) are also found, with LEDs emerging later, consuming 70% to 90% less than incandescent lights. HMIs allow for great precision in choosing light with a temperature close to daylight, around 5,000K, but they are costly, environmentally harmful, and, of course, non-recyclable.

LEDs gradually gained prominence on film sets, challenging the seemingly unbeatable HMI lamps<sup>112</sup>. LEDs initially had several drawbacks for film production: an energy-intensive manufacturing process, relatively high costs, light quality perceived as too weak for sets, and challenging color management - as LEDs are typically composed of additive synthesis of RGB sources or a blue source coupled with phosphor.

##### a) The rise of LEDs as less energy consuming solution

However, the race for innovation has, since the early 2010s, led to the adoption of these lights on film sets, especially for smaller light sources. In 2010, the Italian company DeSisti Lighting began developing its first LED range, going against the established norms on sets with the support of the BBC<sup>113</sup>. In 2015, their collaboration with the three-time Oscar-winning cinematographer Vittorio Storaro marked a turning point in accepting LEDs on sets. Their "The Muses of Light" range consists of more precise bi-color LEDs that can be adjusted and function in almost all situations. They also consume much less energy, 1 kWh for the new version of LED Fresnel (14° to 62°), compared to 10 kWh for the previous version.

In parallel, in 2015, Arri launched the SkyPanel<sup>114</sup>, marking the beginning of the LED era among major rental companies. Since then, LEDs have become commonplace on all sets.

Beyond the sustainable and artistic aspects, LEDs also save time on sets. Cinematographer Matthieu Misiraca praises the use of LEDs: *"I affirm that one can entirely light a film with LED. (...) I had a catalog of very different projectors from each other, which could fit into the same budget as the traditional ones, so I had a lot fewer projectors because they cost more. The sources are very light, very easy to use, very compact, avoiding setups*

<sup>112</sup> [The influence of the rise of LED technology on the evolution of lighting professions - Antoinette Goutin](#)

<sup>113</sup> [Nausică interview of Fabio DeSisti - Italy article](#)

<sup>114</sup> [Arri SkyPanel Honored with Engineering Emmy by TV Academy](#)

*that take time. At the beginning of each day, I had an hour of 'pre-light,' and I had to work very quickly and simply. I needed to be able to 'draw' faster than traditional lighting. It takes time to pull 32 amperes. I was able to create very beautiful images that I am proud of, working simply with LED. I adopted it primarily to work as quickly as possible."*

## **b) The new challenges of LED lighting**

### Power and color quality

It is indeed continuous innovation that allows increasingly high-quality lights to gain acceptance and dispel the doubts of the most skeptical. The current challenge for LEDs lies in their power, which generally remains lower than HMI models, known for delivering a hard light with sharp shadows, often used for effects such as daylight, sunlight, or moonlight in night scenes. In contrast, LEDs often have a generally low Color Rendering Index (CRI). However, certain ranges manage to achieve equivalent results, such as the latest developed by DeSisti Lighting, used in the filming of the series *Romulus* for night scenes. These products offer an adjustable spectrum from 2,700 to 6,500 K in Bi-Color versions, as well as a wide range of colors without the need for gels, thanks to multi-chromatic LEDs.

### A more responsible LED production process

Today, using LEDs on a film set is not sufficient to qualify lighting as "responsible." While, in principle, their use is less polluting than HMI or tungsten lights, other factors come into play. Laia Murcia, Commercial Director of Velvet Lighting<sup>115</sup>, a cinema lighting equipment manufacturing company based in Barcelona, highlights the challenges of local production: the ability to be repaired, integration into the circular economy, the place of production, the product's life cycle, and the environmental footprint of LEDs during their production.

To facilitate the repair of products and extend their lifespan, Velvet Lighting offers, for example, spare parts for new products for a minimum of ten years, as well as possible color calibration for any device. Velvet Lighting assembles its products in Europe, near Barcelona, in offices powered by green energy, minimizing the use of plastic for product packaging, contributing to the reduction of carbon emissions associated with LED production. In France, the lighting import company Innport<sup>116</sup> also offers the repair of certain parts to increase the lifespan of lamps, as does DeSisti Lighting, which can replace certain defective LEDs without having to replace the entire panel. They also strive to source materials as much as possible within Europe.

### The challenges of raw materials and european dependance

However, LED light production faces certain difficulties. Since the COVID crisis, European companies have been experiencing a shortage of raw materials, a situation that has not improved since the war in Ukraine. For companies committed to sourcing locally,

<sup>115</sup> [Nausică interview of Laia Murcia - Spain article](#)

<sup>116</sup> [Nausică interview of Gaël Ollier - Occitanie article](#)

costs have drastically increased. Velvet Light is a medium-sized company that offers a standard range of luminaires but can also adapt its products to customer needs. This was easier to achieve when components and raw materials were readily available. This phenomenon is challenging for all medium-sized manufacturers, especially those in Europe. According to Laia Murcia, European investments are essential to revitalize the European market. Now more than ever, reuse and the circular economy are the future of this industry and go hand in hand with innovation.

Finally, to reduce emissions related to LEDs on sets, tricks still work and can yield pleasant surprises, as confirmed by Phillip Gassman. By strategically placing different reflectors, for example, artificial light sources can be reduced, resulting in a single light source. The development of such systems is primarily aesthetic. An example is the Ciné Reflect Lighting System (CRLS) developed by the cinematographer Christian Berger. Lens systems can also be used to double light intensity without increased energy consumption, but this requires rather acute knowledge of lighting, etc.

## 5. Studios

### a) **Typology of studios and their challenges regarding sustainability**

#### *Film and tv studios*

Film and television studios in France face numerous environmental challenges, including waste management, energy consumption, transportation, and commuting, as well as the management of renewable and non-renewable resources through purchases, and their impact on the local environment. The management of these challenges will determine the studio's ability to comply with the decarbonization trajectory at different horizons: 2030, 2040, and 2050.

The production of waste in a film studio is mainly linked to the abundant quantity of sets, costumes, equipment, and waste related to the teams (food, office waste, etc.). According to ADEME, the production of a single film in a studio can generate up to 130 tons of waste.

Another major challenge for studios is the high energy consumption for various reasons: the presence of heating and air conditioning equipment – often linked to poor insulation of large buildings, as well as the presence of energy-intensive filming equipment such as HMI lighting equipment or computer equipment, or the use of generators due to the high cost of energy offered by the studio or insufficient or unstable power supply. The magnitude of these impact sources varies depending on the duration of the shoots, which can lead to intensive use of equipment over several months. Another aggravating factor is the widespread practice of overcharging electricity to productions. Since this constitutes a significant source of income for studios, they are not incentivized to improve the energy efficiency and sobriety of their sets. As an illustration, in France, one hour of television broadcasting on a set emits an average of 10 tons of CO<sub>2</sub> eq.<sup>117</sup>

#### *Post-production studios and other studios*

The sustainability challenges of post-production, dubbing, recording, special effects, and restoration studios differ from those of production studios. These structures also vary in size and sector of activity (film, television, independent companies, etc.). Their challenges largely overlap with the issues faced by most tertiary sector businesses: reducing energy consumption related to equipment and infrastructure, waste management, reducing CO<sub>2</sub> eq emissions related to employees (commuting, meals, etc.), along with the impacts associated with their on-site and/or Cloud-based digital infrastructure to operate their production pipelines. Moreover, the growing adoption of AI may potentially lead to an increase in overall impacts that will be shifted to the Cloud.

