

# Assess and understand the impact of COVID-19

on the carbon footprint of physical production, and on production costs or budget.

Lead Author: Benoît Ruiz.

Contributing Authors: Laurence Johnson, Zuzana Bielikova, Tim Wagendorp.

Additional Contributors: Daniela Kirchner, Stéphane Morali.

Many thanks to the sustainability professionals and producers that answered our questions.



## Executive Summary- Assess and understand the impact of COVID-19

*“ General sustainability came second to COVID protocol”- Supervising Location Manager.*

- A global summit to chart an end to the Covid-19 crisis and plan for future upheavals occurred on May 12, 2022<sup>42</sup>. This ends a 2-year crisis which had profound health, economic, social, and environmental consequences.
- The most affected sectors were personal contact-intensive services such as retail, hospitality, transport, arts and entertainment, and some other service activities (personal services, household activities, etc.).
- COVID has disrupted the CCIs in terms of both GDP and employment. In 2020, the estimated US \$750bn decline in global CCIs' GVA corresponds to upwards of 10 million job losses in the CCIs across the world.
- There are structural factors that explain why the CCIs have been amongst the most affected, notably the precariousness of employment.
- Large-scale film and TV production resumed as early as July 2020, with the AV industry being less severely impacted during the pandemic than others like performing and visual arts
- Depending on the ebb and flow of the pandemic waves we can distinguish three phases:
  - Phase 1 March 2020–Autumn 2020-Initial impact,
  - Phase 2 Autumn 2020–Spring/Summer 2021-Normalised impacts,
  - Phase 3 Summer–March 2022-Long-Term Impacts.
- The most important impacts took place during the first phase, notably the difficulty of restarting the activity in June 2020 after the first lockdown: setting up the sanitary protocol, obtaining insurance, relocation, etc.
- The difficulties were even greater for co-productions, which had to juggle with several protocols, sync with lockdown dates by country and transport restrictions...
- Within the AV industry, there has been a very strong mobilisation of Governments and film agencies to support production (recovery/guarantee funds), which made it possible to preserve a good part of the activity but at the price of a productions slowdown, a working conditions deterioration, additional costs, and the exit of a share of the workforce.
- However, in some countries e.g., Slovakia and, Poland, productions have not received recovery/guaranteed financial support.
- In terms of sustainability, whilst the overall footprint of the sector has decreased, mainly due to travel restrictions (air flights), the COVID crisis temporarily disrupted some sustainable practices amongst productions for safety reasons. However, as the pandemic fades away, the sustainable practices prior to COVID have or will return amongst productions. Nevertheless, these practices are insufficient to ensure the decarbonisation of productions as the most

common one is “promotion of personal water flasks”. There is no or little financial margin to avoiding fossil fuel use for transport or electricity production with generators. There is also a real issue of filming locations electrification, as grid connection is the last deployed sustainable practice (before or after COVID), due to lack of infrastructure (please table 15).

- There is a contradiction between the ambitious regulatory climate objectives and the Net-Zero commitments of broadcasters/SVODs on the one hand, and the weak means allocated to sustainability on the other.
- Sustainability professionals are quite frustrated as COVID budget has been allocated very quickly, whereas the sustainability department budget remained weak for years.
- One solution may be to transfer all or part of the COVID funds to the sustainability department, as one Sustainability Consultant pointed out: " I want to create skills transfer and transfer of funds from COVID department".
- In the matter of public funding, film agencies (fund and commissions) are well positioned to administer these incentives, which can be added to existing schemes, within the eligible expenses (film fund) or cash rebate (film commission) e.g., to fund a green runner on set.
- Besides direct support to productions to improve sustainability uptake, a public investment effort must be launched, for the adapted electrification (electrical cabinet delivering sufficient power) of filming locations, as Film London has done in the framework of the Green Screen project: the Grid Project.  
Indeed, film and TV productions will be able to power their shoots with green energy straight from the electrical grid. Launched by Film London, this pilot project will provide grid access at key locations throughout the city. The Grid Project cabinets will eventually be installed at Victoria Park / Tower Hamlets, North Horse Ride / Westminster and Battersea Park / Wandsworth. Where productions can plug into the grid via an electrical cabinet instead of using diesel generators.

*“A move to green electricity has the potential of not only significantly cutting CO2 emissions and noise pollution created by diesel generators on location, but it can also reduce fuel costs for film and TV productions at frequently used sites in the capital”- Adrian Wootton, Chief Executive of Film London and the British Film Commission.*

- At private funding level, broadcasters/SVODs can earmark part of the COVID funds, to help productions meet their climate targets.
- In this way, the support effort will be shared between the public and private sectors, without jeopardising the fragile economy of the productions.
- Furthermore, as a matter of European solidarity, it would be wise to provide special support to countries with lower capacity, i.e., those that did not receive support during the COVID episode and/or for the implementation of sustainability.
- This dilemma of vital climate targets being imposed without funding provision will affect many economic sectors’ adaptation. This lack of planning will severely limit the possibilities of achieving the GHG reduction targets and ultimately climate neutrality.

- According to the International Energy Agency (IEA) “emissions have fallen by 5.8% in 2020, or almost 2 Gt CO<sub>2</sub>, the largest ever decline; in 2021 CO<sub>2</sub> emissions rebounded and grew by 4.8% as demand for coal, oil and gas bounced back with the economy.
- The Covid crisis demonstrated that significant resources could be mobilised, and that policy mix should and can be more supportive to help decarbonization of AV industry, as well as other sectors otherwise “Business As Usual” (BAU) will prevail.
- Policy mix should consider this bottleneck to support the decarbonization of the AV industry and other sectors.

*“From small to large scale films, everything must be changed, quickly as possible -Funding should be totally connected to sustainability” -Production Sustainability Adviser.*

---

<b>Executive Summary- Assess and understand the impact of COVID-19</b>	<b>2</b>
<b>Foreword-Purpose and boundaries of this study.</b>	<b>6</b>
<b>Introduction</b>	<b>6</b>
Global and regional impact	7
Sectoral impact in the EU-The cultural and creative sectors and industries (CCIs)	8
COVID-19 impact on AV industry sustainability	9
<b>1.Methodology</b>	<b>9</b>
1.1 Literature review methodology	9
1.2 Semi-open interviews methodology	12
1.3 Questionnaire for the producer’s methodology	13
<b>2. Literature review and interviews analysis</b>	<b>16</b>
<b>2.1 Literature review analysis</b>	<b>16</b>
2.1.1 CCIs specificities and sub-sectors	16
2.1.2 Timeline and typical sequence of the crisis	17
2.1.3 Governments support and guidelines (health protocols)	18
2.1.3.1 Support for production during COVID	20
2.1.3.2 Health and safety measures for AV industry productions	21
2.1.4 Economic impact on AV industry productions	22
2.1.5 Technological impact on AV industry productions	24
2.1.6 Environmental impact on AV industry productions	24
2.1.6.1 Decreased carbon footprint	24
2.1.6.2 Increased environmental impact in some areas for sustainably production (prior to COVID)	25
<b>2.2 Interviews with sustainability professionals on set</b>	<b>25</b>
2.2.1 What impact did you notice on the shoot due to COVID? Overview	26
2.2.1.1 Impact on work conditions/mental health	26
2.2.1.2 The slowdown of production	26
2.2.1.3 Rise of unsustainable processes	27

2.2.1.4 Production cost increases	28
2.2.1.5 The change of role: from green to COVID	28
2.2.2 Did you abandon Green Practices? And which ones?	28
2.2.3 Have you seen a change in sustainability budget since COVID? If so, how much?	29
2.2.4 Can you give insight into how you shot sustainably during covid?	30
2.2.5 Will sustainable practices resume or not after COVID?	30
2.2.6 What is your long-term vision of sustainability in Film?	32
<b>3. Questionnaire for the producers</b>	<b>33</b>
3.1 Producer (identification)	33
3.2 Impact on your production(s)	37
3.3 Policy (COVID protocol and recovery plan)	48
3.4 Producer – Sustainable practices	54
3.5 Producer-Sustainability Policy	66
3.6 Confirmation or denial of our hypotheses	71
<b>Conclusion-COVID crisis a chance for sustainability uptake?</b>	<b>74</b>
<b>References</b>	<b>76</b>

## Figures

Figure 1. Gross value added (GVA) EU27, 2020-source: NACE Rev.2 <sup>9</sup> , Eurostat data base quarterly national accounts.	8
Figure 2. CCIS domains and sub-sectors	17
Figure 3. “Close and restart cycle” for CCI during the pandemic- source: revamped from UNESCO	18
Figure 4. Main type of national support measure in 41 European countries-source: European Audiovisual Observatory <sup>19</sup>	19
Figure 5. Impact of COVID on creative industry production cost-Genero Survey.	23
Figure 6. Producer activity during the 3 phases of COVID	34
Figure 7. Productions sample (88) and their genre	35
Figure 8. Continuity of productions	35
Figure 9. Breakdown of production budget	36
Figure 10. Countries where the productions were shots	37
Figure 11. Producers' perception of the impact of COVID on their productions	38
Figure 12. Most impacted production step	39
Figure 13. Times of productions stops	41
Figure 14. Overview of relevant negative impact for producers	46
Figure 15. Extra-cost in budget percentage for your production(s)	47
Figure 16. Health protocols followed by the producers	48
Figure 17. Difficulty to apply the health measures for productions	49
Figure 18. Producers that benefited from a recovery/insurance fund	50
Figure 19. Genres of productions supported	50
Figure 20. Support(s) granted by country	51
Figure 21. Difficulty to obtain recovery/ insurance fund(s)	51
Figure 22. Percentage of extra-costs covered by the support funds/guarantees	52
Figure 23. Do you wish to keep the recovery/ insurance fund in the coming years?	53
Figure 24. Uptake of sustainable practices among productions, prior to COVID	54
Figure 25. Prior to COVID, sustainable practices integrated among productions	55
Figure 26. Sustainability budget prior to COVID	56
Figure 27. Since and during COVID, sustainable practices integrated among productions	57
Figure 28. Prior and since COVID, Sustainability budget comparison	64

Figure 29. Resuming sustainable practices abandoned during COVID	64
Figure 30. Transfer of COVID budget to sustainability department	65
Figure 31. Percentage of COVID budget, producers are willing transferring to sustainability department	66
Figure 32. Incitatives factors for producers to make them increase sustainability budget	67
Figure 33. Redirection of COVID budgets into a dedicated sustainability fund to incentivize sustainability uptake	68
Figure 34. Priority areas for sustainability support	69
Figure 35. Incentives forms to increase sustainability uptake	70

## Tables

Table 1. Scorecard of preeminent sources for the literature review module	11
Table 2. Assumptions of producer questionnaire	13
Table 3. Examples of support to production measures from national film agencies	20
Table 4. Health and safety protocols main measures	21
Table 5. Which production step was the most impacted by COVID? Comments by Area/Country/Genre	39
Table 6. Negative Impact-Relevance of shooting stopped	42
Table 7. Negative Impact-Loss of Talent	42
Table 8. Negative Impact-Insurance issue	43
Table 9. Negative Impact-Workforce shortage	43
Table 10. Negative Impact-Production delayed	44
Table 11. Negative Impact-Relocation	44
Table 12. Negative Impact-Remote working	44
Table 13. Negative Impact-Supply Shortage	45
Table 14. Negative Impact-Extra cost	45
Table 15. Comparison of sustainability practices integrated among productions prior and since COVID	58
Table 16. Secondary hypotheses confirmation or denial	71

## Foreword-Purpose and boundaries of this study.

This study aims to assess and understand the impact of Covid 19 on Film and AV sectors (AV industry) and its productions, including, the impact on:

- the carbon footprint of physical production,
- production costs or budget.

To tackle common challenges within sustainability of the AV industry and deliver sharing solutions for better policy at European regional level, which is the purpose of the [Interreg programme](#).

This study has been conducted between February and May 2022.

Three assessment layers have been established: literacy review, interviews with sustainability professionals on set and a Producer's survey.

This research have been launched by the [Slovak Film Commission](#) under the umbrella of [the Green Screen Interreg project](#).

## Introduction

Prior to the occurrence of COVID-19 in 2020, the last comparable pandemic was the Spanish influenza<sup>1</sup> (1918-1921). Both the COVID-19 and 1918 influenza pandemic similarly caused significant negative impacts on the global economy.

A difference comes from the understanding of pandemics' environmental impact, as the level of CO<sub>2</sub> in the atmosphere has only begun to be quantified at Mauna Loa Observatory (Hawaii) since 1974<sup>2</sup> by the National Oceanic and Atmospheric Administration (NOAA-USA).

The Spanish influenza death toll was higher (≈50 millions) than the COVID one (6 238 832 cumulative deaths by 2 May 2022)<sup>3</sup>. The COVID-19 crisis generated economic and environmental consequences at global, regional, and sectoral level. The sustainability impact on the cultural and creative sectors and industries (CCIs) and its sub-sectors is still unclear.

### Global and regional impact

On the global economic side, COVID marked the sharpest economic contraction since the Great Depression in the 1930's. Almost 90 percent of the global economy has been under some form of lockdown, disrupting supply chains and putting millions out of work<sup>4</sup>. As a result, COVID-19 exacerbated poverty and inequality.

The economic impact of the COVID-19 crisis is highly heterogeneous. It differs across regions<sup>5</sup> depending on the regional economic specialisation in sectors directly or indirectly exposed to the crisis and participation in global value chains have amplified the impact of the crisis, especially in regions with a high share of SMEs (OECD, 2021). Regions are also affected differently depending on "telework-ability", which is compounded by digital divides, Barrero et al. (2021) have estimated that 20% of working hours will shift permanently online.

Many countries have provided massive fiscal support to protect firms, households, and vulnerable populations much more than what was provided during the 2008 global financial crisis. The EU, directed new financing and reallocated public funding to crisis priorities, supporting health care, SMEs, vulnerable populations, and regions particularly hit by the crisis.

Following these emergency measures, many governments also announced large recovery packages focusing on public investment, such as "the Recovery Plan for Europe", the largest EU stimulus package ever<sup>6</sup>. These recovery packages target priority areas, which mainly include the "twin transition" to a carbon neutral economy and digitalisation.

The COVID-19 crisis has accelerated awareness of the urgent need to shift to a carbon neutral economy, however, there are significant gaps between intentions and the concrete policy measures that are adopted.

At the national level, an analysis<sup>5</sup> of OECD and OECD key partner countries' recovery packages, found that the USD 340 billion in green recovery measures announced so far represents about 17% of recovery spending or 2% of total COVID-19-related spending in OECD countries.

For the transition to a low-carbon economy, the resources allocated do not match the ambition.

1. [COVID-19: a comparison to the 1918 influenza and how we can defeat it](#)-Liang & al, 2020.

2. [NOAA: Carbon Dioxide Peaks Near 420 ppm at Mauna Loa Observatory](#)-Cooperative Institute for Research in Environmental Sciences (CIRES), 2021.

3. [WHO Coronavirus \(COVID-19\) Dashboard](#)-World Health Organisation, 2022.

4. [COVID-19 to slash global economic output by \\$8.5 trillion over next two years](#)-UN department of Economic and Social affairs, 2020.

5. [The territorial impact of COVID-19: Managing the crisis and recovery across levels of government](#)-OECD, 2021.

6. [Recovery plan for Europe](#)-European Commission, 2020-2022.

According to the International Energy Agency (IEA)<sup>7</sup> “emissions have fallen by 5.8% in 2020, or almost 2 Gt CO<sub>2</sub>, the largest ever decline; in 2021 CO<sub>2</sub> emissions rebounded and grew by 4.8% as demand for coal, oil and gas bounce back with the economy. The increase of over 1 500 Mt CO<sub>2</sub> is the largest single increase since the carbon-intensive economic recovery from the global financial crisis more than a decade ago, it leaves global emissions in 2021 around 400 Mt CO<sub>2</sub>, or 1.2%, below the 2019 peak”.

Although the COVID crisis has triggered a broad reflection on how to improve resilience and how to be better prepared for future shortage and climate-related shock, so far, the COVID crisis has been a missed opportunity, as it has not translated into significant decarbonisation progress.

### Sectoral impact in the EU-The cultural and creative sectors and industries (CCIs)

As stressed by the European Commission<sup>8</sup>: the outbreak of the pandemic has had a huge impact on a vast majority of sectors, particularly services. The most affected sectors were personal contact-intensive services such as retail, hospitality, transport, arts and entertainment, and some other service activities (personal services, household activities, etc.).

The pattern of the sectoral reaction to aggregate changes has been very different from past recessions<sup>8</sup>. In past recessions, some of the hardest hit sectors mentioned above e.g., arts and entertainment, turned out to be relatively insensitive to the economic cycle. That is, changes in GDP induced smaller changes in value added in these sectors. For instance, the 12% contraction of total activity in the second quarter of 2020 would have induced a mere 5% contraction during the financial crisis in arts, entertainment and recreation, and other service activities (R-U- NACE Rev.2<sup>9</sup>). Instead, the sector contracted in aggregated Gross value added (GVA) by 17,5 %, i.e., up to three times deeper than the equivalent during the 2009 financial crisis.

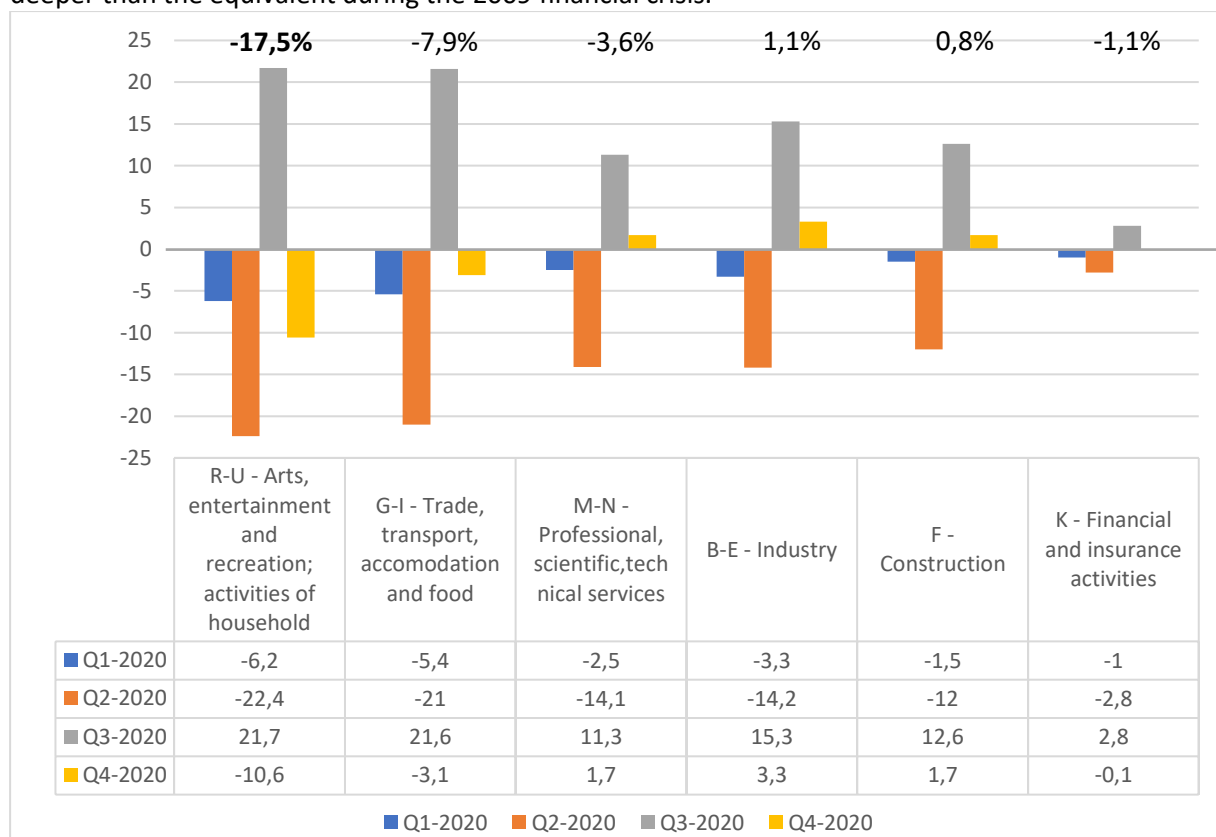


Figure 1. Gross value added (GVA) EU27, 2020-source: NACE Rev.2<sup>9</sup>, Eurostat data base quarterly national accounts.

7. [Global Energy Review CO<sub>2</sub> emissions-IEA, 2021.](#)

8. [The Sectoral Impact of the COVID-19 Crisis. An Unprecedented and Atypical Crisis-European Commission, 2021. P.5,10,12](#)

9. [NACE Rev.2 Statistical classification of economic activities in the European Community](#)-Eurostat, European Commission, 2008.

We notice a generalized rebound at q-3 for all activities proportional to the decline experienced at q-2 (first lockdown); however no other sector of activity than CCI has experienced such a yearly sharp contraction.

The evolution of the economic contraction varied even at the level of subsectors i.e., museum, heritage and movie theatres were more impacted than AV industry, which itself is more impacted than video games.

The Commission has taken several measures, complementing, and supporting Member States' action, to address the consequences of the pandemic for the sector. The CCIs have benefitted from cross-cutting immediate EU response measures and targeted support from EU funding instruments. They also receive support for inclusive and sustainable recovery and resilience under the new (2021-2027) Multiannual Financial Framework<sup>6&10</sup> and Next Generation EU<sup>11</sup>.

While the economic impact data on CCIs is comprehensive, there are data gaps on sustainability impacts. In addition, there is little environmental impact data for the sub-sector of CCIs that interest us in this study: Film and AV sectors (AV industry).

### COVID-19 impact on AV industry sustainability

We estimate that COVID-19 impacted the sustainability of the AV industry especially its productions.