### b) **The best encountered solutions**

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<sup>117</sup> [Summary of the multi-criteria and prospective environmental study of the audiovisual sector - Ecoprod and Workflows](#)

### Limiting emissions from existing studios: the example of Provence Studios

Next to Marseille, there are studios deeply committed to sustainable practices. While their operation is that of "traditional" studios, their energy expenses and environmental impact are significantly minimized. Olivier Marchetti, the founder and CEO of the studios, believes in not building more to reduce<sup>118</sup>. For him, constructing new complexes to decrease our impact is contradictory.

On the existing structures, for instance, 28,000 square meters of solar panels, producing 3.6 GWh, have been installed, generating energy that is reintroduced into the grid. All vehicles within the studios are electric. Additionally, the studios offer various services aligned with sustainability. Provence Costume provides 1,500 linear meters of costumes sourced from end-of-shoot acquisitions. Provence Décoration collects, repairs, and rents all accessories, furniture, and fabrics. For decoration as well, the RotaClean system enables the cleaning of brushes in a closed circuit. A position has also been created to intervene at the end of shoots, attempting to valorize and sort all waste related to sets and filming. According to the production designer Igor Gabriel, this is a key element in reducing set-related waste.

To make the environment more pleasant and have a positive impact, lawn mowing is done by a donkey, and various animals, such as chickens, are present in the studios. The studios also produce their own honey. The commitment of such a structure proves that the environmental transition of existing studios is feasible and appealing to productions.

### Designing new studios: the example of PICS Studios

The PICS Studios project<sup>119</sup>, jointly initiated by the two major real estate groups GGL and Spag, is taking shape in Montpellier. It is innovative in its ambition to become a facility capable of hosting local and international audiovisual productions from A to Z, helping them reduce their environmental impact through the very design of the studios.

The concept is based on a "one-stop shop" offering, including team training, talent discovery, provision of post-production offices, creation of set construction workshops, provision of VFX studios, supply of accommodations for teams, establishment of pre-production offices, as well as various other necessary facilities. Naturally, this also includes fully equipped filming studios.

The idea for this project emerged in 2019, and the studios are expected to be operational by 2026. The genesis of this project stems from a real need to address the deficit of production studios in France, where there are only 50,000 square meters of studios, a small figure compared to the impressive 700,000 square meters in the United Kingdom.

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<sup>118</sup> [Nausică Interview of Olivier Marchetti - PACA article](#)

<sup>119</sup> [Nausică interview of Jacques Vienne and Sebastien Giraud - Occitanie article](#)



These studios are designed under the supervision of Benoît Ruiz<sup>120</sup>, who has brought his technical and scientific expertise in eco-design. The studios stand out for their commitment to reduced energy consumption, achieved through a design focused on energy efficiency and sobriety, as well as complete autonomy through the on-site self-consumption of renewable energy produced locally: photovoltaic panels, geothermal energy from aquifers, and recovery of waste heat.

Unlike more traditional film studios, the infrastructure design of PICS Studios incorporates advanced technologies aimed at minimizing their environmental impact. On average, the construction of one square meter of new studio incorporates a carbon footprint equivalent to 1.5 tonnes of CO<sub>2</sub>e, taking into account materials, energy, and construction processes. However, through various innovations, PICS Studios aims to reduce this carbon footprint to only 590 kg of CO<sub>2</sub>e per square meter built<sup>121</sup>. The studios will implement intelligent energy management systems, leveraging automation and regulation techniques to minimize unnecessary electricity and heating consumption. The use of renewable energy sources, as seen in Provence Studios, helps reduce the studio's dependence on fossil fuels.

Furthermore, PICS Studios encourages teams to minimize their carbon footprint during travel and accommodation by reimagining the studios as "base camps" for outdoor shoots. This is facilitated by providing welcoming infrastructure for teams within the studios: eco-lodges dedicated to production teams using the studios and all professionals in the local industry, to mitigate accommodation difficulties and hence reduce travel.

However, such a structure is not without its impact on the environment. There is a tangible separation between activity and its consequences, although this dissociation is subject to physical constraints such as entropy. The construction of the studios, and more broadly, the model conveyed by these large-scale studios, encourages the use of extensive resources and an increase in the number of productions in a growth-oriented logic.

### **c) The future of film studios in France**

According to Benoît Ruiz, we need to rethink our film production model, and it starts by changing our relationship with film studios.

#### **Systemic sobriety**

This transition in our production models, particularly within studios, should lead us towards "systemic sobriety": integrating sobriety within production systems. More broadly, this transition should emerge from a cooperative process among stakeholders, favoring a "bottom-up" approach where companies do not impose standards on their service providers. According to Benoît Ruiz, the British model is an example in this regard, as it currently

<sup>120</sup> [Nausicâ interview of Benoît Ruiz - Occitanie article](#)

<sup>121</sup> Internal studies carried out with BEGES version 5 + ISO/TR 14069 and ACV (PEF method) methodologies

prioritizes cooperation among players and operates based on consensus and mutualization of production resources. The metropolis of Montpellier aims to establish a shared and low-impact data center for the studios in the region.

### Rethinking studios as "Base Camps"

In practical terms, filming studios need to be reimagined as "base camps," similar to base camps that can be used as retreat points or supply stations for mountaineers. Thus, the studios of the future should be designed to reduce spending on travel and accommodation, envisioned as a base for outdoor shoots within an area of 20 to 30 km<sup>2</sup>, thereby reducing the carbon footprint of a production.

### LED screens

The development of studios equipped with large LED screens is at the heart of this challenge, with a market estimated at 1.2 billion euros in 2021 and expected growth of 20% by 2030<sup>122</sup>. They help reduce transportation, set construction, the number of shooting days, and post-production. However, the impact associated with their manufacturing, although difficult to assess, is quite significant. Additionally, there is an increase in the studio's energy consumption. Virtual production offers a different way to make films, with artistic and environmental advantages and disadvantages. The use of LED screens to reduce the carbon footprint of productions can be improved, for example, by more accurately identifying their greenhouse gas emissions, improving component recycling, and providing better training for technicians in the use of these technologies.

Furthermore, the increasing use of AI in the production pipeline will undergo a similar process of arbitration at the artistic and environmental levels, weighing its benefits against its drawbacks.

## **6. Animation studios**

### **a) Typology of animation studios and their environmental challenges**

#### 3D animation studios

The sustainability challenges faced by 3D animation studios differ from those of live-action studios due to differences in equipment, the number of people involved, project scale, and other factors. 3D animation is relatively polluting, primarily due to the digital impact associated with film production. In 2019, the digital sector was responsible for 4% of global greenhouse gas emissions, and by 2023, it accounted for nearly 7%. Twenty percent of these emissions come solely from data centers<sup>123</sup>. The environmental impact of digital technology is significant and continually increasing.