Our core hypothesis is the following: **“despite a policy support (recovery & guarantee funds), COVID-19 constraints (health protocol) and consequences (economic & operational) has diverted productions from sustainability (resources allocated & practices)”**.

To confirm or refute this central hypothesis and its extensions we have deployed an evaluation methodology that articulates a literature review, semi-structured interviews with sustainability professionals on set and finally a consultation with European producers.

The analysis of these three evaluation modules enables us to gather macro and, above all, micro lessons that are as close as possible to the operational challenges of implementing the green transition in production.

As a practical guidance, this study expected outcome is to identify ways to improve European regional policy in the uptake of the green transition within the AV industry and particularly among its productions.

## 1. Methodology

In this chapter, we justify why we choose this three-layer assessment methodology: literature review, interviews and questionnaire and describe their scope, interaction, and limits.

During the preparatory work for the design of the study, it became clear that a single vector of analysis is sufficient to avoid a disconnected top-down approach, embrace the complexity of the subject and, above all, to get the professionals' point of view.

Thus, this study can contribute to forging a useful and relevant policy for the extension of the green transition, in this (hopefully) post-COVID-19 era.

10. [Coronavirus response](#)-How the EU responds to the coronavirus outbreak in support of the cultural and creative sectors- European Commission, 2021.

11. [Next generationEU](#)-European Commission, 2021.

### 1.1 Literature review methodology

The objective of the literature review is to gather contextual quantitative et qualitative data to base this study on the most accurate available references.

The literature on the impact of COVID-19 on the CCIs is significant as, it covers a wider range of themes than sole economic impact:

- policy responses to the crisis,
- the impact of the pandemic on arts and culture audiences,
- the impact on the well-being of artists and cultural professionals,
- CCIS restart recommendation...

To retain the most relevant literature review, the chosen approach was to deploy 4 sequential filters, i.e., search strategy, scope definition, selection process and accurate evidence. This methodology is inspired from a UNESCO report<sup>12</sup>.

- Search strategy

In most full systematic literature reviews, the main starting point would be to search relevant academic databases, this assumes that academic literature will provide the main sources for the study. The number and content of academic studies is insufficient, especially for the AV industry and the environmental aspect.

Therefore, this study had to heavily rely on ‘grey’ literature. This consists of studies researched and published by a range of different actors i.e., governments, multilateral organisations, trade bodies and associations, foundations, consultancy companies and AV industry professionals.

- Scope definition

We established key parameters to define what is and what is not in the scope, the parameters were:

- Languages: English and French,
- Time period: evidence published between March 2020 and March 2022,
- Areas: economic and social (employment) and/or environment,
- Sectors: CCIS and its sub-sector.

The application of these parameters allowed us to drastically narrow the number of usable sources knowing that in March 2022 typing “the impact of the COVID-19 pandemic on the cultural and creative sector” into Google returned 48,800,000 results and “the environmental impact of the COVID-19 pandemic on the cultural and creative sector” returned - About 42,100,000 results.

This search strategy, in particular the focus on ‘CCIS and environmental impact’, returned 83 studies for initial review.

- Selection process

At this stage, to push forward the selection, we applied to the studies key inclusion and exclusion criteria :

- Be empirical rather than theoretical,
- Address the CCI sub sector of Motion pictures and AV industry,
- Contain specific quantitative data about the impact of COVID-19 on aggregate levels of output and / employment / environment / social,
- Focus on world, and Green Screen project countries.

---

12. [Disruption and Resilience: UNESCO reports reveal new data on impact of COVID-19 on culture](#)-UNESCO, 2021.

46 studies from the search process met these criteria.

- Accurate evidence

A dedicated quality scorecard was designed to assess the collated evidence:

- **Transparency of the methodology:** studies needed to be clear as to how any economic and environmental impacts figures or estimates had been generated,
- **Robustness of sample size** (where relevant, e.g., for survey),
- **Legitimacy of secondary sources** (where relevant) e.g., studies produced by national statistical agencies or well established national / international trade bodies scored higher,
- **Sub-Sectoral coverage:** studies covering the sub-sector of AV industry scored higher.

Of the 46 pre-selected studies 21 adequately met these criteria and were therefore reviewed in full, please see table below, the selected sources are ranked in descending order according to their scorecard.

*Table 1. Scorecard of preeminent sources for the literature review module*

Sources	Authors	Date
1. <a href="#">2020-21 Annual Review- Albert</a>	British Academy of Film and Television Arts (BAFTA)-Albert	2021
2. <a href="#">The Sectoral Impact of the COVID-19 Crisis. An Unprecedented and Atypical Crisis</a>	Erik Canton ; Jorge Durán ; Wouter Simons ; Anneleen Vandeplas ; Federica Colasanti ; Maria Garrone ; Alexandr Hobza-European Commission	08 December 2021
3. <a href="#">Culture shock: COVID-19 and the cultural and creative sectors</a>	Organisation for Economic Co-operation and Development (OECD)	September 2020
4. <a href="#">Covid-19 and the global cultural and creative sector, what have we learned so far</a>	Anthony Sargent CBE - Centre for Cultural Value	August 2021
5. <a href="#">Culture in Crisis Impacts of Covid-19 on the UK cultural sector and where we go from here</a>	UKRI, University of Leeds	2022
6. <a href="#">Culture in crisis: policy guide for a resilient creative sector</a>	UNESCO	2020
7. <a href="#">EU guidelines for the safe resumption of activities in the cultural and creative sectors - COVID-19</a>	European Commission	29 June 2021
8. <a href="#">Cultural and creative industries in the face of COVID-19: an economic impact outlook</a>	Naylor, Richard, Todd, Jonathan, Moretto, Marta, Traverso, Rossella-UNESCO	June 2021

9. <a href="#">ANALYSIS: COVID-19's Impacts on Arts and Culture</a>	Argonne National Laboratory (US)	2021
10. <a href="#">The impact of COVID-19 on the global creative industry</a>	Genero	2021
11. <a href="#">The European audiovisual industry in the time of COVID-19</a>	Francisco Javier Cabrera Blázquez, Maja Cappello, Léa Chochon, Gilles Fontaine, Julio Talavera Milla, Sophie Valais- European Audiovisual Observatory	2020
12. <a href="#">COVID final tracker</a>	European Audiovisual Observatory	Since March 2020
13. <a href="#">Analyse de l'impact de la crise du COVID-19 sur les secteurs culturels-</a> a. Audiovisuel et Cinéma	French ministry of Culture	May 2020
14. <a href="#">Coronavirus and the Creative Europe programme</a>	European Commission	2022
15. <a href="#">Sustainability Return-to-Work Recommendations</a>	Sustainable Production Alliance	2021
16. <a href="#">Safety production guidelines</a>	European Film Agencies (EFAD)	September 2020
17. <a href="#">Arts in the post-Pandemic normal - 5 Trends to Watch</a>	National arts council (Singapore)	2021
18. <a href="#">COVID-19, culture and cultural rights</a>	United Nations (UN)- Human Rights Council	17 February 2021
19. <a href="#">Can Germany's Cultural Bailout Set the Groundwork for a 21st Century New Deal?</a>	Germany's minister of culture, Monika Grütters-Frieze	21 April 2020
20. <a href="#">How the screen sectors can help to reboot international economies</a>	Screen Daily	June 2020

Regarding the impact of COVID-19 on the sustainability of the AV industry and its productions, the main limitation of the selected final sources is the small amount of quantitative & qualitative data available.

For this reason, we chose to conduct semi-open interviews with sustainability professionals on set.

## 1.2 Semi-open interviews methodology

The objective was to collect qualitative data on the effect of COVID-19 on production sustainability practices as well as to collect their vision on the future of production sustainability in a post-COVID context.

These interviews involved green managers, green consultants, and carbon supervisors. They were asked questions for about twenty minutes with a minimum of prompting to avoid influencing their answers, to remain objective.

The questions that were asked:

- Identification questions: name, country, role, company/institution,
- Working during COVID/ when?
- What impact did you notice on the shoot due to COVID? Overview
- Abandon of Green Practices? (Yes or no)
- Which practices were abandoned and why?
- Have you seen a change in sustainability budget since COVID? If so, how much?
- Can you give insight into how you shot sustainably during covid? Additional Detail?
- Will sustainable practices Resume or not after COVID?
- What is your long-term vision of sustainability in Film?

Apart from the UK, it was difficult to find sustainability professionals on set willing to respond.

The limitation of this exercise is the absence of quantitative data on sustainability but also an overall view of the global impact of COVID on production, a global understanding that only the producers have. Therefore, we decided to set up an online consultation for producers.

### 1.3 Questionnaire for the producer's methodology

The objective is to question the producers directly because they are the ones who play the central role in the productions both in terms of organisation and budgets; they are the ones who will determine, for example, whether the production will integrate eco-production practices and the sustainability budget that is allocated.

In the context of the COVID crisis, it was the producers who organised the implementation of sanitary protocols, negotiated with insurance companies, broadcasters, etc. In short, they managed the overall adaptation of their productions.

This questionnaire enabled us to collect quantitative and qualitative data from producers in countries all over Europe and to obtain producers' views on the policies to be implemented in the post-COVID context.

The starting point of this investigation was the formulation (while trying to remain as neutral as possible) of a problematic which is our primary hypothesis, then we segmented it into secondary hypotheses, please see the table below.

*Table 2. Assumptions of producer questionnaire*

Problem (primary hypothesis)	Secondary hypotheses
"Despite policy support mechanisms (recovery & guarantee funds), COVID-19 constraints	1. Producers are the key role to interview for findings.
	2. The impacts on production(s) were/are economic, sanitary, and environmental.

<p>(health protocol) and consequences (economic &amp; operational) have diverted productions from sustainability (resources allocated &amp; practices)".</p>	
	3. Each field impact e.g., environmental is sub divided e.g., GHG emissions, Circular economy etc.
	4. The impacts of COVID on the productions were differentiated according to 3 phases: -Phase 1 March 2020–Autumn 2020 Initial impact, -Phase 2 Autumn 2020–Spring/Summer 2021 Normalised impacts, -Phase 3 Summer–March 2022 Long-Term Impacts.
	5. The relevant productions to be studied are those that took place during the 3 phases.
	6. The impact magnitude was/is different depending on the country.
	7. The impact magnitude was/is different for coproduction.
	8. Production genres were/are unevenly impacted.
	9. Production steps were/are unevenly impacted.
	10. Production(s) has been slowed down by several months or even cancelled in some critical cases.
	11. Production(s) has been stopped multiple times.
	12. There is a gap between the perceived impact and the operational reality.
	13. The damaging effects were/are numerous and multi-dimensional.
	14. The magnitude of the damaging effects varies depending on production(s) country, genres, and budget.
	15. COVID has generated additional costs
	16. Production(s) uses/used health protocol guidance from various sources.
	17. The difficulty to implement health protocol measures varies depending on production(s) country, genres, and budget.
	18. Some productions benefited/benefit from recovery/insurance funds.
	19. The effectiveness of recovery/insurance funds is questionable depending on production(s) country, genres, and budget.
	20. The recovery/insurance funds can be improved to better serve the needs of production(s).
	21. For the production(s) that did/do not have sustainable practices, COVID was/is not a trigger.
	22. For the production(s) that did/do not have sustainable practices, even if health risk becomes lower, they won't adopt sustainability practices.
	23. For production(s) that did have sustainable practices was/is a disincentive.

	24. For production(s) that did have sustainable practices the lowering health risk will make them resume their sustainability practices.
	25. The abandonment of sustainable practices was an adjustment parameter on the budget and operational sides.
	26. Not all practices were/are abandoned, for those that remained they could be/are applied totally or partially.
	27. There is a difference in the abandonment/retention of sustainable practices depending on production(s) country, genres, budget, and production method (stage/location based or both).
	28. There is a difference in the abandonment/retention of sustainable practices on set/office depending on production(s) country, genres, and budget.
	29. In the future, if BAU there won't be progress in sustainability uptake.
	30. Tighter climate regulation, compliance with Net-Zero pledges from broadcasters/SVODs, cost-efficiency and dedicated policy can drive the uptake of sustainable practices.
	31. A sustainability fund and/or a redirection of COVID funds can be a solution to spark/extend the uptake of sustainability practices.
	32. For this sustainability fund, the producer's assessment of the resources needed, and favoured fields of sustainability focus may vary from country to country.

**It is the literature review that allowed us to be more relevant in the formulation of hypotheses.**

Confirmation or refutation of these hypotheses was subordinated to the good calibration of the survey (lexicon, length, and confidentiality) and its questions.

We go through the General Data Protection Regulation (GDPR)<sup>13</sup> checklist to verify the questionnaire compliance<sup>14</sup>.

The gathered data was solely used for the study with a research purpose, when requested the respondents received a copy of their response and they could ask for the erasure of their answers, noting that none of the respondents requested it. Moreover, the risks were mitigated thanks to the anonymisation of the respondents.

To be highly representative, we targeted a threshold of 100 producers' responses.

We disseminated the questionnaire on the professional social network LinkedIn and direct messages to producers, through several senders: eco-production association and green Screen project partners in their respective countries: Slovakia, UK, Belgium, Spain, Sweden, Poland, Romania, and France.

The limitation of this questionnaire is that despite our efforts we didn't reach the pre-set threshold of responses, this relative downturn (61 sample size-55 producers-88 productions) minored its representativeness, therefore the survey has mainly a qualitative interest.

13. [Complete guide to GDPR compliance](#)-GDPR.EU, European Commission, 2019.

14. [GDPR checklist for data controllers on culture](#)-GDPR.EU, European Commission, 2019.

## 2. Literature review and interviews analysis

In this chapter, we analyse the data from the literature review and the interviews.

### 2.1 Literature review analysis

In the frame of the literature review, for the AV industry we assess the following impacts/Items:

- Timeline and typical sequence of the crisis,
- Health & safety protocols and Governments support,
- Economic,
- Technological,
- Environmental.

In comparison with the other sub-sectors of the CCIs.

#### 2.1.1 CCIs specificities and sub-sectors

Although no sector of activity has been spared, there are structural factors that explain why the CCIs have been among the most affected. According to the report the centre for cultural value in the UK, this can be partially explained by 5 common specificities<sup>15</sup>:

- “The cultural sector typically relies heavily on physical presence and social interaction for all its production and consumption, so was particularly impacted by the continued lockdowns, physical distancing edicts and travel restrictions”,
- “A larger-than-average share of jobs in the culture and creativity sectors are precarious (freelancers), informal, and/or part-time jobs” and a high share of companies are SMEs. In addition, depending on the European country, there is a lack of protective status for culture professionals, e.g., in UK, that had reduced their access to support mechanisms that have protected people working in other sectors,
- Containment measures induced directly and indirectly deep shifts in demand across sectors. Demand for some goods and services declined (e.g., visits to the cinema or restaurants or trips abroad) while for others it increased (e.g., office equipment, outdoor activities, or home entertainment). On one hand there was a reduced spending on some CCIs products and services (cinema, museums, and heritage), on other hand there was increased spending for streaming and videogames products and services,
- CCIs are mainly located in cities, which were drastically impacted in the most acute phases of the pandemic, this triggered a mechanical effect on the CCIs,
- “In many territories with undeveloped infrastructure, the lack of access to digital technology and online platforms has proved challenging, for both producers and consumers”.

Although these common specificities, CCIs are multifaceted, we can distinguish schematically 6 domains, each including several sub-sectors<sup>16&17</sup>:

- Heritage (cultural and natural),
- Performing arts,

15. [Covid-19 and the global cultural and creative sector, what have we learned so far](#)- Anthony Sargent CBE - Centre for Cultural Value, 2021.

16. [Cultural and creative industries in the face of COVID-19: an economic impact outlook](#)- Naylor, Richard, Todd, Jonathan, Moretto, Marta, Traverso, Rossella-UNESCO, June 2021.

17. [ANALYSIS: COVID-19's Impacts on Arts and Culture](#)-Argonne National Laboratory (US), 2021.

- Visual arts and crafts,
- Books and press,
- Audio-visual and Interactive Media,
- Design and creative services.

The AV industry represents a sub-sector within a domain, “Audio-visual and Interactive Media”, in **green** within the figure below.

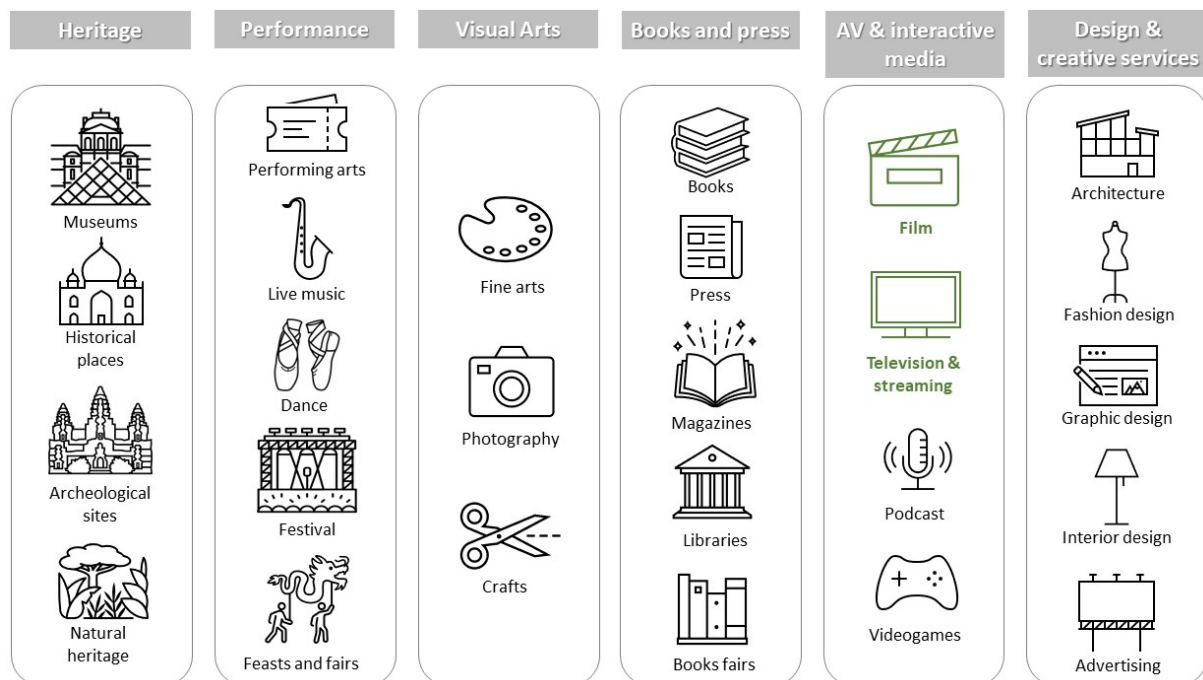


Figure 2. CCIS domains and sub-sectors

The focus of our study is therefore limited to a **fraction** of the CCIS. The different sub-sectors of the CCIs were all impacted by COVID, but with different magnitudes.

Therefore, what was the relative impact for the AV industry compared to all CCIs?

This relative impact also varied according to the successive phases of the pandemic.

### 2.1.2 Timeline and typical sequence of the crisis

The World Health Organisation (WHO) declared COVID-19 a pandemic on 11 March 2020<sup>18</sup>. Following this declaration, most European countries implemented lockdowns.

Since that day we have been living with COVID, depending on the ebb and flow of the pandemic waves we can distinguish three phases:

- Phase 1 March 2020–Autumn 2020-Initial impact,
- Phase 2 Autumn 2020–Spring/Summer 2021-Normalised impacts,
- Phase 3 Summer–March 2022-Long-Term Impacts.

These phases are linked to the health response for each pandemic wave (4 for the time being Spring 2022).

A relevant figure from the UNESCO report: “Disruption and Resilience: UNESCO reports reveal new data on impact of COVID-19 on culture”<sup>12</sup>, depicts an example of a typical sequence of public health response to the COVID pandemic and their impacts on the CCIs, i.e., a “close & restart cycle”.

18. [WHO Director-General's opening remarks at the media briefing on COVID-19](#) -WHO, 11 March 2020.

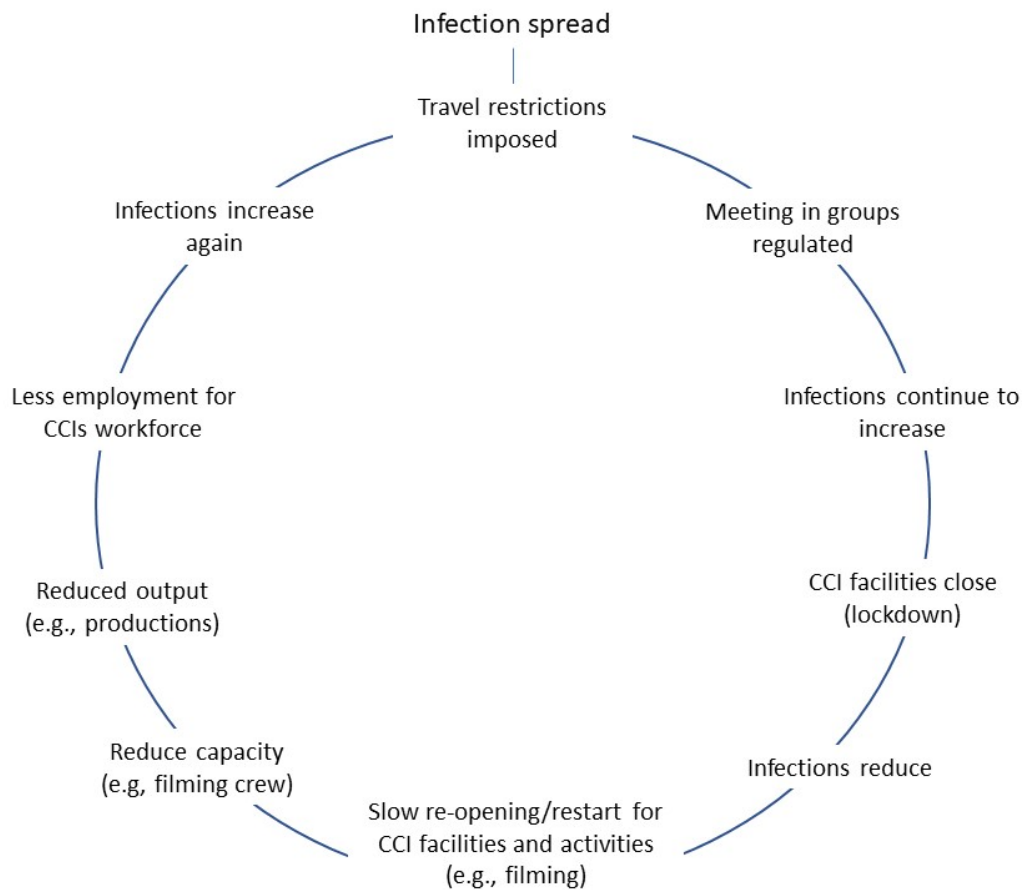


Figure 3. “Close and restart cycle” for CCIs during the pandemic- source: revamped from UNESCO

The intensity of restrictions within this cycle has gradually eased. This cycle helped us to understand the logic of the 3 phases.