<sup>122</sup> [Virtual Production Market Size, GMI](#)

<sup>123</sup> [The environmental footprint of digital technology - Arcep](#)

The challenges for these studios primarily revolve around the issue of energy. The energy consumption of 3D animation studios is high due to the use of powerful computers and rendering servers used to generate images. These devices require a significant amount of energy to operate and cool down, as the emitted heat is often perceived as waste and needs to be offset by powerful continuous cooling systems.

The equipment available in animation studios also has an impact on the environment in terms of its existence: the extraction of raw materials (manufacturing a computer and screen requires about 230 liters of fossil fuel, 20 liters of chemicals, and 1.5 tons of water<sup>124</sup>), rare metals, device obsolescence, which can be linked to the constant evolution of animation technologies or simply to device design, and the management of electronic waste are different aspects of their environmental impact.

Animation studios also have other sources of CO<sub>2</sub> emissions, such as team travel abroad, massive data transfer, or the use of energy mix.

### 2D Animation studios

2D animation faces different challenges compared to 3D animation because energy is not the central focus of the environmental theme for these studios. This category of studios naturally emits much less carbon than live-action studios or 3D animation studios, which explains the lack of documentation and visible commitments across the sector.

In terms of emissions, 2D animation studios are more akin to post-production studios. However, they use natural resources such as paper, necessary for hand-drawn animations, and art materials like markers or paint, which may contain harmful chemical compounds.

### Stop-motion animation

The issues related to stop-motion animation are also quite different from those of live-action filming: fewer movements, shoots lasting between one and eight months, much less energy-consuming equipment, etc. However, this sector generates a large quantity of sets since studios are constantly creating. Moreover, each project has numerous specific characteristics influencing the materials used and how they are treated. The materials used are generally polluting or bulky, such as toxic polyurethane resins used for puppets or wooden and polystyrene structures for sets. Thus, recycling is very challenging.

Additionally, stop-motion animation studios rarely have allocated time for research and development or space to store materials for recycling. According to Maud Gallon<sup>125</sup>, head decorator, the identified needs of this sector include providing shared spaces for material, storage for recycling, and information sharing, for instance, on innovations in more

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<sup>124</sup> [Visible digital footprints on the environment - La Croix](#)

<sup>125</sup> [Nausic  interview of Maud Gallon - Auvergne-Rh ne-Alpes article](#)

sustainable materials (acrylic resins, corn-based polystyrene, pollution-free brush cleaning technologies, etc.).

## **b) Technical solution for animation studios**

Two technological solutions are emerging today to, on one hand, make production easier by improving rendering tools, and on the other hand, reduce the environmental impact of computing: real-time 3D and the valorization of waste emitted by data centers performing the computing for 3D productions. In France, Ecoprod, along with other associations and studios, is working on the development of calculation tools, understanding studio emissions, and tools and strategies to reduce them.

### Real-time rendering

A solution seems to be emerging today to reduce emissions related to the calculation of animation film images: real-time rendering, a technique directly inspired by technologies developed for video games. Unlike pre-calculated 3D, game engines create an image that is calculated in real-time, allowing the viewing of the image, including color rendering, simultaneously with the film's construction. This primarily saves time and provides greater flexibility in modifying images.

For example, on the series "*Edmond et Lucy*," Miam! Animation used the real-time 3D engine Unity, which could calculate each 4K image in 1.5 seconds, compared to 25 minutes using traditional calculation methods.<sup>126</sup>

Olivier Augier, artistic director and Green Manager at Dreamwall in Belgium, points out that this technology also leads to more modifications, changing creators' relationship with the image, which they can modify at will<sup>127</sup>. However, no concrete study proving the effective reduction of the carbon impact of real-time productions has been conducted.

### Reducing emissions from computing

On a different note, another technology is emerging in the field of 3D animation. The French company Qarnot Computing, founded in 2010, aims to be an alternative to conventional data centers by valorizing the heat emitted by data centers. This heat is usually considered waste and is continuously cooled by ventilation systems that consume a large amount of energy. Qarnot's solution involves a boiler containing 24 microprocessors, connected by optical fiber. The heat emitted by the microprocessors is recovered and used to heat the radiator and water in the boiler, supplying hot water circuits for individuals or pools.

Qarnot has also developed, following the same operating mode, radiators emitting heat through the calculation of microprocessors. The company's clients are private or public building actors looking to be supplied via more responsible systems and actors with intensive computing consumption, generating operations requiring a lot of calculations, such as banks or 3D animation studios. The data is encrypted and secured.

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<sup>126</sup> [3D in real time - 3DVF](#)

<sup>127</sup> [Nausic a interview of Olivier Augier - Belgium article](#)

For example, Illumination Mac Guff produced "Minions 2" using the connected radiators in the studios, reducing its impact. However, the radiators are decentralized and distributed in different countries, so Qarnot's technology does not eliminate the impact emitted by data transfer between servers worldwide.

### Identifying emissions for better reduction

In 2023, Ecoprod and the collective "La Cartouch'verte" produced a guide on eco-responsible animation<sup>128</sup>, which constitutes a comprehensive first version with concrete examples, intended to be enriched by professionals and experts in the animation sector and with data collected through the carbon calculator being developed by AnimFrance.

Moreover, the Ooolala studio, based in Valence, is the first studio to have conducted a carbon assessment<sup>129</sup>, made possible by installing Ecooo boxes on computers to collect real-time data and quantify asset emissions. The carbon assessment revealed that the majority of emissions were related to employees (68%), with 50% due to food and 50% to transportation. Digital equipment is only responsible for 19% of studio emissions, and infrastructure 13%. However, the studio has made significant innovations in reducing energy consumption, explaining the wide gap between different types of emissions.

Finally, a calculator specifically dedicated to animation has recently been introduced: Carbulator<sup>130</sup>. This tool is developed by TeamTO, Superprod Animation, Illumination Studios Paris, and Ponpon Development for AnimFrance.

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<sup>128</sup> [Guide for sustainable filming - Ecoprod](#)

<sup>129</sup> [2023 Ooolala carbon footprint](#)

<sup>130</sup> [Carbulator](#)

## Summary II - Key Recommendations

### 1. For private financial partners

- Condition their support for projects on compliance with environmental criteria, similar to public stakeholders.
- Mandate, especially for high-budget productions, obtaining an eco-label.
- Invest in innovative solutions and test them during productions.

### 2. For production

- Bear the additional costs of reorganizing the production process (extended preparation and post-production times, process automation) to allow technicians to participate in the sustainability initiative.
- Cover the extra costs of short and medium-term support by a sustainability consulting firm, an in-house sustainability manager, or an independent consultant.
- Invest in innovative solutions and test them during productions.
- Make technicians' commitment a selection or valorization criterion to facilitate the implementation of an ambitious sustainability approach.
- Promote frugality within the production process.

### 3. For practitioners

- Stay informed about these issues and attend specific training for their professional field.
- Seek inspiration from peers already involved in eco-friendly practices.
- Be willing to incorporate a sustainable approach into their workflow.
- Facilitate and support the work of the eco-referent.

Film production is a collaborative effort. Therefore, each stakeholder must assume their responsibilities, including producers, broadcasters, technicians, etc. While solutions and new practices are emerging, numerous factors still hinder the progress of sustainable filming in France and Europe today. Many industry professionals have identified significant challenges.

### III. Challenges for the future

To ensure the sustainability of film and audiovisual production in a low-carbon world, four major challenges must be addressed today: implementing new, more frugal organizational models, supporting the development of low-carbon industrial solutions, strengthening collaboration on a European scale, and massively and immediately accelerating initial and professional training on environmental issues. The frugality approach must be at the core of all these challenges.

#### **A. Promoting new, more frugal organizational models**

Certain dynamics, such as decentralization, mutualization, and repair, will be essential in the future to address environmental challenges, particularly in reducing travel and using resources more efficiently.

##### **1. Decentralization**

The term "centralization" is used here in a broad sense to describe the phenomenon of gathering goods and people in a single location.

In France, there is a strong centralization of audiovisual production resources (equipment and technicians) in the Parisian region due to a high number of shoots in the area. This concentration of major equipment rental companies and technicians leads to significant travel to filming locations across France. With the development of filming hubs in regions, especially in the South of France, the number of service providers and technicians in regions is increasing.

This dynamic should be encouraged as it helps reduce equipment and crew transport. Using on-site service providers and technicians also production companies to be better informed of the specificities of the region in which they shoot (such as local food suppliers, recycling centers, waste management requirements, areas to be protected, etc.).

##### **2. Pooling of resources**

Pooling of resources helps avoiding waste, conserve resources and increase efficiency. Ressources may refer to physical ressources (spaces, equipment) or non-physical ressources (websites, etc.).

###### **a) Supplier collaboration**

In order to share costs, increase visibility, and offer productions the most comprehensive services possible, some suppliers join networks.

In the Grand Est region, companies such as Skypic, Cinexo, Ciné Régie, Sav Movie Service, and Will Studio have come together to create the Make Your Movie network.<sup>131</sup> Together, they share facilities in Geispolsheim, manage a common website, and provide production access to a comprehensive range of services. Skypic offers aerial drone filming, Cinérégie provides costume and extras vehicle rentals, Cinexo offers cinema camera rentals, Sav Movie Service provides trailer dressing room rentals, and Will Studios is a sound and image post-production studio.

While this network organization offers evident economic advantages, it also aligns with a future-oriented and more ecological business model. This includes the full utilization of spaces to avoid unused areas, shared transportation (carpooling), solidarity within the network, and reduced travel for productions if all equipment is retrievable in one place. Companies belonging to the network adhere to a low-carbon roadmap.

### **b) Pooling production assets**

This mutualization dynamic can also be initiated by production companies and other stakeholders in the cultural sector.

Take the example of set designs. Many productions aim to donate and store materials and sets that could be reused after filming. However, rents are often too high for a production to store all its equipment, risking it being left unused. Concerning donations, it is not always easy to give away equipment for free to art schools or associations, which may not be able to fulfill all requests. Furthermore, the challenge is not just about storing and donating materials but also self-sourcing from reclaimed materials and sets.

In Stockholm, Fredrik Nyberg launched the "material storehouse," a resource-sharing initiative co-managed by various cultural actors that seeks to address these issues.<sup>132</sup> The "material storehouse" brings together 15 Swedish cultural institutions, sharing 600m<sup>2</sup> around Stockholm through crowdfunding. Each partnering institution pays €300 per month for the right to deposit and rent materials for free. Through this collaborative financing system, the resource-sharing initiative operates without state aid and can employ two full-time workers. Only partner institutions can deposit materials, with exceptions if the materials are highly interesting. Other stakeholders can borrow materials, such as schools, at a low cost. The resource-sharing initiative offers an online catalog. Similar models could be envisioned for French production companies.

## **3. Repair**

To extend the lifecycle of products used in productions and enhance equipment availability, territorial repair of materials is indispensable. This approach will reduce greenhouse gas emissions by curbing the purchase of new equipment and minimizing material transportation between production hubs, significantly contributing to the frugality of rental companies and, ultimately, film productions.

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<sup>131</sup> [Nausică interview of Ludovic Lutz and Alicia Klung- Grand Est Article](#)

<sup>132</sup> [Nausică interview of Fredrik Nyberg - Sweden Article](#)



Innport, an import and distribution company based in Sète, is championing and implementing the repair model. This model aligns, for example, with the industrial series production in the Occitanie region, including *"Un si grand soleil"* produced by France Télévisions in Vendargues and *"Demain nous appartient"* by Newen in Sète. This model follows a systemic frugality approach, reducing purchases and aiming to limit the consumption patterns often associated with large-scale audiovisual productions.

Rental companies must now incorporate equipment repair services and collaborate with suppliers supporting this approach. Companies like Maan Rental in Denmark and Panavision in France are examples of those embracing this logic.

## **B. Develop low carbon solutions for the film industry**

Another major challenge for the sector is to expedite financial and moral support for suppliers and service providers striving to develop more sustainable solutions specific to the industry.

### **1. The need for investments**

The main challenge is the development of large-capacity low-carbon energy solutions to replace industrial-scale thermal generators. Some existing solutions could significantly decarbonize the sector, but they struggle to expand due to a lack of subsidies and investments. For example, the Eco-Baze hybrid generator truck from the German company Mobilespace can reduce CO<sub>2</sub> emissions by up to 60% per day compared to a conventional generator. However, the solution is currently about twice as expensive to build as a traditional generator, leading to higher rental costs. Additional subsidies or investments are deemed necessary for further Eco-Baze constructions.

These investments could come from major broadcasters, large production companies with a responsibility for decarbonizing their value chain, or national and regional funds supporting innovative startups. Major manufacturers of heavy-duty vehicles and generators (IVECO, Volvo, etc.) also have a crucial role in developing a low-carbon vehicle fleet.

### **2. The role of rental companies**

Providers of audiovisual equipment for rental, who offer products from manufacturers to production companies, also play a key role.

Firstly, they can implement a more responsible procurement policy by considering various environmental criteria when choosing suppliers. For instance, in Sweden, Mikael Frisell, CEO of Dagsljus Filmequipment AB, asks all manufacturers about their environmental policies to prioritize products meeting the criteria of certain labels (Bra Miljöval, Svanen, KRAV, EU-Ekologiskt, EU Ecolabel, MSC, etc.) with longer lifespans.<sup>133</sup>

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<sup>133</sup> [Nausică interview of Mikael Frissel - Denmark Article](#)

Rental companies can also decide to invest in new low-carbon solutions. In France, TSF has chosen to rent out EODev's GEH2 electro-hydrogen generator, enabling the product to be used in a new market previously limited to construction sites or events.

Rental companies can also develop equipment in-house. For example, French equipment rental company Panavision has an in-house Research & Development department, where they have developed their own batteries.

In the end, rental companies aim to maximize the lifespan of their equipment to rent it out for as long as possible.