Can the impact of COVID on the AV industry be traced back to the three phases? To find out, we inserted this timeline into the questionnaire.

From the first phase, support measures for the AV industry were instituted as well as dedicated guidelines specifically related to health protocols.

### 2.1.3 Governments support and guidelines (health protocols)

Support measures have been taken at European level<sup>10&11</sup> and at national level depending on the type of organisation initiating the measure and the branch of industry concerned.

According to the European Audiovisual Observatory<sup>19</sup>, the measures taken at national level started with the support given to enterprises and workers. However, national measures have also addressed other areas, such as direct public funding and production incentives, support to artists and creators, content and programming, copyright, and related rights...

A large proportion of the measures tracked for the film and audiovisual sector are related to direct public funding and production incentives. The area of support for cultural and creative industries that more directly concerned the film and audiovisual sector related to the support for artists and creators

The following figure shows a breakdown of the main type of measures, based on a sample of 635 measures tracked<sup>20</sup> in 41 European countries between mid-March and mid-May 2020.

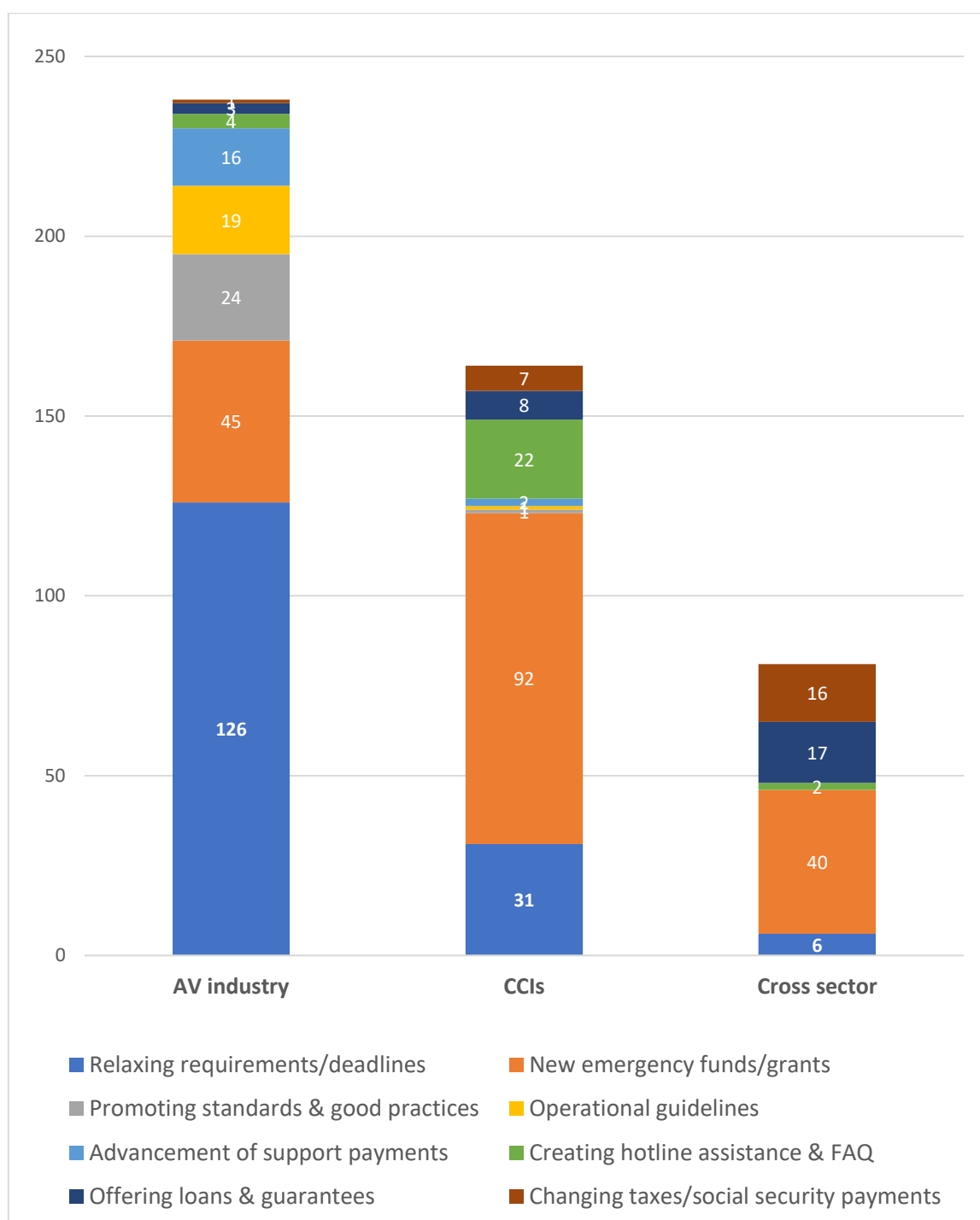


Figure 4. Main type of national support measure in 41 European countries-source: European Audiovisual Observatory<sup>19</sup>

Two types of measures: relaxation of requirements and deadlines, and the creation of new emergency funds were taken particularly frequently in the CCIs, including the film and audiovisual sector, followed, to a lesser scale, by the granting of loans and guarantees e.g., in the UK a Film and TV Production Restart Scheme, a government-backed £500m scheme for UK film and TV to get insurance for COVID-related costs, was instituted<sup>21</sup>.

Another measure widely encountered relates to the promotion of standards and good practices, mainly for the implementation of the health protocols within companies and productions.

19. [The European audiovisual industry in the time of COVID-19](#) p.37-European Audiovisual Observatory, 2020.

20. [COVID final tracker](#)-European Audiovisual Observatory, 2020.

21. [Film & TV Production Restart Scheme](#)-Department for Digital, Culture, Media & Sport, 2020.

We must notice that a whole range of measures have emerged to provide free services, such as the creation of information platforms on available aid, free advice or training, telephone assistance and FAQs, etc. In addition, the industry itself (specifically the broadcasters and SVOD platforms) intervened directly through financial support and/or guarantees fund for productions insurance<sup>22</sup>.

In this study we are primarily interested in the support for production.

### 2.1.3.1 Support for production during COVID

The national film agencies were quick on their feet to mobilise their efforts to support productions mainly by taking measures to relax the conditions attached to the public funding schemes they manage (please see figure 3).

Please find in the table below some of the initiatives taken by the film agencies of the countries belonging to the Green Screen consortium.

Table 3. Examples of support to production measures from national film agencies

Country	Film agency	Support to production
Belgium	Flanders Audiovisual Fund (VAF)	Eased reporting obligations related to grants; provided greater flexibility in changing financing plans; extended contractual deadlines until the end of 2020; adjusted payment schemes; and allowed greater latitude in spending obligations and deliverables <sup>23</sup>
Sweden	Swedish Film Institute (SFI)	Have extended all deadlines related to funding procedures due to the COVID-19 crisis and have made it known that support granted for projects and activities that could not compete or be completed would not have to be reimbursed as far as costs already accumulated are concerned <sup>24</sup>
France	French National Centre of Cinematography (CNC)	Authorised the earlier use of automatic support to producers and gave instructions to the tax administration to accelerate the reimbursement of the 2019 production incentives <sup>25</sup>
UK	British Film Institute (BFI)	Has set up a Film Continuation Fund, with up to GBP 2 million (approximately EUR 2.2 million) to be made available to independent UK productions interrupted by the COVID-19 crisis to help cover unexpected additional production costs and ensure that productions are in the best possible position to resume production when practicable <sup>25</sup> BFI has made GBP 800 000 (approximately EUR 897 948) available for current BFI-funded film productions that were interrupted due to COVID-19 restrictions to ensure that, as contracts were abruptly terminated, those employed were paid two weeks' notice <sup>26</sup>

Knowing the types of production support measures was essential for structuring the producer questionnaire i.e., have these support measures mitigated the impact of COVID on productions? Were the provisions of these measures adapted to the producers' issues?

To find out, we inserted this questioning within the survey.

Film agencies and other institutions have also released in a nutshell summarised guidelines and good practices aimed at helping the future restart of filming. However, in some countries e.g., Slovakia, Poland, productions have not received recovery/guarantee financial support.

22. [Netflix, Acción Cultural Española, la Academia de Cine y el ICAA suman fuerzas para crear una línea urgente de ayuda asistencial a los profesionales del sector audiovisual más afectados por la COVID-19](#)-Ministerio de Cultura y Deporte (Spain), 2020.

23. [Subsidie aanvragen](#)-VAF, 2022.

24. [Svenska Filminstitutet vidtar särskilda åtgärder för svensk filmbransch](#)-SFI, 2020.

25. [COVID 19 - Informations du CNC](#)-CNC, 2021.

26. [BFI sets out support for UK industry impacted by COVID-19 crisis](#)-BFI, 2020.

### 2.1.3.2 Health and safety measures for AV industry productions

These guidelines are a set of recommendations derived from general COVID protocols that have been adapted to the challenges and specificities of the industry, i.e., health protocol on film sets, recommendations and good practices aimed at helping the future restart of filming.

Even if these guidelines are not for the most part binding, their correctness and the proof of their application was made mandatory by insurance companies.

According to the European Audiovisual Observatory<sup>19</sup> p.62, we can summarise these recommendations in the following table.

Table 4. Health and safety protocols main measures

Categories	Description
Ensure a safe and healthy working environment	create a totally healthy environment on set and in the unit base by ensuring that filming locations and all equipment used are frequently disinfected.
Filming locations	filming in a public space is subject to compliance with all applicable official guidelines. Filming in confined spaces (for instance stairs or elevators) in a private/public space should be avoided.
Physical distance measure	this rule (usually 2 metres apart) must be always applied and in all possible contexts, at the peak of the pandemic waves, this measure was also applied to the actors' interactions, requiring a rewriting of the scenarios (no more kissing on screen).
No mass gatherings	rules limiting the number of people from the artistic / technical / production teams who can be present at the same time on the shooting location, all teams combined (artistic, technical and production team). These rules may be expressed as a maximum number of people in each area or expressed as a general minimum space per person (for example: 4m <sup>2</sup> per person).
Encouraging remote activities	all activities related to the production of a film that can be carried out remotely should be carried out remotely (for example online casting), and face-to-face meetings (outside of filming) should be avoided as much as possible.
Health protection equipment (personal protective equipment-PPE)	must be provided by the production team and worn by all persons involved in all contexts where such protection is necessary and possible (some exceptions may apply, for example for performers who can perform without a mask when facing the camera while respecting the rules of physical distance)
Provide information on the measures in place	putting up information boards at the filming location/film studio or appointing a contact person to inform the crews and ensure that sanitary measures are properly applied.

There are industry dedicated protocols in each European country e.g., in:

- Belgium by Screen Brussels <sup>27</sup>,
- Romania by the CNC<sup>28</sup>,
- UK by the British Film Commission<sup>29</sup>...

27. [Good practices for filming - Restart small crews](#)-Screen Brussels, 2020.

28. [Guidelines on Basic Safety Rules for Risk Protection Against Contagion of SARS-COV-2 During Filming](#)-National Cinema Center (Romania), 2020.

29. [Working Safely During COVID-19 in Film and High-end TV Drama Production](#)-British Film Commission (BFC), 2022.

There is however a great variability of precision between the protocols, the most complete being the one created by the BFC (UK).

Production practices changed to comply with Covid-safe measures, they probably slowed production and resulted in additional costs (please see 2.1.4 increase in production cost), but to what extent? Were all production departments affected or only some? Are there differences between countries?

To find out, we inserted this questioning within the survey.

Thanks to the literature review, we discovered data about COVID economic impact, on AV industry.

#### 2.1.4 Economic impact on AV industry productions

The economic impact for the AV industry is articulated between level of disruption, job loss and increase in production cost.

- Level of disruption.

According to a UNESCO report, Cinemas were the worst affected (extreme disruption) due to the importance of in-person audience activities. Somehow, the productions were less affected (some disruption) due to feasibility of remote/home working (especially for animation production and VFX). However, for filming, there was significant disruption to adapt to physical distancing<sup>12</sup>.

Did these statements correspond to the reality experienced on the ground by the producers?

We asked producers about the level of disruption they have experienced.

- Jobs loss

Given the heterogeneity of the AV industry and its employment structure (large proportion of freelancers, self-employed), it is complicated to obtain consolidated quantitative data, specifically for productions.

Thus, the picture for AV industry jobs and revenue loss that can be painted at an individual country level from the studies is not fully comprehensive, however there are some global plus national data for CCIs and regional data for AV industry.

- Global data CCIs

In 2020, the estimated US \$750bn decline in global CCIs' GVA corresponds to upwards of 10 million job losses in the CCIs across the world in 2020. Although this is a conservative estimate, it still represents a massive curtailment in the human capital of the global CCIs<sup>12</sup>.

- National data CCIs

Around three-in-seven of the freelance CCI workers in the UK at the start of 2020 become unemployed during the year and around one-in-fourteen of employed CCI workers lost their jobs over the same period<sup>12</sup>.

There was a difference between the freelancer and the employed CCI workers.

Freelance CCI workers had approximately a 43% probability of unemployment in the UK in 2020, while employed CCI workers had about a 7% risk of enduring the same fate over the same period.

- Regional data AV industry

According to a report from UKRI and the University of Leeds: "Because large-scale film and TV production resumed as early as July 2020, the screen sector has been regarded by some as having

been less severely impacted during the pandemic than others like performing and visual arts - We learned that different degrees of hardship varied depending on freelancers' roles (e.g., on-set or post-production) and type of employment (e.g. sole trader or limited company)", the issue of burnout was also raised<sup>30</sup>.

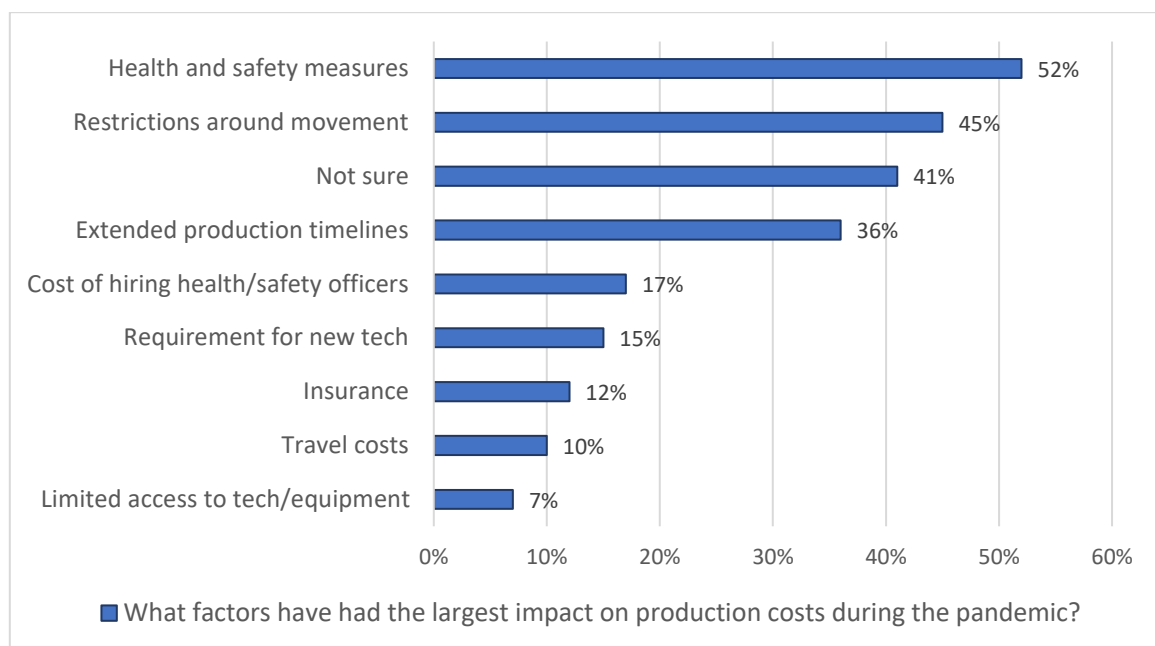
This information is only qualitative, but it gives an overview of the employment situation.

Given the temporary nature of production, we decided to include the question of employment in the questionnaire from an indirect angle: stopping or postponing production.

However, the question of the impact on production costs is more central to the scope of our study.

- Increase in production cost

This inflation on production was due to a multiplicity of extra-costs according to [the impact of COVID-19 on the global creative industry](#) (advertising)-survey with a sample size of 430 (many roles) from 61 countries, please see the graph below<sup>31</sup>.



*Figure 5. Impact of COVID on creative industry production cost-Genero Survey.*

New safety measures, restrictions on movement and extended production timelines are the three factors having the greatest impact on production costs, while increased insurance fees/restricted access, additional tech requirements and the need for hiring health & safety officers are also impacting budgets.

41 % of respondents were not sure of an increase of costs, this is because in addition to producers and other executives who detained financial information, creative and operational staff such as animators and camera operators were interviewed.

A point that was previously underestimated in this Creative Industry' survey compared to the AV industry, is filming insurance cost access/inflation. Indeed, the scale of production is much larger, insurers have become much more cautious about ensuring film shoots because of seeing their solvency threatened in the event of contamination on the shoot for insufficient application of the health protocol.

30. [Culture in Crisis Impacts of Covid-19 on the UK cultural sector and where we go from here](#)-UKKRI & University of Leeds, 2022.

31. [The impact of COVID-19 on the global creative industry](#) (advertising)-Genero, 2020.

This data has the advantage of coming from a consultation of professionals, but compared to our study (Europe, Producers & AV industry), they introduce a bias linked to the difference in scope (World, Multiple roles & Creative Industry).

This survey is nevertheless interesting, and we have used it as a basis for formulating our questionnaire.

One aspect raised by respondents is also related to the technological change brought about by COVID. Is this the case for the AV industry?

### 2.1.5 Technological impact on AV industry productions

As we saw earlier, there has been digital adaptation across the CCIs.

For AV industry, apart from remote working technologies the most significant technological uptake was about virtual production which uses virtual sets equipped with LED walls to recreate any decor. The use of virtual sets requires all types of deployments and geometries depending on the use cases.

Simulations of interior, exterior, city, mountain, desert, distant galaxies, all types of environments are used.

As it was more complicated to shoot outdoors with the pandemic and easier to cope with health and safety measures, the productions took refuge in the studios. But this posed a problem, how to recreate the location sets in the studio, the virtual sets (with the backlot) were the most accessible and feasible solution.

Given the broad spectrum of AV industry genres addressed in this study and the focus on sustainability practices and consequences, we did not include a technology-related question.

### 2.1.6 Environmental impact on AV industry productions

Did the COVID crisis decrease or increase the environmental footprint of productions? According to the literature review, the answer is mixed:

- Decreased at a global scale,
- Increase in some areas for sustainably productions (prior to COVID).

And will these trends continue once the COVID crisis is over?

#### 2.1.6.1 Decreased carbon footprint

The reference about production carbon footprint is Albert, founded in 2011, Albert supports the global Film and TV industry to reduce the environmental impacts of production by carrying out hundreds of production carbon footprints (1,855 in 2020 across all genres) per year<sup>32</sup>.

In its 2021 Annual review, Albert stated<sup>33</sup>:

“In 2020, Albert saw a 52% reduction in the emissions for the average hour of TV down from 9.2t CO<sub>2</sub>e to 4.4 tCO<sub>2</sub>e “.

“Unsurprisingly, 2020’s emissions were substantially lower than 2019 – a huge reduction in travel (domestically and internationally) as well as the accommodation needed for location shoots were key to this.

32. [About Albert](#) (website)-British Academy of Film and Television Arts (BAFTA)-Albert, 2022.

33. [2020-21 Annual Review-Albert](#)-British Academy of Film and Television Arts (BAFTA)-Albert, 2021.

“From 2019 to 2020, aviation emissions reduced by a staggering 48% globally due to restrictions on travel -Most of this reduction was seen in domestic (and international) flight travel”

“As a counter to this, 2020 data shows road transport emissions increased– perhaps a result of the ‘one person one car’ COVID rule”.

Ultimately however, COVID has led to a reduction in the overall carbon footprint of production, particularly due to domestic and international flights abatement.

However, the 2021 Albert review also noted: “there was also an increase in material use - most likely due to Personal Protective Equipment (PPE) which was required for production activities to continue through Lockdowns”

Therefore, there has been an increase of some environmental impacts associated with the application of the health and safety protocols.

#### *2.1.6.2 Increased environmental impact in some areas for sustainable production (prior to COVID)*

For those productions that were already committed to sustainability, the application of COVID safety measures inevitably undermined good practices. There was a relaxation of good eco-responsibility practices in parallel with the relaxation of deadlines and requirements for film agency support funds.

The use of PPE, packed meal trays and plastic bottles became mandatory, it put single use plastics back in the spotlight. Moreover, this has certainly reduced the segregation effectiveness, the recycling rate, and the waste reduction, but in what proportion? Unfortunately, there is no precise field data at the 2022 Q2.

Beyond waste, the impact of personal protective equipment (PPE) on GHG emissions is far from negligible. Indeed, one surgery mask in polyethylene (PP) with End of Life (incineration) emit as much as 25,6 gCO<sub>2</sub>e/unit, i.e., around 100 gCO<sub>2</sub>e/ per person/per day (4 masks).

When back to normal, will this backdrop continue, or will productions and studios, return to good practices in terms of waste management and treatment? To find out, we inserted this questioning within the survey.

This literature review provided numerous insights, whilst being useful to calibrate our survey for the producers, nevertheless areas of uncertainty remain on COVID consequences by country, increase on production cost, efficiency of support policy and changes in sustainability practices.

To assess the extent of sustainable practices changed on set, we interviewed leading sustainability professionals.

## *2.2 Interviews with sustainability professionals on set*

The sustainability professionals (8) we interviewed are from two countries, UK, and France, which are among the most advanced European countries in terms of integrating sustainability into production. Most of the interviews were conducted by Sustainability Manager at Film London.

The profiles we interviewed, cover a wide range of roles involved to sustainability implementation within productions:

- Production Sustainability Adviser,
- Production Sustainability Consultant,
- Sustainability Consultant,
- Green Runner,

- Supervising Location Manager,
- Green runner/COVID compliance officer.

A majority are freelancers (6), a minority own their company (2), we thank them warmly for their participation.

They all worked during the COVID crisis (March 2020-February 2022), during the shutdown/restart cycle.

The productions in which they were involved stopped for the first lockdown (March 2020) but resumed in June 2020 and for most of them, they kept-up their activity after this first reopening, even if the outlines of their missions sometimes changed (especially in France).

Their answers are analysed by question asked.

### 2.2.1 What impact did you notice on the shoot due to COVID? Overview

We perceive a difference between unitary productions (e.g., feature films) and more industrialised production such as continuing drama, on the latter the implementation of health and safety measures was easier.

According to a green runner for a continuing drama: "everyone adapted quite quickly, the technicians, the actors... went to the reception and took their health kit".

In contrast to unitary production, where the process of implementing health and safety measures had to be instituted from scratch, indeed, professionals, particularly in the UK, have reported many difficulties. We can sort the difficulties as followed:

- Impact on work conditions/mental health,
- The slowdown of production
- Rise of unsustainable process
- Production cost increases
- The change of role

#### 2.2.1.1 Impact on work conditions/mental health

To a certain extent, COVID has exacerbated already existing trends in our industry that combine precarious status, high work intensity and long hours.

Production Sustainability Adviser: "**COVID was drilled into everyone**, masks whole time, signage, bubbles, 20 people in covid team, covid cleaners, everyone tested before they came to set, test site in studio, overseas testing hotel quarantines, masks in vehicles".

COVID compliance officer: "**Lower moral and tension on sets** (fear of testing positive)".

Supervising Location Manager: "On location, some members of the publics were not happy about them being there and shooting when a lot locked down".

Sustainability Consultant: "Lack of crew onsite (less travel)".

The application of safety measures for COVID, although unanimously recognised as necessary, has taken its toll on all the people working on sets, often resulting in symptoms of burnout e.g., anxiety, tension, exhaustion...

#### 2.2.1.2 The slowdown of production

Supervising Location Manager: "Preparation was very difficult and delayed due to COVID risks assessments".

Supervising Location Manager: "Testing schedule meant you had to lose time to do that, also difficult just trying to be on location" – "**constant shutting down** and rescheduling of shoots meant using locations which weren't ready".

COVID compliance officer: "Production was slower".

COVID slowed down productions from many ends, i.e., with the restriction on transport, the application of safety measures (risk assessment and daily tests) and the need to constantly reschedule shoots according to test results.

#### *2.2.1.3 Rise of unsustainable processes*

While the travel restriction reduced air flights, which was good to mitigate carbon impact, the covid rule "one person, one car" and the reduced public transport led to an increase of road transport.

Sustainability Consultant: "Everyone used own car"

Sustainability Consultant: "Vehicle travelling at half capacity so needed **a lot more vehicles**".

Supervising Location Manager: "We had loads of individual vehicles instead of minibus".

Green Runner: "For vehicle transport, no more carpooling and everyone was alone in their car".

Production Sustainability Adviser: "Much greater use of personal cars, multiple vehicles for travel.

COVID compliance officer: "Fewer people allowed on minibuses therefore meaning more trips and minibuses, people encouraged to drive instead of train".

Another unsustainable process came from the surge of single-use plastics, notably for PPE and its consequences on waste management.

Sustainability Consultant: "PPE increase in materials, plastic packaging, increase consumables particularly catering (5 or 6 boxes per person for food etc)".

Sustainability Consultant: "**PPE came in** (some waste stream management)" however she stated that there was a "bigger impact from drop in flights than plastic use".

Green Runner: "In terms of consumables, we have fallen back on cups, water bottles. Impact on single-use plastics, including kits (plastic bags, gel, 2 masks, water bottle), each incorporating a few hundred grams of plastic. Volume of PEP over a continuing drama, for 500 peoples = 500 kits per day over all working days (229) = 114,500 kits per year".

There was much more plastic used on set, prior to COVID, however as stated by:

Sustainability Consultant: "**Health came first** there was a bigger impact from drop in flights than plastic use".

Production Sustainability Consultant: "Waste was not reduced but overall carbon emissions were".

As part of the safety measures, the use of single-use plastic was unavoidable," **general sustainability came second to COVID protocol**" (Andy Pitch-Supervising Location Manager).

#### 2.2.1.4 Production cost increases

The implementation of security measures has resulted in extra costs for productions, this fact was stressed by many of the professionals interviewed.

Supervising Location Manager: “Shoot: **much more expensive**, social distancing amongst everyone, more space, more infrastructure, private transport meant more parking.

Production Sustainability Adviser: “20 people in COVID team on set.”

COVID compliance officer: “Larger facilities, larger tents for holding areas, increased heating holding areas, bigger crew (COVID team)”.

Supervising Location Manager: “Extra space for holding people due to distance requirements. Meant one room was now 3 for holding crew and cast, **budget increased a lot**, created a lot of bad feeling on set”.

At their operational level, professionals are unanimous that COVID has largely increased production costs.

#### 2.2.1.5 The change of role: from green to COVID

As general sustainability came second to COVID protocol, some sustainability professionals have temporarily become COVID Compliance Officers.

Production Sustainability Consultant: “As eco-production became secondary, I moved from the role of eco-referent to a position of health consultant/supervisor from June to November 2020. I have however applied a notion of sustainability in the application of sanitary protocols. This evolution was temporary, as from November, my company was no longer solicited, as the application of safety measures was well established on the productions. It was much easier to deploy a COVID protocol than a sustainability protocol”.

Green Runner: “I was working as a green runner in March 2020, after the first COVID lockdown I had to **switch to COVID Compliance** including coordination with the doctors- My new role was to make the kits, pass them on, note the passages”.

This switch from sustainability to compliance demonstrates at least for now, the ancillary nature of sustainability, as it was the first department to be partially cut when COVID occurred.

The impacts of COVID were multiple on the shoots, if the balance of GHG emissions decreased due to travel restrictions, unsustainable but necessary practices had to be implemented.

At the same time, did these COVID impacts lead to an abandonment of all sustainable practices?

#### 2.2.2 Did you abandon Green Practices? And which ones?

Most professionals answer yes (apart one), the number of sustainable practices abandoned during COVID was extensive, with some variability depending on the production company.

Production Sustainability Adviser: “Strict chemical use required by the production company, could not use eco sprays in majority of the sets”.

However, she stated that **some sustainable practices were kept for safety purpose** “they nearly went back to using single use bottles. Big water dispenser bottles were kept as it was decided in the end that single use bottles would create more cross contamination”.

COVID compliance officer: “Doors left open for ventilation meaning more heating”.

Sustainability Consultant: “Reusable lunch boxes and reusable cups stopped being used, less recycling”.

Sustainability Consultant: “Food donations stopped for a while, more waste from catering, offices had to start using disposable in replacement of reusable, water bottles stopped being used for a bit, some companies allow reusable masks others do not”.

Supervising Location Manager: “Went back to disposable water bottles and single use plastics, general single use and throw away. Needed to heat a lot more spaces, more energy. PPE waste was separated and should have been recycled. If one bit of PPE went into normal recycling, then whole bin would go to landfill”.

The abandonment of some sustainable practices was directly linked to the application of safety measures, as the professionals' answers overlap with the previous question.

Has this partial abandonment of sustainable measures reported affected the sustainability budget?

### 2.2.3 Have you seen a change in sustainability budget since COVID? If so, how much?

Surprisingly, most professionals feel that there has been no change in the budget, this seems to be due to the fact that the budget was already low or non-existent (apart from their remuneration).

Supervising Location Manager: “No”

Sustainability Consultant: “Not really. Doesn't seem to have changed. Depends on production manager”.

Production Sustainability Adviser: “Did not really have a budget but did not before either”.

Supervising Location Manager: “Not really. Might be in producer line budget but not for locations specifically. Just part of the work they do”.

For location filming, sustainability is now considered as part of a global service for productions (rental).

In some productions where no sustainability budget was allocated, the COVID crisis prompted reflection on the need for one.

Production Sustainability Adviser: “Did not really have a budget... The conversation is starting to happen now though”.

Supervising Location Manager: “There is a realisation that **acting sustainably also saves money**”.

However, in one case the sustainability budget, became an adjustment variable to mitigate COVID related costs.

Green Runner: “For the purchase of PPE, temperature guns, test kits, the COVID budget absorbed the sustainability budget- while the budget was already very low”.

A professional raised the possibility of transferring part of the COVID budget to the sustainability one.

Sustainability Consultant: “Want to create transfer of funds from COVID department”.

Overall, the impact on the sustainability budget due to COVID is low, the main reason being, the green budget was already light or non-existent (apart from sustainability professionals’ remuneration).

Paradoxically, COVID has laid the groundwork for the emergence of a sustainability budget but also for some sustainability innovations (please see below).

#### 2.2.4 Can you give insight into how you shot sustainably during covid?

Some professionals managed to adapt their practices to the safety measures requirements, to partially preserve sustainability.

Supervising Location Manager: “Kept recycling, rubbish and compost separate. Covid PPE recycled. Everything stayed the same (for waste management).

Production Sustainability Adviser: “Recycling Single use PPE (face masks, shelf, aprons, gloves, testing kits) found a company who make pellets out of them.

COVID compliance officer: “Switched to veg ware from plastic boxes due to covid. Recycling of PPE (supplied Teracycles). Refillable hand sanitizer bottles. Used goggles from sea to sea (recycled plastic). Used sniffer dogs. Bamboo lanyards. 3 ply reusable masks. Recycled paper wristbands...”

Sustainability Consultant: “Recycling of PPE” – “increased access to power from the grid to power marquees, HVO (biodiesel) grew, digital meetings”.

Supervising Location Manager: “PPE recycling. Apart from that no”.

Sustainability Consultant: “**Waste stream for PPE**”.

The most common way to keep a share of sustainability practices for waste management was to put in place a PPE recycling stream, some professionals also addressed mental health on sets.

Supervising Location Manager: “**Bigger increase in appreciation for mental health.** Working with mental health charities coming to set every week. People not wanting to put up with really bad work habits. People not just caring about the money, want decent working hours”.

Sustainability innovations emerged as well as taking a better account of workers well-being.

As a matter of fact, well-being of workers is key to achieving sustainability (and to retain skills within the industry), it’s a growing concern in our industry especially since COVID.

With the progressive lightening of safety measures, or even their abolition, another question concerns the resumption or not in the short/long term of abandoned sustainable practices.

#### 2.2.5 Will sustainable practices resume or not after COVID?

All professionals believe that in the short or long term all abandoned practices will resume.

Sustainability Consultant: “**Yes, they already have**”.

Sustainability Consultant: “Yes. We will be promoting public transport again, shuttle services to studios”.

Production Sustainability Adviser: “Definitely, a lot of engagement”.

Supervising Location Manager: “Haven't done yet but thinks will long term. Still in COVID mode even though everyone is quite relaxed”.

Supervising Location Manager: “Yes and look forward to them. Single use bottles will be gone again”.

Most of them think that the implementation of sustainability will rise in the future.

Production Sustainability Adviser: “People have started connecting the idea that the environment is important”.

COVID compliance officer: “People became aware of nature” – “Majority of people care, doesn't cost that much. Pay more up front but saves money long term”.

Supervising Location Manager: “Residents are becoming more aware about the impact of trucks and generators running in their local area”.

Thanks to the strongly contribution of the COVID crisis.

Sustainability Consultant: “Greater focus on sustainability now due to the impacts of COVID”.

COVID compliance officer: “(thanks to COVID), People saw how we affected nature”.

In addition, some professionals believe that a redefinition of the sustainability implementation means, and stakes is essential.

Sustainability Consultant: “Want to create **skills transfer and transfer of funds from covid department**”.

Production Sustainability Consultant: “From a field point of view (sustainability implementation on set), there is a big acceleration in the questioning of sustainable practices, which has coincided with international policies (e.g., European climate law), and the commitment of SVOD broadcasters/platforms to carbon neutrality – “Urgent need for a **systemic review** of the entire production and decision-making chain”.

Professionals describe a post-COVID situation that is encouraging for the sustainability of productions, all practices had or will resume and go well beyond because of the growing public awareness i.e., during COVID, the decrease in human activity (transport) having caused an improvement in air quality and favoured biodiversity.

However, for a stronger sustainability within the productions, the professionals plead for an overall reflection and increased means, the transfer of competences and budget from COVID to sustainability, constituting an immediately accessible solution.

The interview ended with a question about their vision of sustainability.

## 2.2.6 What is your long-term vision of sustainability in Film?

Some of the professionals raised priority issues to address.

Supervising Location Manager: “most important is **get rid of diesel engines**. Trucks with engines idling, generators, cars, and vehicles driving around due to poor planning. When camera truck turns up and needs 13 amp, they must run a generator. If they were wired differently, they could plug into mains and save diesel use”.

“Need to address that and needs to be department wide. Needs to be producers, streamers, commissioners, service providers, swing drivers and sparks. Everyone needs to be involved to reduce diesel use close to zero”.

Sustainability Consultant: “More digital way of working, less locations, reduced crew travel, more engagement from crew”.

Supervising Location Manager: “Green generators, electric vehicles, how quickly and cheaply can we roll out new technologies. Solar panelled generators. **Anything to reduce diesel generators**”.

While other professionals argue for new organisational modes.

Sustainability Consultant: “Studios carbon offsetting so we have carbon neutral stage for all productions” – “Sustainability team on every film”.

Production Sustainability Adviser: “Work more with crews as people have the ideas but need support”.

Sustainability Consultant: “**Professionalization of sustainability department**. Progression for workers, training”.

And some professionals advocate for changes in the policy mix.

Production Sustainability Consultant: “It is necessary to be lucid on the stage of maturity where we are, we are not yet in the operational phase, we are in the training phase, but not of action. For the moment there is a change in mentality but not yet in process”.

Green Runner: “A political act is needed for sustainability to move forward”.

Production Sustainability Adviser: “Use regions as an example for other areas. / Looking for creative new ideas around set design etc/ That it's a starting point that films are made sustainable. **Funding should be totally connected to sustainability**. From small to large scale films, everything must be changed. Quickly as possible. Financiers have the power so must implement green standards”.

According to the professionals, improving the sustainability of AV industry production in the future will require both technical and organisational solutions, but above all a change in the policy mix.

The interviews with the professionals were rich in lessons: **sustainability was predictably fading away in the face of health imperatives, but it has never totally disappeared and is rapidly returning with the end of safety measures.**

However, **the professionals stressed that there is an issue of scale in the application of sustainability, with COVID having paradoxically demonstrated the impact of human activity on the environment.**

According to them, **a redefinition of the scope of their missions and their means as well as a more ambitious policy mix is key.**

It is interesting to compare their findings, with those of the producers who necessarily have a broader understanding of the COVID consequences on productions.

### 3. Questionnaire for the producers

In this chapter we analyse the producers' responses to the questionnaire entitled:

**“Green Screen-COVID survey”** *Assess COVID impacts on production in order to improve policy (guidance & recovery fund) and the implementation of sustainable practices. This questionnaire is for producer.*

We received 61 answers, among them 55 producers that produced 88 productions from all genres e.g., feature film, continuing drama, documentary (TV) etc.

The questionnaire is divided into chapter:

- Producer (identification),
- Impact on your production(s),
- Policy,
- Producer-Sustainable practices,
- Producer-Sustainability policy.

It was very difficult to get answers for this questionnaire, it seems that many producers wanted to “turn the COVID page”. Many thanks to those who responded.

**The analysis of the answers is done chronologically by question, the survey spreadsheet is used to establish cross-sorting analysis between the questions.**

34. [Green Screen-COVID survey](#) -Green Screen Interreg project, 2022.

#### 3.1 Producer (identification)

1. During which phases of Covid 19 did you produce content? (Multiple choice)

Most producers continued their activities during the COVID crisis. The most active period was unsurprisingly the phase 3 Summer 2021-March 2022, which coincided with the gradual relaxation of safety measures and a high vaccination rate among the population.

However, we note that most producers resumed their activity as early as phase 1 March 2020-Autumn2020 with a stagnation until phase 3 of the crisis (Summer 2021).

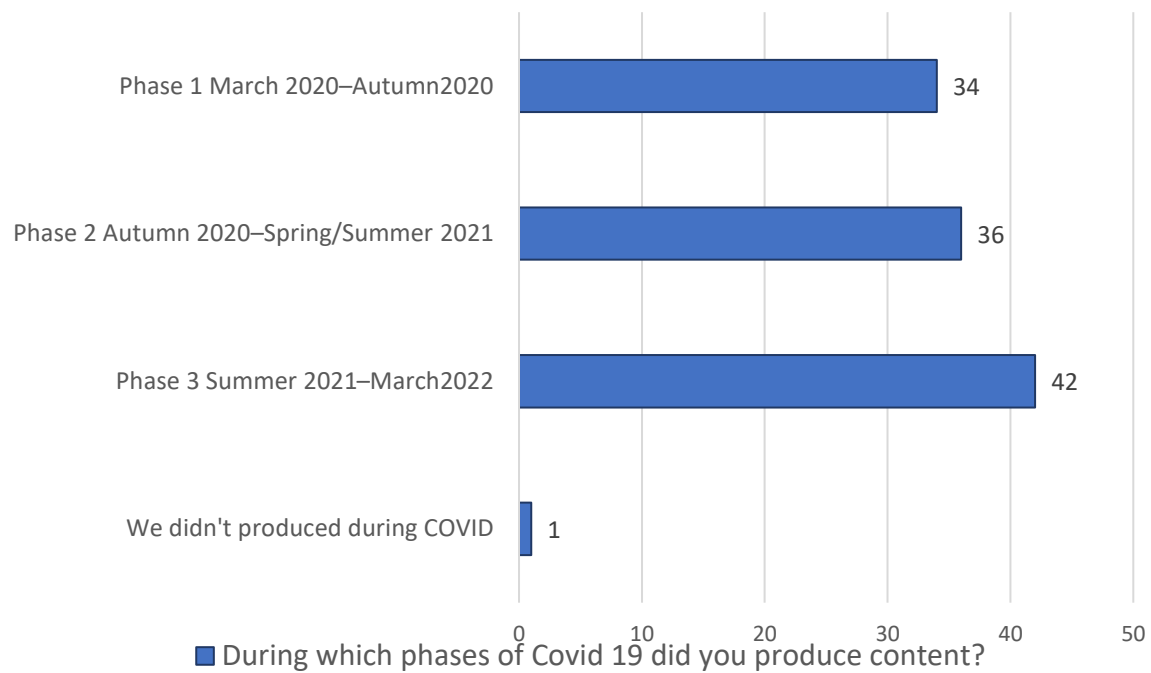


Figure 6. Producer activity during the 3 phases of COVID

Although activity slowed down between March 2020 and the summer of 2021, it remained relatively sustained.

2. In the period 2020-2022, what content did you produce? (Multiple choice - producers could add specific genres)

The productions (88) are very varied, covering all the genres initially proposed (9) and beyond (4), with notably advertising and short films.

The top three production genres are feature films (26% of productions), followed by documentary films (20% of productions) and drama (11% of productions).

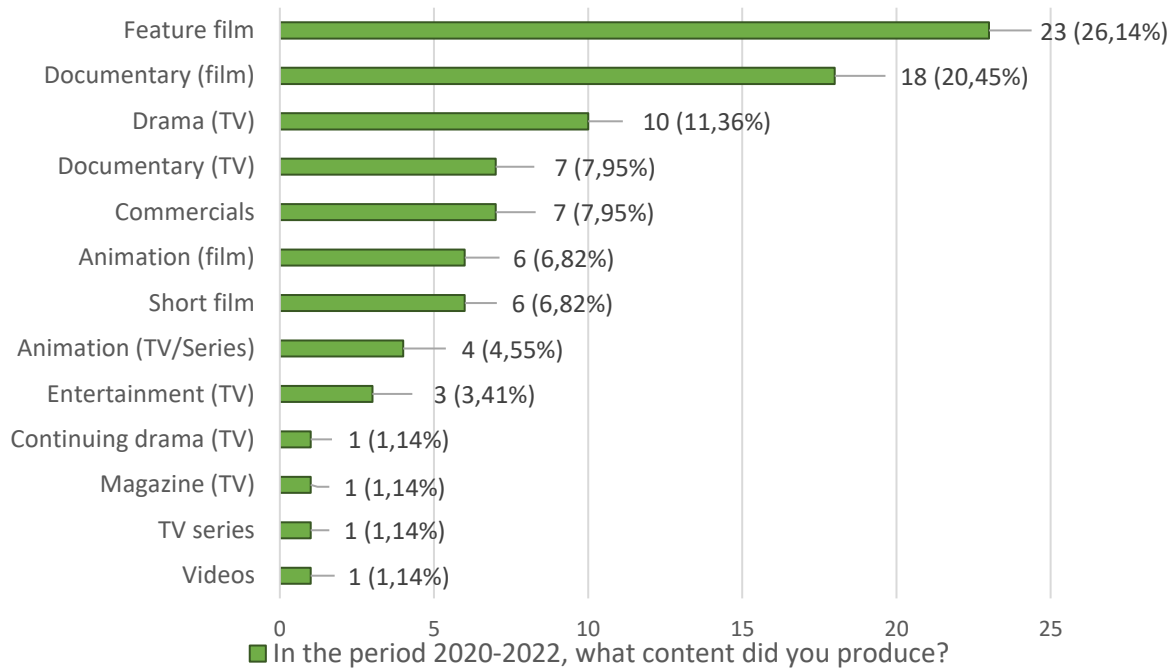


Figure 7. Productions sample (88) and their genre

Therefore, we can rely on a relatively large production sample to assess the impact of COVID.