However, rental companies face challenges due to manufacturers producing products with increasingly shorter lifespans, and clients not prioritizing ecological concerns. Danys Bruyère, Deputy Managing director at TSF notes that most clients today do not prioritize ecological considerations.<sup>134</sup> Gilles Monchy, former Deputy General Manager at Planipresse, shares a similar observation.<sup>135</sup> For instance, the demand from directors of photography evolves rapidly following the frequent renewal of camera suppliers' equipment (Canon, Sony, Panasonic, etc.). In two years, the "Planipresse renewed 80% of its equipment to keep up with this demand, a model that might be reconsidered in the long term.

## C. Work at a European level

*"Collaboration is the best way to respond to the urgency of the climate situation,"* declared Patricia Espinosa, the Executive Secretary of UN Climate. In the context of a global environmental emergency, the coordination of countries is essential to achieve the common goal of slowing down the crisis.

Within the European Union, collaboration is already in action. The Green Deal aims to make Europe the world's first carbon-neutral continent by developing clean energy sources, intelligent mobility, circular industries, etc. Every productive sector is called upon to contribute to achieving this objective.

Regarding eco-production, strengthening collaboration at the European level would enable better knowledge-sharing, facilitate the implementation of sustainable approaches in co-productions, and provide a more substantial financial backing to support producers in eco-producing.

### 1. Share knowledge and accelerate action

Interstate collaboration can enable larger-scale projects to come to fruition. Through substantial European funds and better human and financial resources, these projects advance knowledge on the subject, share it across Europe and internationally, and encourage actionable steps.

#### a) CineRegio and Green Regio

<sup>134</sup> [Nausică interview of Danys Bruyère](#)

<sup>135</sup> [Nausică interview of Gilles Monchy](#)

CineRegio is a network of regional film funds in Europe, representing fifty-two regional film funds from twelve EU member states, Norway, Switzerland, and the UK. In 2012, some CineRegio members formed the subgroup *Green Regio*<sup>136</sup>, aiming to raise awareness and share knowledge about tools, measures, and policies for sustainable film production. Their actions are funded by various European regional stakeholders such as the Hamburg Schleswig-Holstein fund, Film London agency, Flemish fund, etc.

Green Regio has been publishing the CineRegio Green Report for several years, providing an overview of environmental efforts and practices adopted by fifteen regional film funds.<sup>137</sup> The report highlights opportunities, challenges, and tools implemented by public and private sector players at the local, regional, and national levels. In 2019, the group launched the Green Manifesto to encourage all funds to support environmental sustainability and associated costs. Their current idea is to promote a pan-European rating system for sustainable film production.

### **b) GreenToolkit Film and TV**

The GreenToolkit Film and TV project emerged within the framework of the European social dialogue in the audiovisual sector, involving employers and employees.<sup>138</sup> Conducted from 2021 to 2023 as part of the EU-funded project "*Strengthening the Capacity of Social Partners to Address the Challenges of Environmental Sustainability in Film and TV Productions*," it aims to facilitate the adoption of more environmentally sustainable working practices in European audiovisual productions in line with the objectives of the Green Deal.

GreenToolkit is a free-access platform that shares sustainable practices, tools, initiatives, and incentives implemented throughout Europe for film and TV production. The goal is to provide the broadest possible sharing through this unique source of information.

## **2. Facilitate sustainability among international coproductions**

To enhance collaboration between countries, particularly through coproductions in the audiovisual sector, it is preferable for stakeholders to work with similar tools. This is advocated in the 2020 Green CineRegio Report, which identifies the Green Film certification system as the most concrete and exportable among existing systems.

### **a) Challenges in international coproductions**

In France, international coproductions represented 50.2% of approved films in 2022, up from 42.1% in 2021 and 39.6% between 2017 and 2019.<sup>139</sup>

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<sup>136</sup> [CineRegio](#)

<sup>137</sup> [Green Report 2020 - CineRegio](#)

<sup>138</sup> [European booklet - GreenToolkit Film & TV](#)

<sup>139</sup> [Film production in 2022 - CNC study](#)

The audiovisual industry heavily involves coproductions—collaborations among multiple producers combining their resources (financial, human, or material) and risk-sharing to produce a cinematic work or audiovisual product. The increase in coproductions is primarily driven by economic incentives implemented by territories, pushing producers to collaborate with specific countries.

However, these coproductions complicate the implementation of clear and effective green strategies at project level, as well as data collection at the national and European levels due to the diverse tools used. Many European actors, both public and private, have developed their eco-production tools (labels and carbon calculators) with varying methodologies and results. Some countries and regions mandate the use of specific tools, leading to the use of one, two, or three different national tools for some coproductions, and others use tools imposed by the majority coproducing country.

It seems impossible and counterproductive to ask actors who created these tools to abandon them for a new common tool, likely less adapted to regional and national specificities. The solution may lie in their relative harmonization.

#### **b) Towards a common methodology for all calculators**

One possibility to align tools while allowing everyone to keep their tools is to standardize methodologies at the European level. Recently, various European actors (Ecoprod, Eureca, Albert, The Green Producers Tool, etc.) formed a European Roundtable to align these methodologies. The idea is to initially align on different categories to consider in calculators—such as travel, energy, food, etc.—and then follow a common calculation methodology, for example, the Life Cycle Assessment (LCA), which evaluates the environmental impact of a product or service throughout its life cycle.

The European Commission is currently collaborating with various stakeholders to create a common carbon emissions estimation system that would unify the calculation systems used by different market players.

#### **c) Towards a european certification to label national labels**

Similarly, European countries have witnessed the development of certification systems on their territory - such as the Albert certification in England, the Ecoprod or Secoya label in France, the Green Film certification in Italy, etc.

One of the best solutions to the proliferation of labels might be to create a European certification that certifies national labels. Instead of asking for the abandonment of these labels, the aim is to harmonize them based on common criteria.

In addition to facilitating the use of different existing tools on European soil, especially in coproductions, the harmonization of calculators and labels could allow Europe to have a

more significant impact on a global scale, especially for less advanced countries on the issue. In the long term, we could even envision an international certification system for eco-productions.

### **3. Financially incentivize european producers**

European organizations wield financial power to encourage European producers to embrace sustainability.

#### **a) Key role of the European Commission in financing**

The European Commission also addresses eco-production, particularly within the framework of the Europe Creative Media program<sup>140</sup>, running from 2021 to 2027, with a budget of 2.4 billion euros to promote the richness and diversity of the European cultural sector. One of the program's objectives is to accelerate the ecological transition of the cultural sector. It has introduced a project selection criterion related to sustainability, offering an additional 5 points out of 100. These specific points can make a difference between an eco-responsible project and one not considering these issues.

#### **b) Eurimages : two financial incentives for sustainable coproductions**

Eurimages is the cultural fund of the Council of Europe. In 2022, the board of directors decided to implement two incentivizing measures. Projects submitted since January 2023 under the coproduction support program are assessed with an additional criterion: "the implementation of measures to reduce the environmental impact of the coproduction project." This considers the efforts made by the production and technical and artistic teams. While this criterion is not an eligibility requirement, it favors the selection of eco-responsible projects.

Additionally, three Eurimages Awards for Eco-Responsible Coproduction were created to reward international coproductions that successfully combine sustainable production with artistic quality. Each prize carries a monetary award of 10,000 euros.<sup>141</sup>

## **D. Train and raise awareness**

The last major challenge to overcome, but not the least, is that of training and awareness of eco-production.