Could the productions in the sample have been completed?

3. Did you complete/postpone the production(s)? (Multiple choice - Producers could add other options).

Less than 50% of the productions have been completed, however for those that started in phase 2 and 3 (Summer 2021-March 2022) many are still in production, which creates a bias in the response.

More relevant is the percentage of postponed productions (25%) and especially the rate of uncompleted productions (6.81%) which is significant.

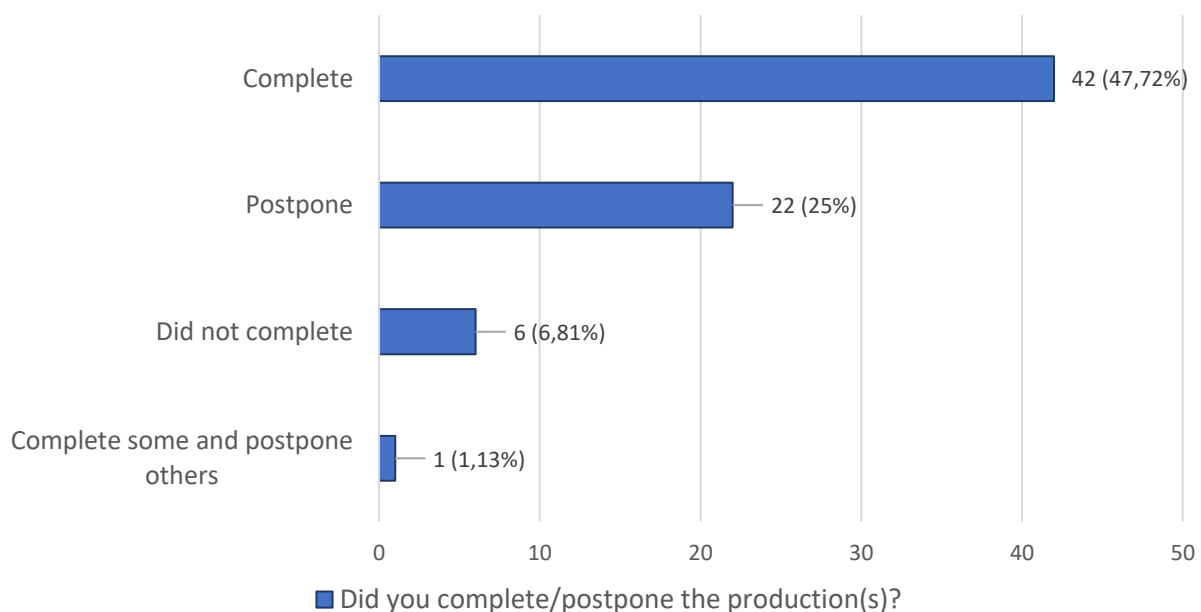


Figure 8. Continuity of productions

Although production activity continued throughout the COVID crisis, **almost a third of production- (32%) were severely disrupted** (postponed and did not complete).

The type of production that was **most often not completed was feature films: 5/23 feature films, i.e., 83% of the did not complete total.**

This is not surprising, as these productions employed most workforce and therefore has the highest risk of contamination. Most of the uncompleted films were started during the first phase of the pandemic, they may have difficulty to get insurance for the shooting restart.

On the other hand, postponements **concerned all other genres except commercials** (faster and easier to shoot, light crew) **and animation** (dematerialised production that can be done remotely).

**Most postponements (93%) occurred during Phase 1** March 2020-Autumn2020 of the pandemic, which is certainly due to the first lockdown and the difficulty of the restart (please see figure1).

What were the production budgets of the sample?

4. What was the budget of your production(s)? If more than one production, please insert the budget of the largest production.

Production budgets range from 0-100k€ to >20M€, 47% of productions budget are below 1M€ and 53% above, with notably 7% of the budgets being above 20 M€.

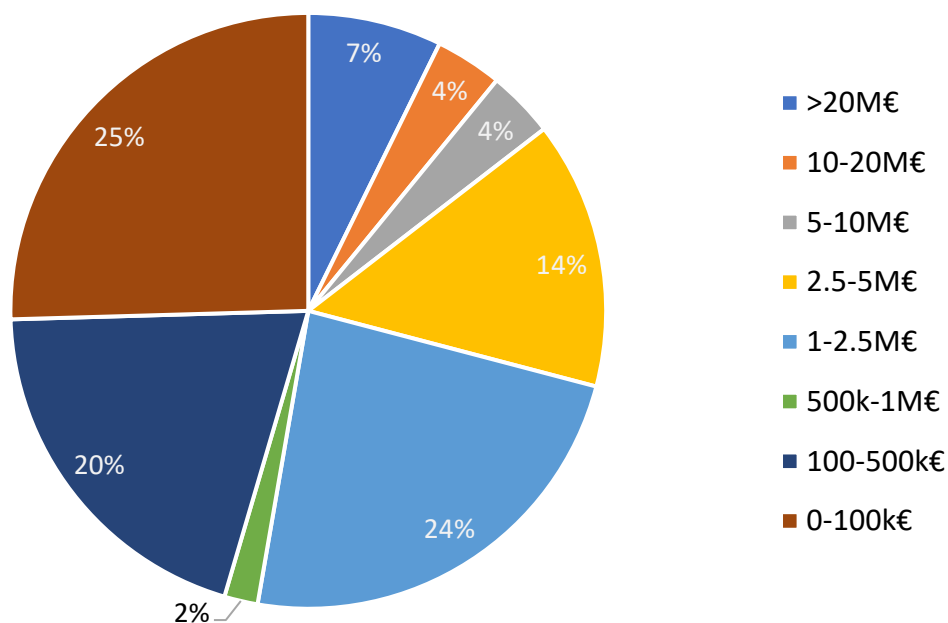


Figure 9. Breakdown of production budget

The whole range of budgets is represented in the sample, it seems that **there is no direct link between budget and production cancellation/postponement.**

From which countries did the productions in the sample originate?

5. In which country was your production(s) predominantly shot? (Multiple choice - producers could add other options)

The productions were shot in 18 different countries, with an over-representation of Slovakia and the UK, the countries that provided the larger number of survey answers.

Nevertheless, this allows us to obtain "geographical details" on the impact of COVID, as not all countries were affected to the same degree, dates, and lockdown modalities.

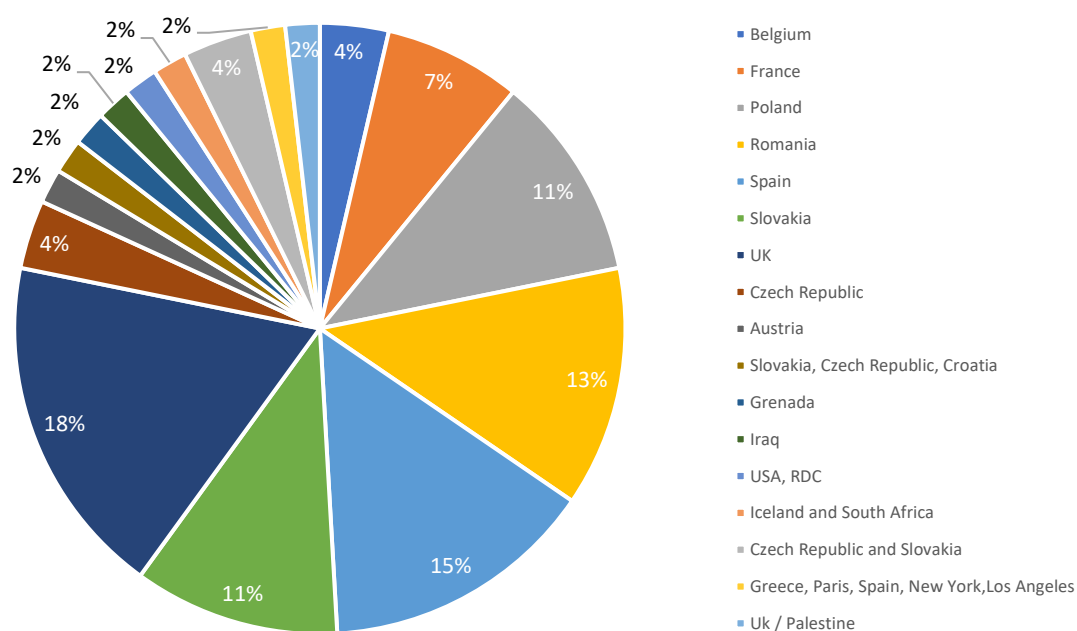


Figure 10. Countries where the productions were shots

**The most effective country for ensuring the continuity of its productions was the UK** (please see question 3) with 0 cancelled productions, this is probably due to the greater support of the government (restart scheme) and its film agencies (please see 2.1.3.1).

On the other hand, **Poland has the highest cancellation rate**: 3/6 productions (50%), it seems that there has been less efficiency in supporting productions.

Were co-productions more affected?

6. If it was a co-production(s), please indicate the relevant territories

25/88 productions were co-productions. It's interesting to stress that in over 10 productions from the UK, only one was a co-production (thanks to inward investment), while European Union countries must rely more on co-productions.

**Being in co-production was an aggravating factor for the disruption of productions**, as demonstrated by the lack of production cancellation in the UK and the low postponement rate.

The coordination between several countries with different health situations certainly contributed to this higher disruption rate.

The first part of the questionnaire identified the respondents and their productions. In addition, it provided information on disruption that productions experienced during COVID.

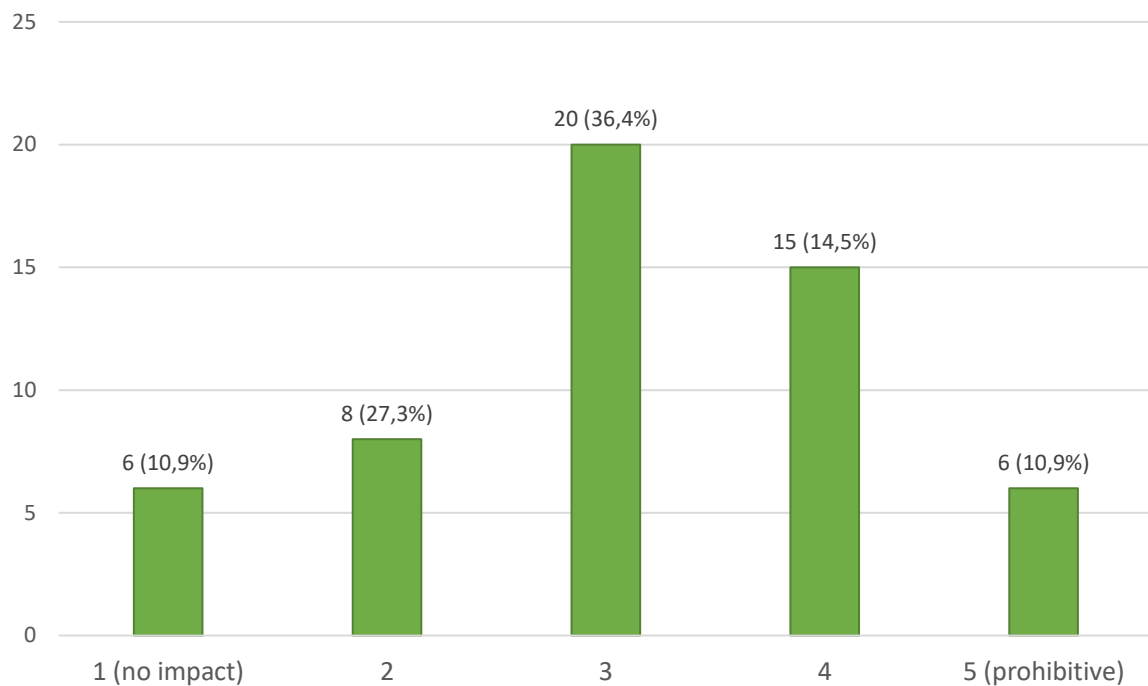
The second part is about operational impact suffered by the productions.

### 3.2 Impact on your production(s)

7. How severe was the COVID impact on your production(s)? (On a scale)

**38.2% of producers consider that the impact of COVID on their production has been weak or even non-existent** (scale: 1-2) while **61.8% consider that the impact has been significant or prohibitive**.

Among the producers who consider that the impact of COVID was non-existent, 3/6 come from Spain and 2/6 from Poland, despite the highest cancellation rate (please see question 5).



*Figure 11. Producers' perception of the impact of COVID on their productions*

At the other end of the scale i.e., **for producers who responded significant and prohibitive-impact, 5/20 are UK producers** although UK production was the least disrupted (please see question 5), UK producers may refer to the COVID extra cost (rescheduling, safety measures...).

The second country whose producers consider the impact to be significant/prohibitive is Romanian ones 4/20, whose AV industry economy is more fragile.

8. Which production step was the most impacted by COVID? (Producers could add a comment)

**For 80% of the producers, production was most affected**, which is not surprising as filming requires a physical presence and many travel, which were affected by restriction and contamination.

Pre-production was affected to a lesser degree (13%), even though it requires a physical presence, particularly for casting and travel for location scouting.

Finally, post-production, which can be done remotely and relies heavily on digital feeds, was slightly affected (7%).

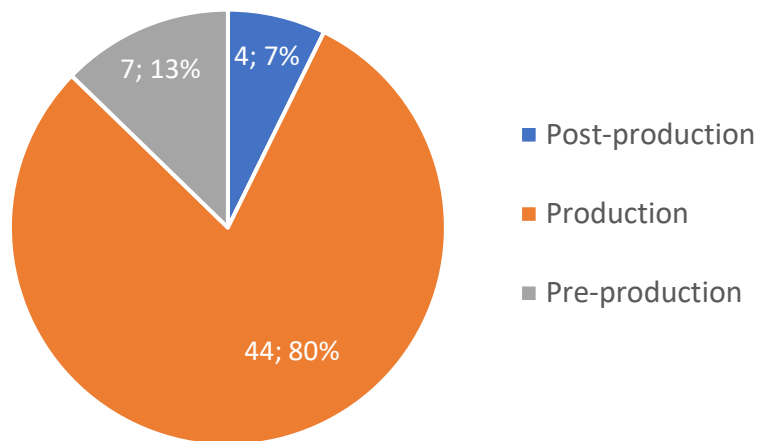


Figure 12. Most impacted production step

There is not an identified trend between countries, as the production processes are similar.

Many producers commented, mainly for the production stage, the most insightful comments are organized by **Area/Country/Genre**, please see table below.

Table 5. Which production step was the most impacted by COVID? Comments by Area/Country/Genre

Area	Country	Genre	Comment
<b>Safety measures</b> (5 comments)	UK	Drama TV	"Working remotely during prep helped, then production was challenging with all cast/crew together".
	Belgium, Netherlands	Feature film	"The protocols were clear and slowed us down and costed more money, but it was certainly workable".
	Iceland, UK, South-Africa	Feature film	"We couldn't shoot these 2 films because of the different COVID rules/evolutions around the globe".
	Spain	Short film and advertising	"As they were short periods of production, we only had to test everybody once, later on set usual sanitizing measures with not much impact were required".
	UK	Feature film, Drama (TV)	"On both projects we had to adopt strict protocols and undertake regular testing. The cost of this was significant and departments had to do a lot of extra work to remain compliant with the protocols.
<b>Contamination</b> (3 comments)	UK	Feature film	"Lead cast got COVID, some crew too".
	UK	Documentary (film), Commercials	"Only has a few crews, affected by Covid who we replaced".
	UK	Short film	"We had to delay our shoot by 3 weeks due to a positive COVID test at the location".
<b>Location access</b> (3 comments)	Belgium, Netherlands - Iraq (shoot 100% Iraq)	Feature film	"Casting of Iraqi actors and location hunting was difficult".

	Romania	Feature film	"Exterior locations, limited access and less crew members on set".
	Spain	Documentary (film)	"We needed access to areas: hospital, SR resident etc, affected by COVID".
<b>Lockdown</b> (2 comments)	Slovakia, Czech Republic	Feature film	"We shot mostly in exteriors and fortunately the regulations in July and August for shooting in exteriors were not so strict".
	Romania	Short Film	"We had to stop preproduction due to the lockdown".
<b>Travel restriction</b> (2 comments)	Belgium, Netherlands - Iraq (shoot 100% Iraq)	Feature film	"We needed to postpone because of travel prohibition".
	Poland, Belgium, Germany, Serbia, Lithuania, France, UK	Feature film	"Difficult to get people to switch jobs and move during COVID".
<b>Remote</b> (2 comments)	France	Animation (TV/Series), Animation (film)	"We produced this 70-minute film in 9 months and the most difficult step was the nine months, but thanks to a dream team and a solid VPN provider we managed to deliver".
	UK	Short film	"Doing post-production remotely however was a much bigger challenge, simply down to how long it takes compared to in-person".
<b>Slowed down</b> (1 comment)	Poland, Italy, Germany	Feature film	"Impact was at all levels, one of the productions took 1,5 years longer than it was planned".
<b>Higher cost</b> (1 comment)	Belgium	Drama (TV), Entertainment (TV)	"The cost of the shooting was higher".

These comments (19) refer to the obstacles that productions had to overcome during COVID crisis.

**Feature films** are the most represented genre with over half of the comments (9/19). The most represented country is the UK (6/19).

Surprisingly, travel restrictions are not the most frequently mentioned area (2/19)

The most numerous are linked to the **safety measures** (please see table.4), they mentioned implementation difficulties but nothing insurmountable for 3/5 comments.

However, a co-production (Iceland, UK, South-Africa) could not be realised because of the different COVID rules/evolutions, and South Africa high prevalence.

**The high cost and additional workload** imposed by the safety measures application is addressed in two comments.

The other areas are **contamination of crew members** (3/19) and **accessibility of filming locations** (3/19), that probably must have implied relocation.

9. How many times did you have to stop your production(s) due to covid related impacts?  
(Scale)

**68% of productions had to stop at least once with 24% stopping at least three times, in contrast, 32% never stopped.**

Among the productions that stopped **at least once**, a majority (62,5%) did so during the first phase of COVID: phase 1 March 2020-Autumn 2020, which corresponded to the most acute phase of the crisis.

**The lower stop rate (37,5%) in the following two COVID phases demonstrates the effectiveness of the measures taken** (safety & support) to ensure the recovery of production.

The dominant genre of productions that **had to stop at least once** was feature film (23,12%), followed by documentary films (14,28%).

This confirms the answers obtained in questions 3 & 8 on the **greater impact of COVID on Features Films**.

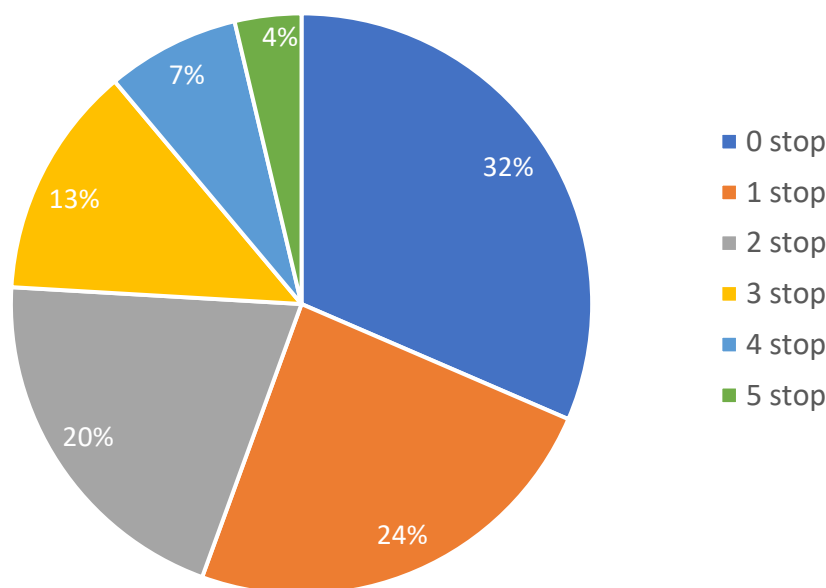


Figure 13. Times of productions stops

For the productions that **stopped at least once**, **30,35% were co-productions**, which is an **extremely high rate**, when compared to the total number of co-productions (25), representing a **stoppage rate of 68%**, thus confirming the increased vulnerability of co-productions during COVID (please see question 6).

10. What were the negative impacts on your production(s)? (Score-Optional answer)

We asked producers to assess the relevance of the following impacts on their production:

- Shooting stopped,
- Loss of talent,
- Insurance issue,
- Workforce shortage,
- Production delayed,
- Relocation,
- Remote working,
- Supply shortage,
- Extra costs.

For each of these items the producers established (thanks to a scorecard), their relevance during COVID crisis:

- 0-Not relevant
- 1-Slightly relevant
- 2-Moderately relevant
- 3-Highly relevant

### 10.1 Shooting stopped

93% of producers (51/55) answered for this item.