### **1. Training**

About training, we distinguish between professional training for audiovisual sector professionals and initial training for students in film and audiovisual schools.

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<sup>140</sup> [Creative Europe MEDIA strand - European commission](#)

<sup>141</sup> [Sustainable Development Strategy - Eurimages](#)

### a) **Professional training**

Regarding training provided to professionals, several cycles of eco-production training have been established in Europe, all operating on a voluntary basis. In all visited countries, these trainings, when available, are organized by private entities (associations, training organizations, eco-production consulting firms, etc.) and not by public bodies supporting the audiovisual industry. We have selected five of them to highlight their specificities and emphasize the ingredients of their success.

Firstly, there is the French format developed by Ecoprod, consisting of training courses tailored as much as possible to various job positions. Then, the Green Film Lab in Italy offers an innovative pan-European format. In Germany, the creators of eco-production training focus on massive development to reach as many professionals as possible. In Denmark, the involvement of foreign experts in the film industry guides training towards a psychology-oriented aspect. Finally, in the UK, Albert offers free, generalist, and accessible training to a large audience.

#### Ecoprod

The Ecoprod association offers two types of training: short courses and long, certifying courses<sup>142</sup>. The strength of these training programs is to delve into various subjects and reach as many professionals as possible by offering a broad catalog and involving experienced individuals. They target all types of film professionals in France.

Here are the different long and certifying professional training courses: Sustainability in set management and production, Implementing an eco-responsible approach in professional practice, Implementing an eco-responsible approach in professional practice with a documentary focus, Implementing an eco-responsible approach on a film set, Sustainability in set decoration.

There are also short courses: *“Climate change - Fundamentals and implications for the audiovisual sector: impacts, regulations, basics of eco-production”*, *“Mastering the carbon footprint measurement tool”*, *“Responsible audiovisual production”*, *“Fundamentals of CSR”*.

#### Green Film Lab

The training programs of the Green Film Lab<sup>143</sup>, designed by the Torino Film Lab, a laboratory for training and research projects supporting people working in the film industry, and the Trentino Film Commission, stand out for their innovative approach to training. Their main goal is to promote a more sustainable approach in the profession and train

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<sup>142</sup> [Training courses - Ecoprod](#)

<sup>143</sup> [Nausică interview of Séverine Petit - Italy article](#)

professionals in creating sustainable action plans. These trainings are intended for eco-managers, consultants, as well as broadcasters, institutions, etc.

Concretely, three sessions are organized each year with twenty-four participants working on the development of six projects. Three tutors, Dortë Schneider, Louise Smith, and Lucie Trémolières, regularly intervene and are accompanied by other speakers to supervise the workshops. They have a European dimension as they take place in different countries (Italy, Spain, Iceland, Ireland, Poland, etc.)

The aim of these workshops is to build an action plan for a project using the Green Film tool. The approach is innovative because the organizers always recommend the presence of two profiles in the process: a sustainability expert working mainly on production upstream and a coordinator on set.

### German trainings : Hochschule der Medien Stuttgart and HFF University for Television and Film Munich

In Germany, professional training is highly developed and revolves around a common goal: to train as many people as possible and as effectively as possible.

In Stuttgart, Boris Michalski has established a certification program at Hdm Stuttgart, lasting sixteen weeks. The first seven weeks of training revolve around seven modules consisting of videos and online classes. Three days of in-person training allow specialists to cover various essential topics such as calculators (Eureca, MFT, etc.). Participants are required to deliver an action plan using the Green Motion tool at the end of the training. This model has been successfully exported to Portugal by Dörte Schneider Garcia and to the UK by Mairi Bowser.

In Munich, Philipp Gassman also provides a fully digital training, which has certified over three hundred people to date. This extensive training model, supported by industry experts, appears to be the most effective model today.

### BFTP

In Denmark, BFTP<sup>144</sup> has implemented training for production managers, attended by more than eighty professionals, with an innovative approach. A psychologist is involved to address eco-responsibility from a different perspective. Through guiding questions, he aims to provide new insights focused on psychology and understanding decision-making mechanisms for professionals dealing with very different fields and facing significant pressure in their work.

Here are some examples of guiding questions: identifying key moments in the implementation of eco-production measures, understanding collaborators' perceptions,

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<sup>144</sup> [Nausicä interview of Caroline Gjerulff and Laure Kornerup - Denmark article](#)

identifying individual and collective action levers, etc. These sessions are open to twenty-five professionals per one-day session, covering systematically different themes.

### Albert

Free training programs are offered by the organization Albert in the United Kingdom, covering various audiovisual professions, with online tools and interventions by industry experts<sup>145</sup>.

Many of these training programs are still at a "first level," quite general. Therefore, they may sometimes seem unsuitable or unnecessary if participants are already aware or seeking specific answers to their profession. It is essential to carefully select the training one wishes to participate in.

### **b) Initial training programs and student initiatives**

The major bottleneck in eco-production lies in initial training programs.

The challenge of sensitizing and training students in more environmentally friendly professional practices is significant. However, the number of film or audiovisual schools offering awareness modules or training to their students is minimal. The initiatives encountered are all student-led, certainly commendable, but it does not exempt school directors from seriously addressing the issue. The demand from students to be trained on the subject is increasing, and it will likely gradually become a selection criterion in their choice of programs, as seen in other sectors.

Two initiatives led by young individuals deserve attention as they illustrate students' willingness to bring about change and offer insights into how film and audiovisual schools can address the eco-production issue.

### Babelsberg University Program

Babelsberg University, located in Potsdam, Germany, has incorporated an eco-responsible dimension into its curriculum<sup>146</sup>. Firstly, the student initiative "Grün" involves creating an eco-production guide specifically for university students, tailoring recommendations to their needs and the environment in which productions are carried out. This initiative also allows specialists in eco-responsibility to intervene in classes. Additionally, courses on eco-production, a three-course session on eco-responsibility for voluntary students, and a €300 eco-bonus for final projects implementing eco-responsible practices are integrated into the curriculum.

### Cinacolab

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<sup>145</sup> [WeAreAlbert](#)

<sup>146</sup> [Nausică interview of Maïke Sarah Reinert - Germany article](#)



In Belgium, the CINECOLAB project<sup>147</sup>, led by Jeanne Clerbaux and two staff members of IAD (Olivier Poncelet and Pierre-Paul Renders), brings together four Belgian schools: IAD, INSAS, HELB (Haute Ecole Libre de Bruxelles), and La Cambre, along with two regional economic funds, Wallimage and Screen Brussels, and the Community Fund of the Wallonia-Brussels Federation. CINECOLAB's roadmap includes several chronological steps: teacher training, launching a resource platform gathering eco-responsible initiatives in the sector for the four schools and cinema professionals. Integrating CSR issues into each course is also a goal of program leaders, appearing alongside the Cinécolab initiative.

Currently funded by the Academy of Research and Higher Education (ARES), the challenge is to find new subsidies to sustain the project. It notably receives support from Wallimage, the Walloon fund, as well as Screen Brussels and the Community Fund of the Wallonia-Brussels Federation, highlighting the role regional funds can play in supporting and developing training programs.