*Table 6. Negative Impact-Relevance of shooting stopped*

Negative impact-Shooting stopped		
Score	Producers	Percentage
0-Not relevant	19	37,25 %
1-Slightly relevant	12	23,52 %
2-Moderately relevant	4	7,84 %
3-Highly relevant	16	31,37 %

**63% of respondents felt that the “Shooting Stopped” had a negative impact on their productions, of which, 31% felt that it constituted a very negative impact, including a high proportion of feature film (7/16).**

**“Shooting stopped” was predominantly an issue for feature films.**

### 10.2 Loss of talent

“Talent” included the lead cast and the technicians essential to the production.

91% (50/55) answered for this item.

*Table 7. Negative Impact-Loss of Talent*

Negative impact-Loss of Talent		
Score	Producers	Percentage
0-Not relevant	14	28 %
1-Slightly relevant	19	38 %
2-Moderately relevant	10	20 %
3-Highly relevant	7	14 %

**72% of respondents felt that the “Loss of Talent” had a negative impact on their productions, of which, 14% felt that it constituted a very negative impact, this is a relatively low rate, it shows that producers have managed to overcome “Loss of Talent”.**

### 10.3 Insurance issue

93% of producers (51/55) answered for this item.

*Table 8.Negative Impact-Insurance issue*

Negative impact- <b>Insurance issue</b>		
Score	Producers	Percentage
0-Not relevant	19	37,25 %
1-Slightly relevant	15	29,41 %
2-Moderately relevant	9	17,64 %
3-Highly relevant	8	15,68 %

**62,73 % of respondents felt that the “Insurance issue” was a negative impact on their productions, of which, 15,68 % felt that it constituted a very negative impact.**

Of the 8 producers who felt that insurance problems were a very significant negative impact, half (4/8) of their production occurred during the first phase of COVID; 3/8 during the second phase and 1/8 during the third and final phase.

This suggests that the **“Insurance issue” has been gradually resolved.**

### 10.4 Workforce shortage

95% of producers (52/55) answered for this item.

*Table 9.Negative Impact-Workforce shortage*

Negative impact- <b>Workforce shortage</b>		
Score	Producers	Percentage
0-Not relevant	8	15,38 %
1-Slightly relevant	22	42,3 %
2-Moderately relevant	9	17,3 %
3-Highly relevant	13	25 %

**84,6 % of respondents felt that the “Workforce shortage” had a negative impact on their productions, of which, 25 % felt that it constituted a very negative impact,** this high rate intervened mostly for productions (10/13) that took place during the first phase of COVID; and 2/10 during the second phase and 1/8 during the third and final phase.

This implies that the **“Workforce shortage” has been quickly resolved,** after the first phase.

### 10.5 Production delayed

93% of producers (51/55) answered for this item.

Table 10.Negative Impact-Production delayed

Negative impact- <b>Production delayed</b>		
Score	Producers	Percentage
0-Not relevant	5	9,8 %
1-Slightly relevant	12	23,52 %
2-Moderately relevant	13	25,49 %
3-Highly relevant	21	41,17 %

**90,18 % of respondents felt that “Production delayed” had a negative impact on their productions** (the bigger negative impact), of which **41,17 % felt that it constituted a very negative impact**. This high rate for productions (13/21) took place during the first phase of COVID; and 5/21 during the second phase and 3/21 during the third and final phase.

This suggests that the **"Production delayed" has persisted**, probably due to the **bottleneck of the first lockdown**.

#### 10.6 Relocation

91% (50/55) of producers answered for this item.

Table 11.Negative Impact-Relocation

Negative impact- <b>Relocation</b>		
Score	Producers	Percentage
0-Not relevant	17	34 %
1-Slightly relevant	16	32 %
2-Moderately relevant	6	12 %
3-Highly relevant	11	22 %

**66 % of respondents felt that “Relocation” had a negative impact on their productions**, of which, **22 % felt that it constituted a very negative impact**, this significant rate impacted almost exclusively productions (10/11) that took place during the first phase of COVID.

We can assume that the issue of **“Relocation”** was related to the first lockdown.

#### 10.7 Remote working

91% (50/55) of producers answered for this item.

Table 12.Negative Impact-Remote working

Negative impact- <b>Remote working</b>		
Score	Producers	Percentage
0-Not relevant	12	24 %

1-Slightly relevant	13	26 %
2-Moderately relevant	12	24 %
3-Highly relevant	13	26 %

**76 % of respondents felt that “Remote working” had a negative impact on their productions**, of which, **26 % felt that it constituted a very negative impact**, this significant rate mainly impacted productions (10/13) that took place during the first phase of COVID.

This implies that the **“Remote working” has been quickly resolved** once the remote working processes had been put in place and the employees accustomed to them.

#### 10.8 Supply shortage

87% (48/55) of producers answered for this item,

*Table 13.Negative Impact-Supply Shortage*

Negative impact- <b>Supply Shortage</b>		
Score	Producers	Percentage
0-Not relevant	21	43,75 %
1-Slightly relevant	18	37,5 %
2-Moderately relevant	3	6,25 %
3-Highly relevant	6	12,5 %

**56,25 % of respondents felt that the “Supply Shortage” had a negative impact on their productions**, of which, **12,5 % felt that it constituted a very negative impact**, this low rate mainly impacted productions (4/6) that took place during the first phase of COVID; and 1/6 during the second phase and 16 during the third and final phase.

This suggests that the **“Supply Shortage” was quickly resolved**, after the first phase.

#### 10.9 Extra-cost

98% (54/55) of producers answered for this item, it's the most answered item.

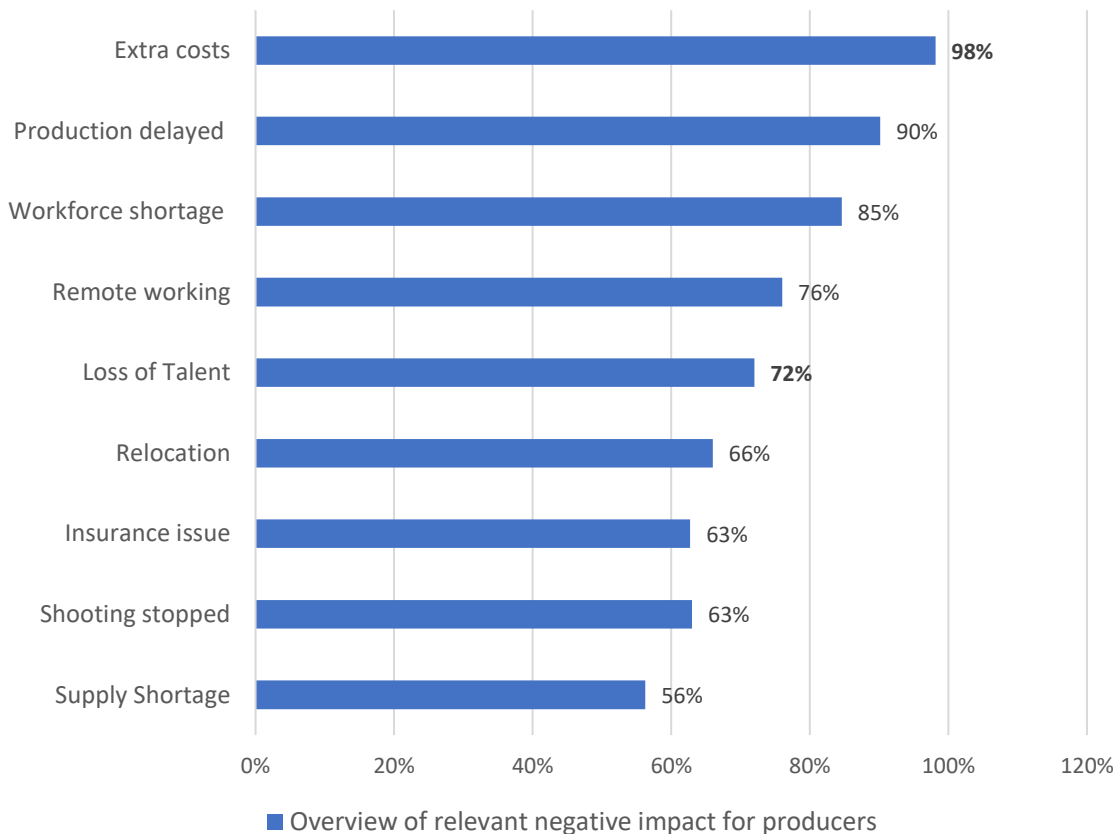
*Table 14.Negative Impact-Extra cost*

Negative impact- <b>Extra-cost</b>		
Score	Producers	Percentage
0-Not relevant	1	1,85 %
1-Slightly relevant	10	18,51 %
2-Moderately relevant	17	31,48 %
3-Highly relevant	26	48,14 %

**98,15% of respondents felt that the “Extra costs” had a negative impact on their productions** (the bigger negative impact), of which, **48,14 % felt that it constituted a very negative impact** s, this very high rate impacted productions (19/26) that took place during the first phase of COVID; and 5/26 during the second phase and 2/26 during the third and final phase.

This suggests that the **“Extra-cost” weighed heavily on productions**, during the first phase.

For an overview of which item was considered as a relevant negative impact (from slightly to highly relevant), please see the figure below.



*Figure 14. Overview of relevant negative impact for producers*

The COVID crisis has generated additional costs for productions, notably for the application of safety measures, slowing down productions and labour shortages.

This “extra cost effect” however, is strongly linked to the first phase of COVID.

It is more worrying in the long run for the industry that 72% of producers consider that there has been a loss of talent. Indeed, many professionals have left the industry, partly because of their precarious status (please see Literacy review 2.1.1).

This phenomenon is potentially more important in countries, where there was no safety net (please see literacy review 2.1.4), that pushed AV industry ‘workers to find another industry.

The issue of extra cost is more widely addressed in the next question.

11. Can you please quantify the extra-cost in budget percentage for your production(s) due to COVID? (Producers could add a comment)

Additional costs as a percentage of the budget are mostly (65%) between 0 and 10% (36/54 of the producer's answers).

In this range of extra-cost, production budgets are mostly small budgets between 0 and 1M (20/36), so the extra-cost due to COVID could represent up to 100k euros on average, which is very important.

In the upper range of extra-cost, i.e., between 10 and more than 20%, numerous production budgets were above 1M euros (12/18), which is logical as high budget mean more crew.

**The larger the budget, the higher the percentage of extra cost.**

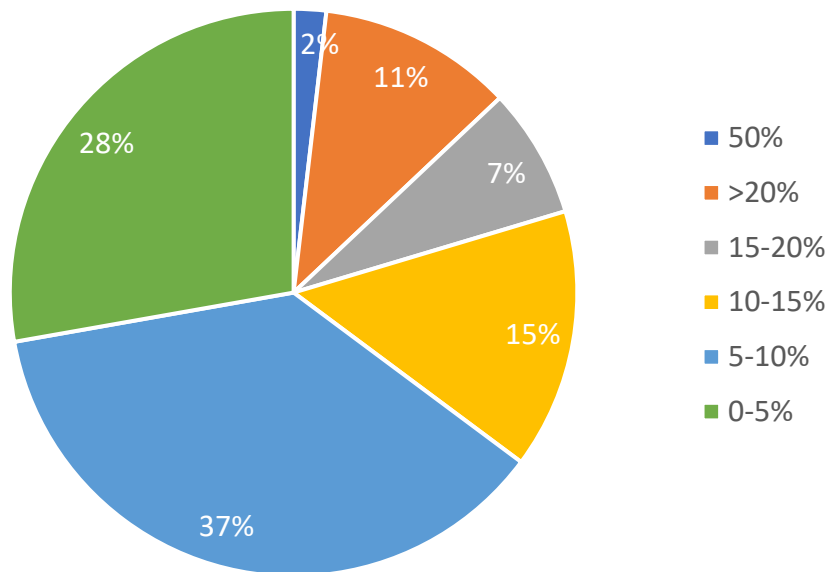


Figure 15. Extra-cost in budget percentage for your production(s)

In relation to the pandemic phases, **the highest extra-cost i.e., between 10 and more than 20% are located mainly in the first phase (14/18)**. This confirms the answers received in question 10.9 (please see above).

The comments give some indication of the amount of extra-cost:

- "Budget went over by over 30%".
- "30% extra-cost".
- "Without goodwill of crew and suppliers this would have been more than 10%".

And the nature of extra-cost (mainly related to safety measures):

- "Many COVID tests, cleaning supplies and best protection masks".
- "Additional COVID crew, cleaning, supplies, transport, moving location owners out of properties, testing regimes etc all added to the increase in costs".
- "Mainly buying protection equipment and salary for extra labour".

This chapter has enabled us to discern and sort the operational impacts according to the producer's sample.

This allows us to address in the next chapter the producers' assessment of the safety and support policy (please see literature review).

### 3.3 Policy (COVID protocol and recovery plan)

12. What health protocol(s) did you use? (Multiple choice - Producers could add other options)

The producers sample followed 19 different health and safety protocols.

The most followed protocols are those of the Slovakian Film Commission, and the British Film Commission (BFC), these responses are not representative on a European scale, as there is a bias linked to the larger number of survey answers (please see question 5).

Within the same country, productions followed different protocols (Belgium, Poland, Spain). In some cases, the productions have set up their own protocol or followed that of their broadcaster/SVODs.

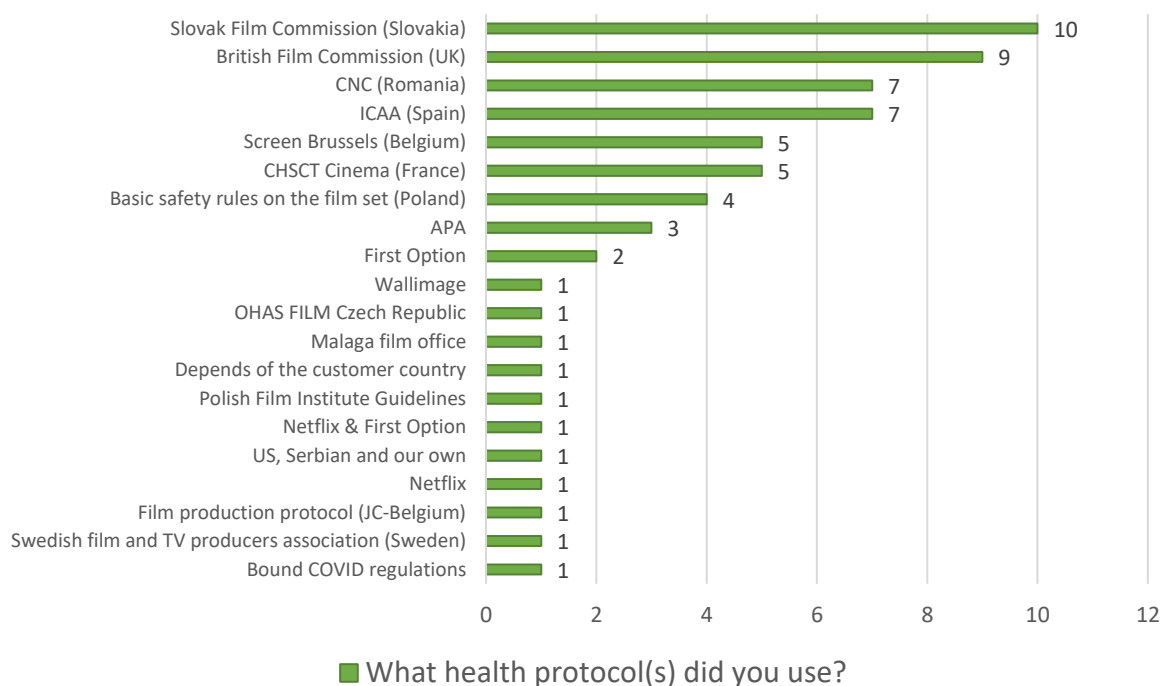


Figure 16. Health protocols followed by the producers

**There was no harmonised protocol for the whole Europe**, which probably led to **difficulties in the context of co-productions** when filming took place in several countries as we have seen previously (please see questions 6 & 8).

13. How difficult was it to implement the health measures? (Score)

We asked producers to assess the difficulty they had to implement health measures on their production:

- Reschedule shooting,
- Transport constraint,
- Crew COVID testing,
- Scene blocking adjustments to reduce actor proximity,
- Sanitary Rules,
- Traffic flows,
- Daily disinfection,

- Risks assessment.

For these health measures the producers rated (thanks to a scorecard), the difficulty in applying them during COVID:

- Hard,
- Moderate,
- Easy.

The measures are ranked in descending order, according to their difficulty of implementation (hard- in red in the figure below).

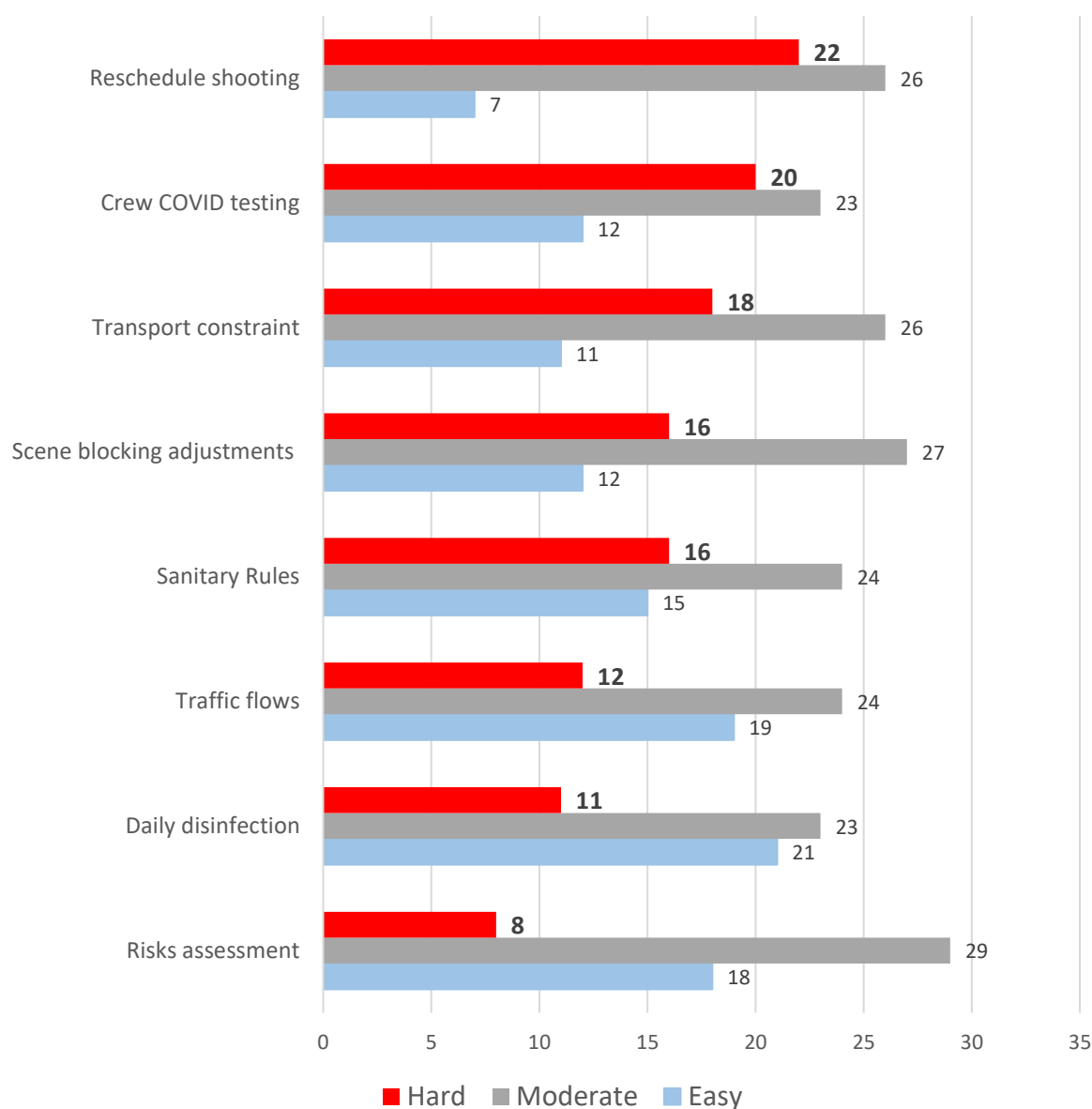


Figure 17. Difficulty to apply the health measures for productions

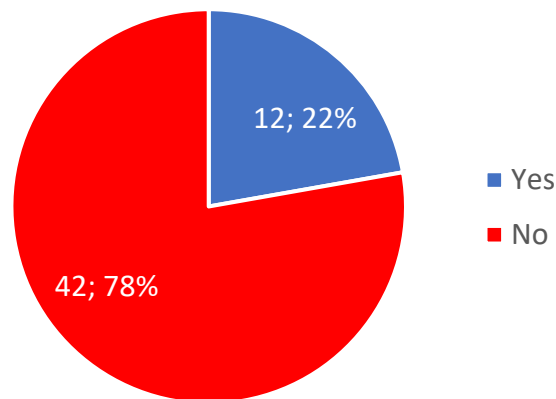
According to the producers, the most difficult health measures to apply were: “Reschedule shooting” (22/55), “Crew COVID testing” (20/55) and “Transport constraint” (18/55).

In contrast, the easiest measures to implement were traffic flows, daily disinfection, and ex-ante risk assessment.

Did the productions benefit from support, to put these measures in place?

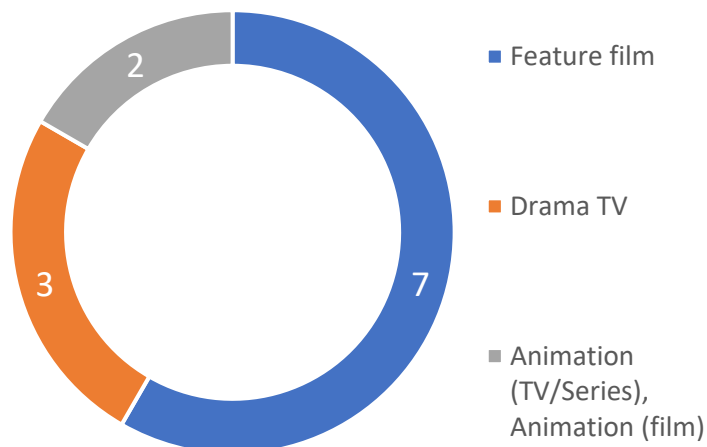
14. Did you benefit from a recovery/ insurance fund?

**A very large majority of the producers' sample (78%) did not receive a support / guarantee fund.**



*Figure 18. Producers that benefited from a recovery/insurance fund*

If we cross-reference this question with question 2, **the genres of productions supported were very limited (3/13)**, please see figure below.



*Figure 19. Genres of productions supported*

**Feature films were the most supported**, followed by TV dramas, and more surprisingly, animation productions were supported (in France).

The producers 22% who received support (for one or few of their productions) originated from the following countries (please see figure below):

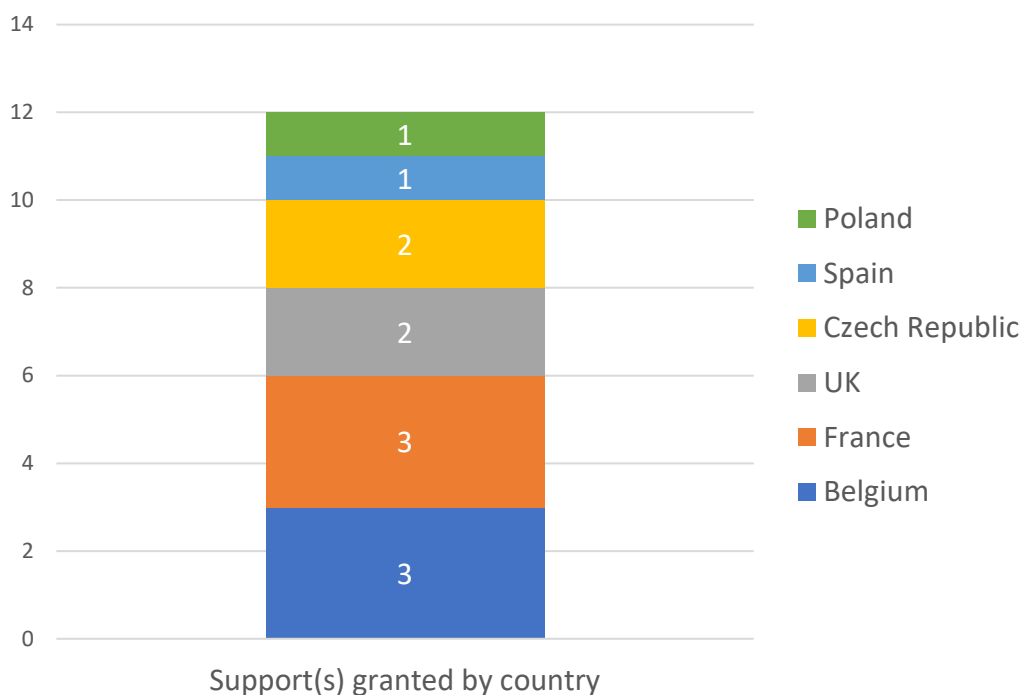


Figure 20. Support(s) granted by country

**Only a few countries have granted support funds/guarantees**, what was the reason for this? Was it due to their non-existence, unlikely as we saw in the literacy review (please see 2.1.3) or was it due to the application difficulty e.g., overly restrictive criteria?

Thus, one comment from Poland (feature film) expressed: “We were unable to apply because of the recovery agreement that we could not sign”.

The following question will provide further information.

15. How difficult was the procedure for obtaining the recovery/ insurance fund(s)? (Score - Producers could add a comment - Optional answer)

Only 22/55 producers responded to this question, the scale ranged from 1 (easy) to 5 (almost impossible).

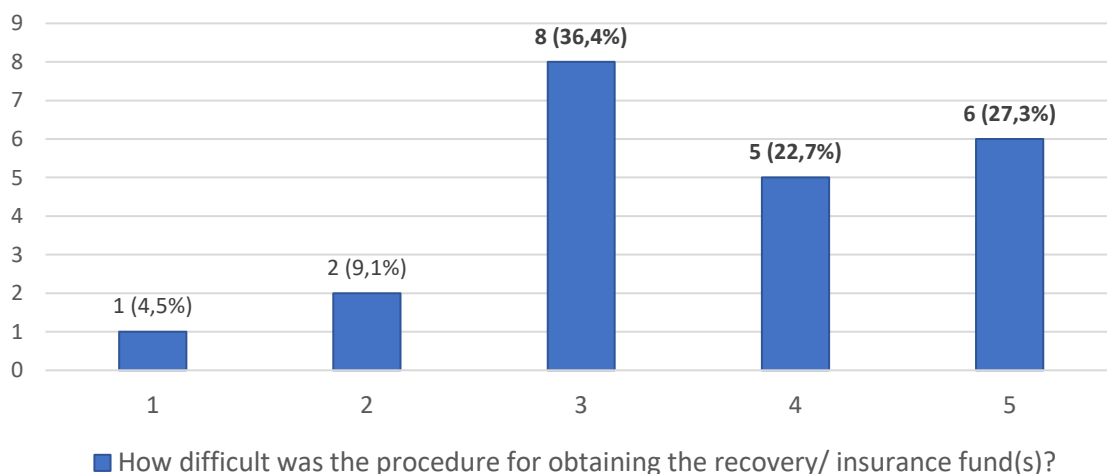


Figure 21. Difficulty to obtain recovery/ insurance fund(s)

**86.4% of the producers considered that obtaining these fund was difficult to almost impossible (score 3,4,5). Among them we found a significant proportion 7/19 of the documentary genre (film & TV).**

**This suggests that either documentary did not fit the criteria and/or that documentary productions did not have the means to apply for these funds.**

Some comments show **the restrictions of the award criteria**:

- “No insurance funds in Belgium for productions to shoot abroad”.
- “Rules regarding limits weren't clear”.
- “I found it very opaque”.

Or stressed **the difficulty/ease to apply**

- “Process was easy”.
- “Well communicated, transparent system by Flemish Government”.
- “The applying dossier was complex, but not impossible”.

Therefore, the comments imply that the **problem was from conditionality criteria, rather than the application procedure.**

For aid recipients, what was the extent of the support?

16. What percentage of your additional costs were covered?

The number of responses to this question is low with less than half (19/55) of the sample responding.

The responses on the rate of coverage of additional costs is very mixed, with the most responses ranging from 10% (5/19) to 50% (4/19).

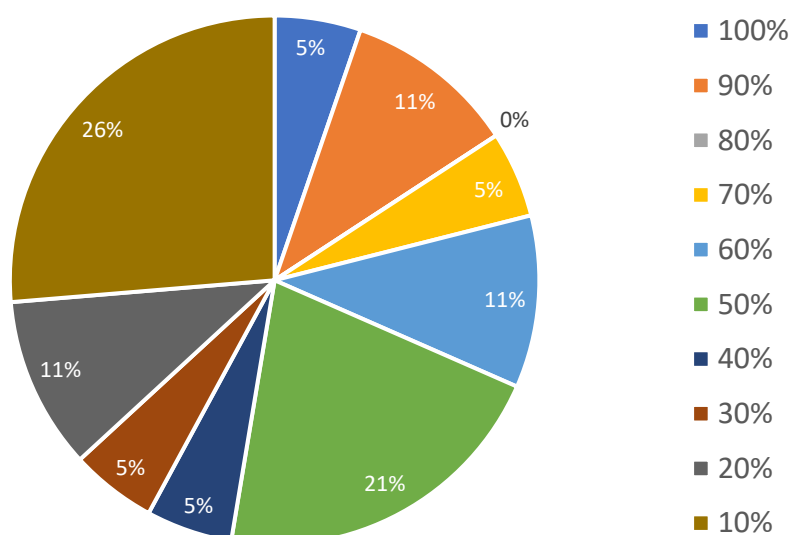


Figure 22. Percentage of extra-costs covered by the support funds/guarantees

Producers who considered that aid covered 50% of their additional costs had their production located exclusively in the first phase of the pandemic, whereas those who considered that the aid

covered 10% of their additional costs had their productions spread over the three phases of the pandemic.

This suggests a **decrease in the amount of aid over the three phases while costs remained high.**

Did producers consider that this support should be made permanent?

17. Do you wish to keep the recovery/ insurance fund in the coming years?

**Producers 42/55 (76%) are largely in favour of maintaining support schemes** (recovery/guarantee funds) over the next few years.

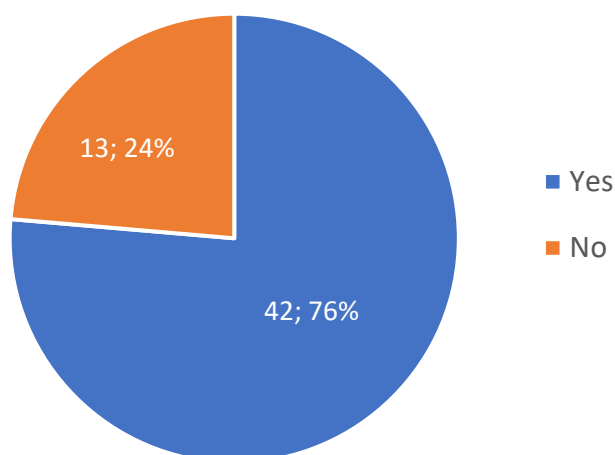


Figure 23. Do you wish to keep the recovery/ insurance fund in the coming years?

The answers to the following open-ended question provide further information on their motivations.

18. Why is it necessary to keep the recovery/ insurance fund in the coming years?

In the comments, producers mention a possible **return of COVID or another pandemic**:

- "COVID may return".
- "Because usual insurance company won't be covering the pandemic risk in the coming years".

They also stressed **the inflation of costs**:

- "We have high inflation on the market".
- "You cannot plan 100% of the budget in relation to future / possible COVID and inflation".

Finally, for producers, **maintaining recovery/guarantee schemes is vital for the survival of the AV industry**:

- "If well-controlled on actual expenditure due to this kind of extreme unforeseen circumstances, this is of big importance for production companies".
- "Because we are now aware that kind of crisis can happen and we want to anticipate".
- "There is no viable commercial alternative".

COVID has greatly weakened productions, with most producers' comments expressing **deep concern for the future of the industry**.

This chapter has shed light on the operational impacts of COVID on production, with **cost inflation and the survival of the industry at stake**.

In terms of sustainability, what was the impact of COVID on sustainable production practices?

In the next chapter we interviewed producers on this subject.

### 3.4 Producer – Sustainable practices

19. Prior to COVID, were you implementing sustainable practices on your production(s)?

In relation to the integration of sustainable practices into their production, a large majority of producers (42/55, 76%) answered yes.

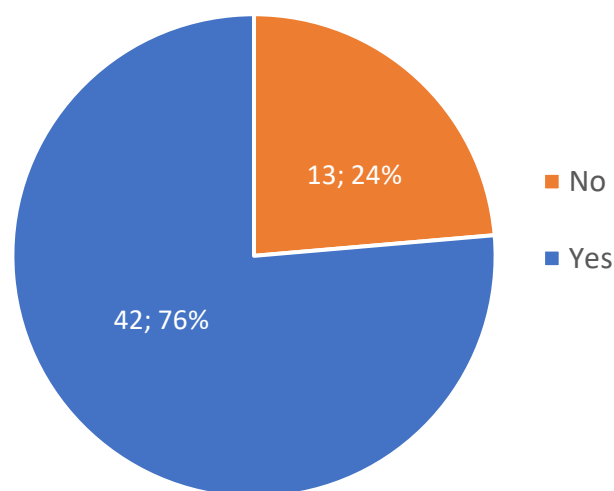


Figure 24. Uptake of sustainable practices among productions, prior to COVID

Compared to the average reality of sustainability implementation, this ratio seems too high.

There is probably a bias in this response linked to the way some producers were contacted. Indeed, Green Screen Consortium members contacted directly the most sustainably aware producers.

However, for our study it is interesting, as mostly producers in the sample have experience in the field of sustainability dedicated to productions and in particular to filming.

20. Prior to COVID, which sustainable practices did you implement?

To find out, what sustainable practices had been implemented prior to COVID, we were exhaustive, in having them respond to the 35 most common practices.

The practices are ranked in descending order, according to their level of implementation among productions (Yes-in **green** in the figure below).

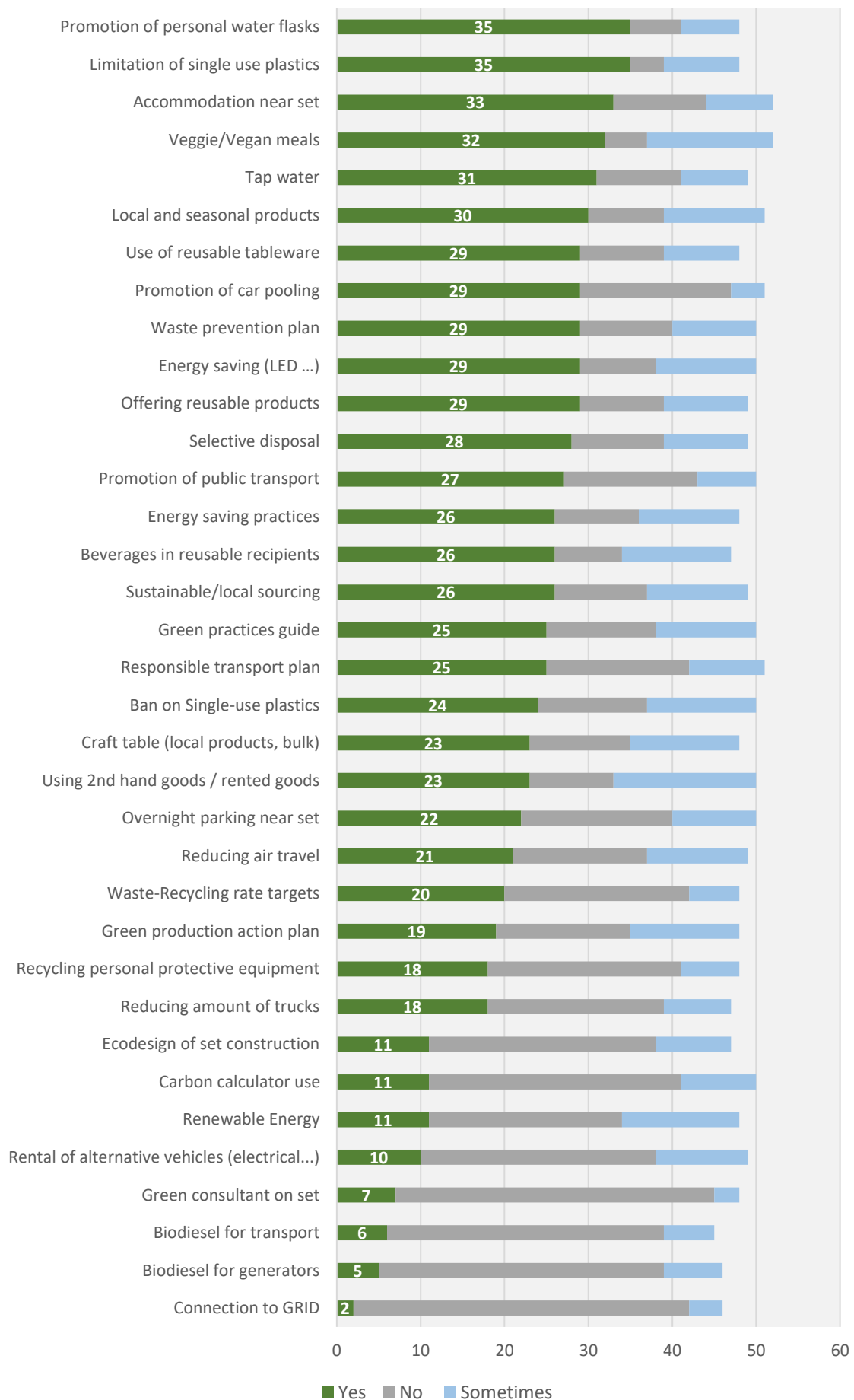


Figure 25. Prior to COVID, sustainable practices integrated among productions

**Prior to COVID the most widespread practices were generally those that were easy and inexpensive to implement** e.g., promotion of personal water flasks, limitation of single use plastics, accommodation near set, Veggie/Vegan meals...

On the other hand, **practices requiring expertise, organisation, infrastructure, and higher costs were the least applied** e.g., carbon calculator use, green consultant on set, biodiesel for transport, eco-design of set construction...

**Prior to COVID, there was a gap between practices that were easy/quick/cheap to implement but had limited environmental impact mitigation and complex/long/expensive practices with significant environmental impact mitigation.**

**Prior to COVID, the adoption of sustainable practices by production was limited by the resources allocated (time, money & skills).**

This is corroborated by the interviews with sustainability professionals, who lamented the lack of resources prior and since COVID (please see Interviews with sustainability professionals on set 2.2.3)

The total amount of the sustainability budget prior to COVID is addressed in the following question.

21. Prior to Covid, what average percentage of budget spend was allocated to the Sustainability department (e.g., green runners/ sustainability co-ordinators etc)?

**Prior to COVID, most sustainability budgets (28/51) were below 1% of the total production budget.**

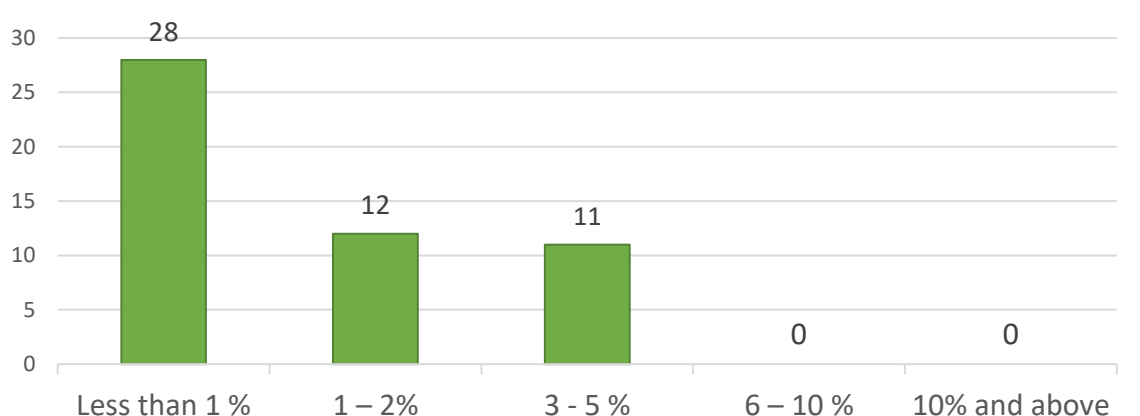


Figure 26. Sustainability budget prior to COVID

**Amongst the sustainability budgets, there is a strong representation from the UK with 6/10 productions, which is the highest ratio within the survey sample**, this is not surprising as the UK has the most mature adoption of sustainability, as demonstrated in the interviews with sustainability professionals (please see 2.2).

We have seen the state of sustainability of productions prior to COVID, how did it evolve since COVID?

22. Did you abandon sustainable practices during COVID?

To find out in detail what sustainable practices had been abandoned since COVID, we took back the 35 most common practices.

The practices are ranked in descending order, according to their level of abandonment among productions since and during COVID (**Never**-in green in the figure below).

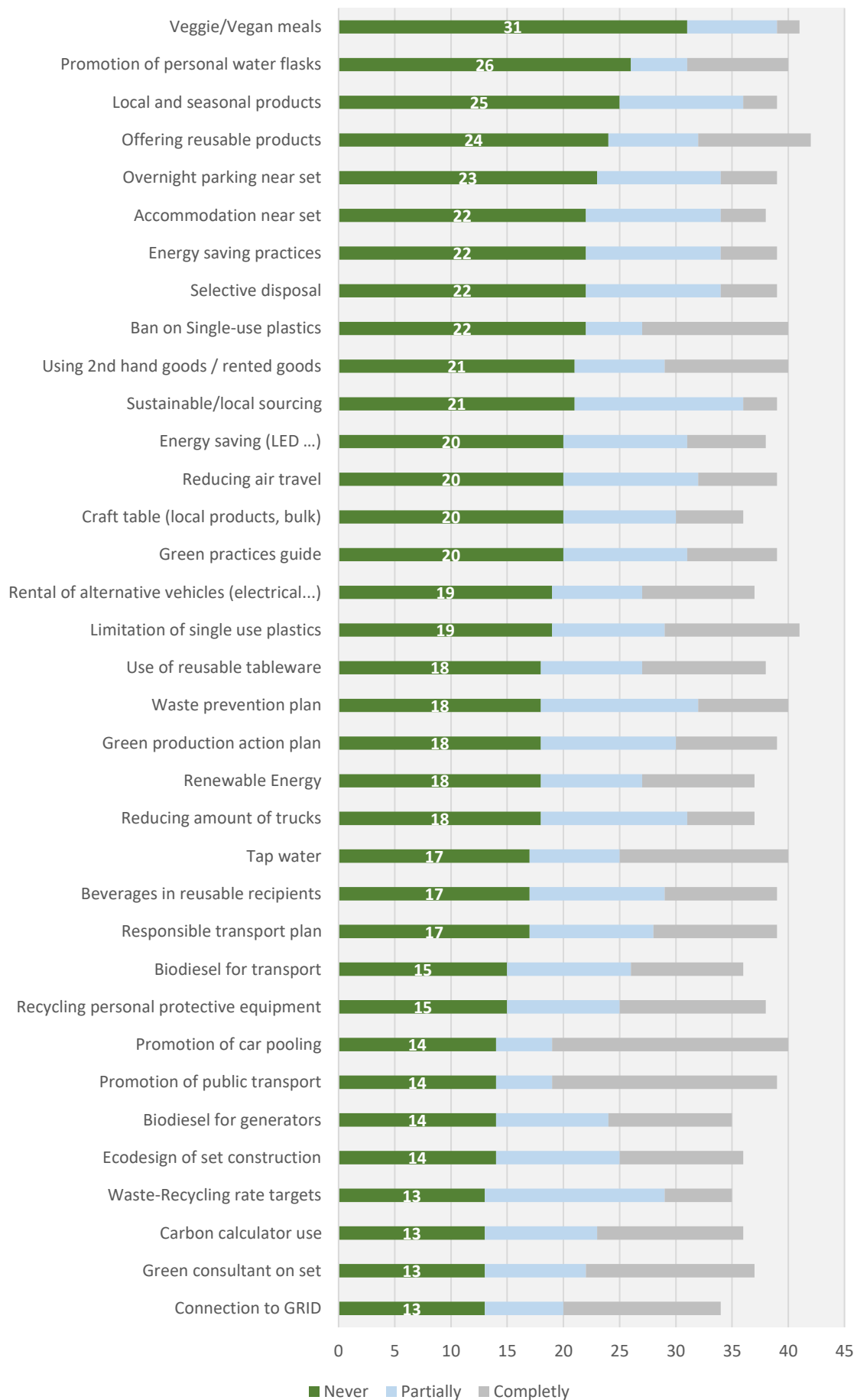


Figure 27. Since and during COVID, sustainable practices integrated among productions


















What can we learn from the comparison of sustainable practices integrated into production prior and since COVID?