### Initial training programs in France

In France, while certified initial eco-production training programs are limited, the CNC has commissioned La Base, Secoya, and the Bureau des Acclimations to design a training program on climate issues and responsible production for first-year film or audiovisual school students<sup>148</sup>.

This module covers major concepts of climate change, the industry's environmental impacts, and action strategies through practical cases. The CNC aims to reach 6,000 students over the next four years by offering the program to schools for free. This initiative represents a significant step in the development of initial training programs on eco-production in France.

In Lyon, Cinéfabrique<sup>149</sup> is beginning to incorporate aspects of eco-production into certain student pathways. For instance, the Set Design training highlights practices of reuse, recycling, selection of materials from local, recycled, or biodegradable sources, etc. Fémis also aims to launch ongoing training with Ecoprod for producers and production managers, as well as initial training modules for Set Design and Production departments<sup>150</sup>.

## **2. Raising awareness**

Awareness is at the core of eco-responsibility. According to Mathieu Delahousse, co-founder of Secoya, the challenge today is to "ensure that no one in the cultural sector has not heard of eco-production." All stakeholders in the cinema and cultural field have a responsibility to disseminate messages promoting more sustainable practices. However,

<sup>147</sup> [Nausicâ interview of Jeanne Clerbaux - Belgium article](#)

<sup>148</sup> [Le Plan Action ! - CNC](#)

<sup>149</sup> [Set design training course- Cinéfabrique](#)

<sup>150</sup> [Femis new training courses - Écran Total](#)

some key actors play a crucial role in this awareness campaign: the media, festivals, and individuals initiating both small and large-scale awareness projects.

#### a) **The role of media and public figures**

Mainstream media rarely addresses the eco-responsibility of audiovisual content, despite its relevance to all content consumers. Specialized media is necessary, acting as intermediaries and reaching professionals in the cultural sector.

#### *Close links between mediation, consulting, and lobbying*

In France, various actors, mainly associations, take on the role of information disseminators regarding environmental issues in audiovisual production. For example, the Media Club Green<sup>151</sup>, co-founded by producer Julien Tricard, organizes and participates in roundtable discussions, develops lobbying and networking activities around media sustainability. Ecoprod, through technical fact sheets, awareness campaigns, and lobbying, contributes to raising awareness. Other specialized audiovisual media, such as Le Film Français or Écran Total, occasionally cover environmental themes. Consulting firms like A Better Prod or Secoya also play a role in disseminating information on these topics, often alongside their online communication and social media activities.

#### *Green Film Shooting: a specialized and european-sized media*

In Europe, Green Film Shooting, created by Birgit Heidsiek<sup>152</sup>, is a reference in raising awareness and mediating sustainable filming issues. It comprises a magazine and an online platform publishing best practices, events, and testimonials from stakeholders committed to sustainability, including suppliers and film funds. Green Film Shooting was awarded the Ecoprofit 2019 certificate by the Minister of the Environment and Energy of the City of Hamburg. Under the auspices of Green Film Shooting, Birgit Heidsiek hosts international events and organizes workshops on producing more environmentally friendly films. These workshops include training for live-action films and a sustainable stop-motion animation program to educate writers, directors, puppeteers, art directors, and producers worldwide.

In France and Europe, communication on sustainability issues in audiovisuals often includes a significant dimension of networking and lobbying. Most of these actors are present on social networks, complementing the action carried out today by online media, mostly Instagram accounts such as Ecolucide<sup>153</sup>, BeGreenProd<sup>154</sup>, Observatoire des images<sup>155</sup>, or TheEcoChannel<sup>156</sup>.

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<sup>151</sup> [Media Club Green](#)

<sup>152</sup> [Nausicâ interview of Birgit Heidsiek - Germany article](#)

<sup>153</sup> [Ecolucide](#)

<sup>154</sup> [Be Green Prod](#)

<sup>155</sup> [L'observatoire des images](#)

<sup>156</sup> [The Eco Channel](#)

Similarly, "influencers" play a significant role in awareness on social networks, promoting lifestyles or products. Cinema personalities (Cyril Dion, Marion Cotillard, Yann Arthus-Bertrand, etc.) also have a notable influence on the perception of ecology in the audiovisual industry on social networks.

Finally, associations and collectives also have an important role to play. In 2023, the creation of the CUT! collective, bringing together influential figures in cinema around these issues, aims to raise awareness and give visibility to sustainable themes in the film world, in the press, and on social networks<sup>157</sup>.

### **b) The role of film festivals : rewarding and shedding light on committed projects**

Film festivals are crucial for raising awareness as they highlight and legitimize meaningful projects and initiatives. They can showcase responsible production processes, as seen in the Eisvogel Preis in Germany or the Deauville Green Awards in France, or celebrate inspiring and socially engaged content, as observed in festivals like Atmosphères in Courbevoie or CinemAmbiente in Turin.

#### *Festivals focused on sustainable production*

In Germany, the Eisvogel Preis<sup>158</sup> rewards the most innovative and responsible productions, setting itself apart from environmental labels or festivals that honor socially engaged content. The festival is organized by the Federal Ministry for the Environment, the Heinz Sielmann Stiftung association, the Federal Government Commissioner for Culture and the Media, a German producers' association, and Ökopol, a consulting organization responsible for content selection, jury composition, and procedures. A main prize of €20,000 is awarded, and a second category with a €5,000 prize recognizes newcomers. The prize considers three axes: the commitment of content producers to reduce their impact and their consequent responsibility, production planning and implementation in accordance with the 21 minimum criteria for eco-production in Germany, and the implementation of innovative ideas to reduce production impact.

In France, the Deauville Green Awards<sup>159</sup> also reward responsible production initiatives as well as the themes of the films and short films presented.

#### *Festivals focused on responsible content*

Other festivals reward inspiring content on sustainability, such as the Atmosphères festival<sup>160</sup>, which honors this type of content in various cultural works, including books, films, or artistic performances.

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<sup>157</sup> [Collectif CUT !](#)

<sup>158</sup> [Nausicä interview of Dirk Jepsen - Germany article](#)

<sup>159</sup> [Deauville Green Awards](#)

<sup>160</sup> [Festival Atmosphère](#)

In Turin, the CinemAmbiente<sup>161</sup> festival takes place annually, highlighting films (feature films, short films, documentaries, animated films, etc.) addressing issues such as climate change, nature conservation, biodiversity protection, natural resource management, and other environmental challenges. Simultaneously, the festival organizes discussions, workshops, exhibitions, and other related events.

**c) Large scale initiatives : raising awareness and creating involvement**

Large-scale initiatives addressing the sustainability of cinema not only bring attention to this theme among the general public but also allow for concrete actions. The Bosque del Cine project<sup>162</sup>, created by Alvaro Longoria, a producer at Morena Films, and Juan Barquin, executive director of the Santander Film Festival, offers the opportunity to offset the carbon footprint of certain films through a meaningful regional project.

Born out of a lack of carbon offset options for the film industry in Spain, Alvaro Longoria aimed to create a more extensive project, integrating communication and awareness beyond simple carbon offsetting. The Bosque del Cine project is a non-profit association with the goal of valorizing a 40-hectare space in Cantabria, planting over 30,000 native trees. To be eligible to plant trees in a plot, a production must demonstrate a genuine commitment to reducing its carbon impact to avoid greenwashing and pay €65 per tonne of carbon it wishes to offset. The price difference from the average cost of a tonne of carbon for a reforestation project (€50 per tonne) is justified by the quality of the commitments made by the association.

The project has multiple objectives: restoring biodiversity, especially native tree species, by working with landscapers, engineers, and local communities; creating an educational space around biodiversity for all ages, involving local schools in activities such as field trips and summer courses; operating a training center for forest management and ecological restoration; and capturing CO<sub>2</sub>. The presence of international stars in films related to the project amplifies its impact on the general public, helping raise awareness about the environmental impact of films and establishing a connection between film audiences and nature.

This project also serves as an example of carbon offsetting with a useful and responsible purpose. The practice is often criticized for being used as a way to absolve responsibility and continue engaging in environmentally irresponsible behavior.

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<sup>161</sup> [CinemAmbiente](#)

<sup>162</sup> [Nausică interview of Juan Barquin - Spain article](#)

**Bilan III - Upcoming challenges**

1. Supporting new, more streamlined organizational models such as decentralization and mutualization to reduce human and material movements and use resources more efficiently.
2. Expanding the range of low-carbon solutions specific to the industry and promoting their adoption.
3. Promoting European collaboration to accelerate the environmental transition of the sector at the national, European, and global levels.
4. Implementing comprehensive training plans for professionals and students to expedite and support the industry's transformation.
5. Raising awareness among professionals and the public to encourage and multiply responsible actions.

## Conclusion

Sustainable filming is thus at the heart of current challenges in the audiovisual industry. The commitment of all stakeholders is necessary. Public actors wield significant power to encourage productions to take further measures. The same applies to regional organizations, which play an intermediary role, closer to the field, and can therefore undertake more concrete actions. Collaboration and harmonization of policies and practices will be key to the success of the commitments made by these organizations.

Moreover, private actors also bear a significant responsibility in the sector's transition, as they, by joining forces, have a powerful impact on regulations, the perception of sustainable filming, and the shift to action.

The industry's transition involves the implementation of concrete actions and the assumption of responsibility by each party. Individuals and entities are expected to play a key role in the production process. This includes producers and production managers, acting as conductors of a production, as well as major financial partners and technicians, each facing different and specific challenges in their respective domains.

These actors must systematically encourage the implementation of dedicated tools for sustainable filming, such as charters, carbon calculators, and certifications. The common approach for all these actors, however, falls under the banner of systemic sobriety.

The audiovisual industry faces numerous challenges of various natures: the necessary development of low-carbon technological solutions, collaboration among all types of stakeholders, harmonization of existing tools, and the development of initial and professional training, among others. Awareness of eco-responsibility issues and the establishment of a dialogue among all stakeholders are also central challenges that define the face of the environmental transition in cinema and audiovisual production.

### Editorial responsibility

Environmental responsibility goes beyond the scope of film and audiovisual content production. The narratives conveyed by the big screen, the way content is consumed, and the engagement of stakeholders alongside cinema are different facets of a broad issue with complex challenges.

Julien Tricard, producer and co-founder of Media Club Green, testifies in this regard: *"Reflecting on the best way to produce content should only be the consequence of a greater responsibility, which is editorial responsibility. In my opinion, our primary role is that of a messenger. We convey messages and accompany changes in mentality. We have the opportunity to improve how the general public, politicians, and industry behave. From this point of view, I believe we should not forget to try to create content that fosters responsibility."*

Similarly, ADEME encourages us to "*renew our collective representations and imaginations through new narratives*" to "address social and ecological challenges by fundamentally transforming our societies and making these metamorphoses desirable for all."

This is a moral and social responsibility that requires creators, producers, and distributors of audiovisual content to shape messages that convey positive values and contribute to the transformation of perceptions and behaviors. Creators, producers, and distributors are responsible for the messages they transmit.

### Agents of change

Producers play a central role in editorial responsibility, both in the choice of topics addressed and in the narrative techniques used. Indeed, producers have influential power over various aspects of the film and can encourage screenwriters or directors to use certain methods to address social or environmental issues.

From the perspective of the representation of women on screen, tools exist today to identify script weaknesses leading to the reproduction of unequal patterns on screen, such as the Bechdel Test<sup>163</sup>, based on the following three questions: Are two women explicitly named in the work? Do they talk to each other? Do they have an exchange about a subject that is not a man? A similar test also exists for environmental themes, created by Albert in the United Kingdom<sup>164</sup>. The three questions are: Does the film acknowledge the existence of a "natural," non-human world? Are environmentally harmful behaviors presented negatively? Does at least one protagonist take action to make the world better?

Committed broadcasters must also be drivers of tangible change. These actors can assume their responsibility by directing their content toward socially responsible messages and incorporating environmentally-friendly production practices, similar to the BBC, RTL, or TV2 in Denmark. The TV show "Summer Dream" from the latter has transitioned to "green" rules, encouraging recycling and the implementation of sustainable initiatives. Broadcasters can directly influence viewers' behaviors by spreading positive values.

Public partners, such as national commissions, can play a key role by introducing financial incentives for responsible content. For example, the eco-bonus implemented by the Austrian commission encourages producers to adopt environmentally friendly practices.

Financial support can also be provided for responsible product placements, thereby contributing to the promotion of eco-friendly brands in audiovisual content. In France, the company Pixetik offers these services to audiovisual productions. Ethical products have appeared in French audiovisual content, such as the fashion brand "Justine B." in France TV's series "Derby Girl." In the United States, the company Green Product Placement has worked on series like The Big Bang Theory or Orange Is The New Black, featuring scenes of

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<sup>163</sup> [Bechdel's Test - NPR](#)

<sup>164</sup> [Bechdel Test for the environment - We Are Futerra](#)

natural Manuka honey tasting. The main obstacles today are advertisers' hesitations and the high prices of these services, which are less accessible to small eco-friendly brands.

Consulting firms, such as Imagine 2050<sup>165</sup> and L'Écran d'Après in France<sup>166</sup>, as well as experts like Frédérique Sussfeld<sup>167</sup>, offer specialized advice to guide producers and broadcasters toward responsible content. These advisors can provide guidance on the storytelling of ecological transition, the representation of biodiversity, and other crucial aspects, contributing to a positive evolution of the audiovisual industry.

In conclusion, tangible changes emerge when producers, broadcasters, financial partners, and advisors adopt responsible practices, thus shaping the future of audiovisual content in a socially and environmentally positive manner. The 2024 edition of *Nausicä*, led by Amalia Fougère and Tara Chaït, will focus on studying these new challenges: the editorial responsibility of audiovisual content, and more broadly, new narratives.

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<sup>165</sup> [Imagine 2050](#)

<sup>166</sup> [L'écran d'Après](#)

<sup>167</sup> [Nausicä interview of Frédérique Sussfeld - PACA article](#)



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