The first finding is that there were more responses for practices before COVID (please see figure 25).

Is this a first sign of a temporary disaffection, as we learned from the interviews with sustainability professionals (please see 2.2.2)?

To get a clearer picture, please see the table below which compares the two periods.

*Table 15. Comparison of sustainability practices integrated among productions prior and since COVID*

Sustainability practices systematically integrated among productions according to the producers-ranking comparison			
Sustainability practices	Prior to COVID (Ranking and number of answers)	Since COVID (Ranking and number of answers)	Trend Since vs. Prior COVID
Promotion of personal water flasks	<b>1</b> (35)	<b>2</b> (26)	
Limitation of single use plastics	<b>2</b> (35)	<b>17</b> (19)	
Accommodation near set	<b>3</b> (33)	<b>6</b> (22)	
Veggie/Vegan meals	<b>4</b> (32)	<b>1</b> (31)	
Tap water	<b>5</b> (31)	<b>23</b> (17)	
Local and seasonal products	<b>6</b> (30)	<b>3</b> (25)	
Use of reusable tableware	<b>7</b> (29)	<b>18</b> (18)	
Promotion of car pooling	<b>8</b> (29)	<b>28</b> (14)	
Waste prevention plan	<b>9</b> (29)	<b>19</b> (18)	
Energy saving (LED ...)	<b>10</b> (29)	<b>12</b> (20)	
Offering reusable products	<b>11</b> (29)	<b>4</b> (24)	
Selective disposal	<b>12</b> (28)	<b>8</b> (22)	
Promotion of public transport	<b>13</b> (27)	<b>29</b> (14)	
Energy saving practices	<b>14</b> (26)	<b>7</b> (22)	
Beverages in reusable recipients	<b>15</b> (26)	<b>15</b> (24)	<b>=</b>
Sustainable/local sourcing	<b>16</b> (26)	<b>11</b> (21)	
Green practices guide	<b>17</b> (25)	<b>15</b> (20)	
Responsible transport plan	<b>18</b> (25)	<b>25</b> (17)	

Ban on Single-use plastics	<b>19</b> (24)	<b>9</b> (22)	
Craft table (local products, bulk)	<b>20</b> (23)	<b>14</b> (20)	
Using 2nd hand goods / rented goods	<b>21</b> (23)	<b>10</b> (21)	
Overnight parking near set	<b>22</b> (22)	<b>5</b> (23)	
Reducing air travel	<b>23</b> (21)	<b>13</b> (20)	
Waste-Recycling rate targets	<b>24</b> (20)	<b>32</b> (13)	
Green production action plan	<b>25</b> (19)	<b>20</b> (18)	
Recycling personal protective equipment	<b>26</b> (18)	<b>27</b> (15)	
Reducing amount of trucks	<b>27</b> (18)	<b>22</b> (18)	
Ecodesign of set construction	<b>28</b> (11)	<b>31</b> (14)	
Carbon calculator use	<b>29</b> (11)	<b>33</b> (13)	
Renewable Energy	<b>30</b> (11)	<b>21</b> (18)	
Rental of alternative vehicles (electrical...)	<b>31</b> (10)	<b>16</b> (19)	
Green consultant on set	<b>32</b> (7)	<b>34</b> (13)	
Biodiesel for transport	<b>33</b> (6)	<b>26</b> (15)	
Biodiesel for generators	<b>34</b> (5)	<b>30</b> (14)	
Connection to GRID	<b>35</b> (2)	<b>35</b> (13)	<b>=</b>

**Since COVID, there was only 2 sustainability practices that remain at the same ranking, 18 practices downgraded and 15 advanced in the ranking.**

For each of these practices (35), what are the potential reasons for this evolution?

We analyse the integration evolution of each practice by notably relying on the information distilled by the sustainability professionals during their interviews (please see 2.2) and the literacy review (please see 2.1).

▫ **Promotion of personal water flasks**

The practice has dropped slightly compared to the pre-COVID ranking, but it is still No. 2, as its use was still compatible with the health protocol.

▫ **Limitation of single use plastics**

The practice has dropped significantly compared to the pre-COVID ranking, from 2<sup>nd</sup> place to 17<sup>th</sup>, which is understandable as COVID has made the use of single-use plastics necessary, e.g., personal protective equipment (PPE)...

- **Accommodation near set**

The practice has dropped slightly compared to the pre-COVID ranking, from rank 3 to rank 6. This was probably related to the episodic closure of accommodation during successive waves of COVID.

- **Veggie/Vegan meals**

The practice has increased compared to the pre-COVID ranking, from place 4 to 1. This increase was not mentioned in the interviews with sustainability professionals (please see 2.2.4).

Is this due to an underlying trend of environmental awareness or a sustainable practice of compensation? It is difficult to say.

- **Tap water**

The practice has drastically dropped compared to the pre-COVID ranking, from place 5 to 23, which is understandable as COVID has pushed single-use bottle return for safety reasons, however single use bottles may have been worse as everyone's bottles looked the same, bottle mix-ups must therefore have occurred (please see 2.2.2).

- **Local and seasonal products**

The practice has increased compared to the pre-COVID ranking, from place 6 to 3. This increase was not mentioned in the interviews with sustainability professionals (please see 2.2.4).

Is this due to an underlying trend of environmental awareness or linked to episodic shortage? It is difficult to say.

- **Use of reusable tableware**

The practice has significantly dropped compared to the pre-COVID ranking, from place 7 to 18, which is understandable as COVID made mandatory single-tableware, to avoid contamination, however everyone could have brought their own tableware (please see 2.2.2).

- **Promotion of car pooling**

The practice has drastically dropped compared to the pre-COVID ranking, from place 8 to 28, which is understandable as COVID made mandatory the safety rule "one person, one car" (please see 2.1.6.1 & 2.2.1.3).

- **Waste prevention plan**

The practice has dropped compared to the pre-COVID ranking, from place 9 to 19, which is understandable as COVID, increased the waste volume due to mandatory single-use plastics (please see 2.2.2).

- **Energy saving (LED ...)**

The practice has dropped slightly compared to the pre-COVID ranking, from rank 10 to rank 12. It seems that COVID had little impact on energy saving practices.

- **Offering reusable products**

The practice has significantly increased compared to the pre-COVID ranking, from place 11 to 4. It is difficult to draw any conclusions from this as the scope of these reusable products is not known.

- **Selective disposal**

The practice has increased compared to the pre-COVID ranking, from place 12 to 8. This improvement has been stressed by sustainability professionals who found new ways to improve waste management (please see 2.2.4).

- **Promotion of public transport**

The practice has significantly dropped compared to the pre-COVID ranking, from place 13 to 29, which is understandable as COVID limited/stopped public transport at least during the height of the pandemic.

- **Energy saving practices**

The practice has increased compared to the pre-COVID ranking, from place 14 to 7. This improvement in energy saving practices was partly linked to the reduction in travel and the size of the crew (please see table 5).

- **Beverages in reusable recipients**

The practice kept the same ranking (15), this seems inconsistent with the previous answers.

- **Sustainable/local sourcing**

The practice has increased compared to the pre-COVID ranking, from place 16 to 11.

Is this due to an underlying trend of environmental awareness? It is difficult to say.

- **Green practices guide**

The practice has slightly increased compared to the pre-COVID ranking, from place 17 to 15.

Perhaps it was a desire to apply new sustainable practices in a constrained context in the sanitary protocol, as stressed by the sustainability professionals (please see 2.2.4).

- **Responsible transport plan**

The practice has dropped compared to the pre-COVID ranking, from place 18 to 25, which is understandable with the COVID rule, “one person, one car” and the limitation of public transport.

- **Ban on Single-use plastics**

The practice has increased compared to the pre-COVID ranking, from place 19 to 9. This seems inconsistent with the COVID safety measures e.g., personal protective equipment, single-use plastic bottle...

- **Craft table (local products, bulk)**

The practice has increased compared to the pre-COVID ranking, from place 20 to 14. This seems inconsistent with the COVID safety measures e.g., individual meal trays were mandatory to avoid contamination.

- **Using 2nd hand goods / rented goods**

The practice has significantly increased compared to the pre-COVID ranking, from place 21 to 10. It is difficult to draw any conclusions from this because the scope of these 2nd hand goods / rented goods is not known.

- **Overnight parking near set**

The practice has drastically increased compared to the pre-COVID ranking, from place 22 to 5. It's hard to understand especially as near set accommodation was a declining practice.

This increase was not mentioned in the interviews with sustainability professionals (please see 2.2.4).

- **Reducing air travel**

The practice has significantly increased compared to the pre-COVID ranking, from place 23 to 13. It is linked to travel restrictions, rather than a voluntary sustainability practice (please see 2.1.6.1).

- **Waste-Recycling rate targets**

The practice has dropped compared to the pre-COVID ranking, from place 9 to 19, which is understandable as COVID increased the waste volume due to mandatory single-use plastics which were usually not recycled.

However, according to many sustainability professionals they put in place a waste stream for protective personal equipment (PPE), please see 2.2.4.

- **Green production action plan**

The practice has increased compared to the pre-COVID ranking, from place 25 to 20. This may relate to the progress of producer's environmental awareness stressed by the sustainability professionals (please see 2.2.5).

- **Recycling personal protective equipment**

The practice has dropped slightly compared to the pre-COVID ranking, from rank 26 to rank 27.

Nevertheless, many sustainability professionals put in place a waste stream for protective personal equipment (PPE), please see 2.2.4.

- **Reducing amount of trucks**

The practice has increased compared to the pre-COVID ranking, from place 27 to 22. This improvement was probably linked to the reduction of location shooting and travel restrictions (please see 2.2).

- **Eco-design of set construction**

The practice has slightly dropped compared to the pre-COVID ranking, from place 28 to 31.

Prior to COVID, this practice was already not widespread, and the slowdown in production caused by the application of safety measures, made it even more difficult to implement.

- **Carbon calculator use**

The practice has dropped compared to the pre-COVID ranking, from place 29 to 33, which is understandable given the health concern and the relaxation of requirement from government and film agency support fund (please see 2.1.3).

- **Renewable Energy**

The practice has significantly increased compared to the pre-COVID ranking, from place 30 to 21. This probably may be related to the switch from location filming to studio filming (please see 2.1.5), where it was easier to apply the safety protocol. Side result of this switch were the decrease of fossil fuel generators and the renewable energy supply from some studios.

- **Rental of alternative vehicles (electrical...)**

The practice has significantly increased compared to the pre-COVID ranking, from place 31 to 16. This may relate to the progress of producer's environmental awareness stressed by the sustainability professionals (please see 2.2.5).

▫ **Green consultant on set**

The practice has dropped slightly compared to the pre-COVID ranking, from rank 32 to rank 34. As stressed by the sustainability professionals "health came first", moreover some sustainability professionals turned into COVID compliance officers (please see 2.2.1.5).

▫ **Biodiesel for transport**

The practice has increased compared to the pre-COVID ranking, from place 33 to 26. This increase was correlated with the rise of alternative vehicle rentals (please see above).

▫ **Biodiesel for generators**

The practice has slightly increased compared to the pre-COVID ranking, from place 34 to 30. This may relate to the progress of producer's environmental awareness stressed by the sustainability professionals (please see 2.2.5).

▫ **Connection to GRID**

The practice kept the same ranking (35), the lack of change was most likely due to a lack of infrastructure, i.e., the possibility to be supplied by electrical cabinets when filming on location.

The before/after comparison of the sustainability practices integration to productions was upset by the travel restriction and the application of safety measures.

The answers provided by the producers confirm on many points the exchanges with the sustainability professionals, despite some inconsistencies e.g., ban on Single-use plastics..., probably linked to misunderstanding/bad formulation.

The productions tried to keep many of the simple and inexpensive sustainability practices, despite COVID. Further integration of practices was possible but was hampered by a lack of skills, resources, and time.

23. Since Covid, what average percentage of budget spend has been allocated to the Sustainability department?

Since and during COVID, most sustainability budgets (24/52) were below 1% of the total production budget. However, compared to sustainability budget prior to COVID, there is a slight increase and a larger range.

These producers' answers contradict those given by sustainability professionals, The truth is probably somewhere in the middle.

In any case, it shows that producers are beginning to consider a greater allocation of resources to sustainability.

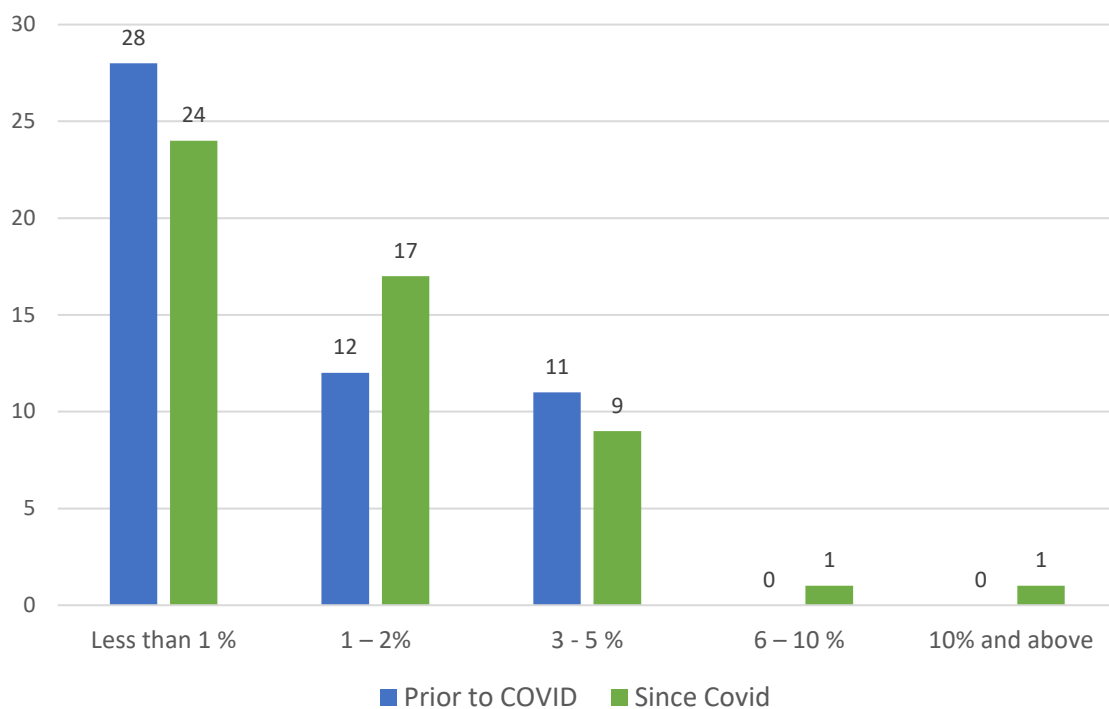


Figure 28. Prior and since COVID, Sustainability budget comparison

The next question will allow us to continue the confrontation between the producers' and professionals' vision of sustainability.

24. Do you plan on resuming sustainable practices abandoned during COVID? (Producers could add options and comment).

**Most of the producers 43/55 (78%) plan to resume sustainable practices abandoned during COVID.**

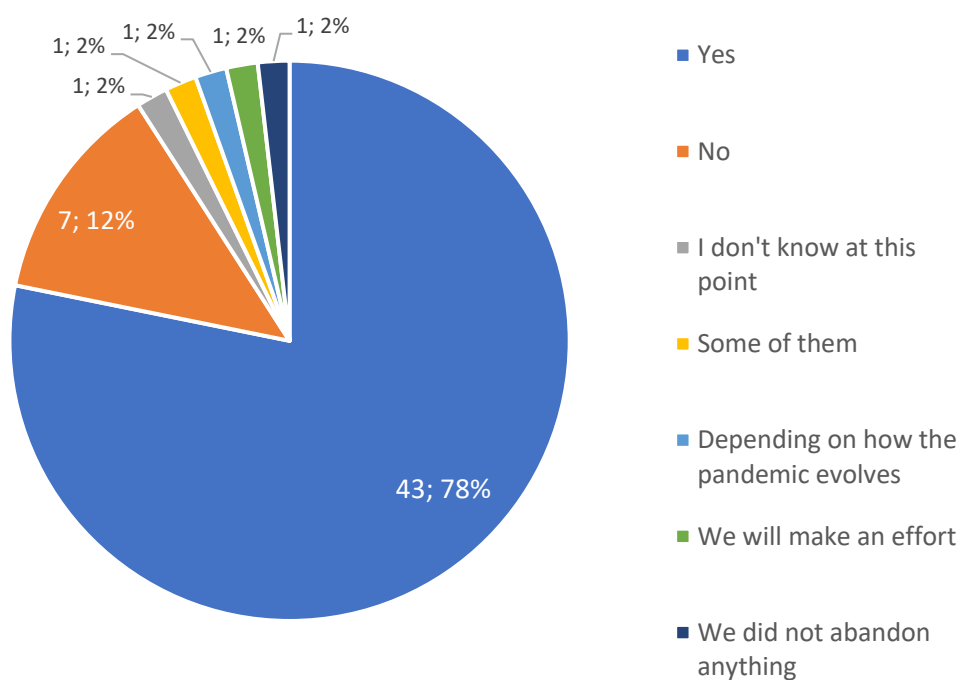


Figure 29. Resuming sustainable practices abandoned during COVID

This seems logical as the abandonment of practices was directly caused by COVID and it corroborates the statements of the sustainability professionals who felt that from now on or in near future, all measures would be resumed (please see 2.2.5).

The comments stressed the benefits of sustainability integration amongst productions:

- “We found sustainable practice saved us money”,
- “We produced a film for Netflix during the pandemic. This project employed a full-time Sustainability Officer for the duration of prep and filming. Working with a dedicated Sustainability Officer has been totally transforming - and has completely changed the way we work and the way we plan to work on future projects”.

These comments are encouraging for sustainability uptake among productions as producers must go further to reduce their productions’ impacts, especially GHG.

This implies additional resources are needed for sustainability, especially for independent production. How can they be obtained?

25. As Covid budgets are reduced (as the health risk becomes lower), do you plan to transfer any of the associated budget from the Covid to the Sustainability department? (Producers could add options).

A slight majority is attracted to the idea of transferring the COVID budget to the sustainability department (58%), but there is significant reluctance (36%).

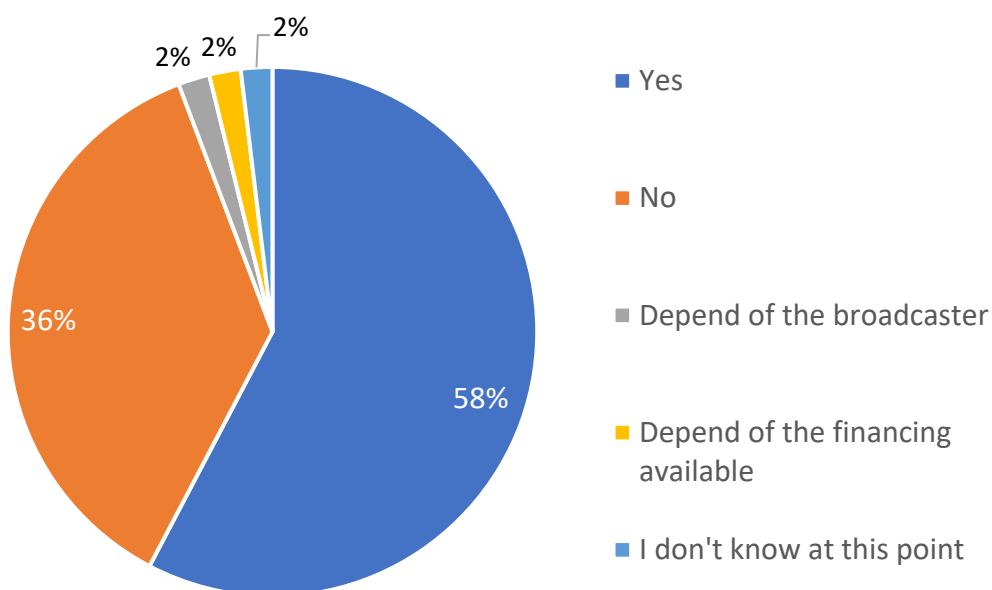


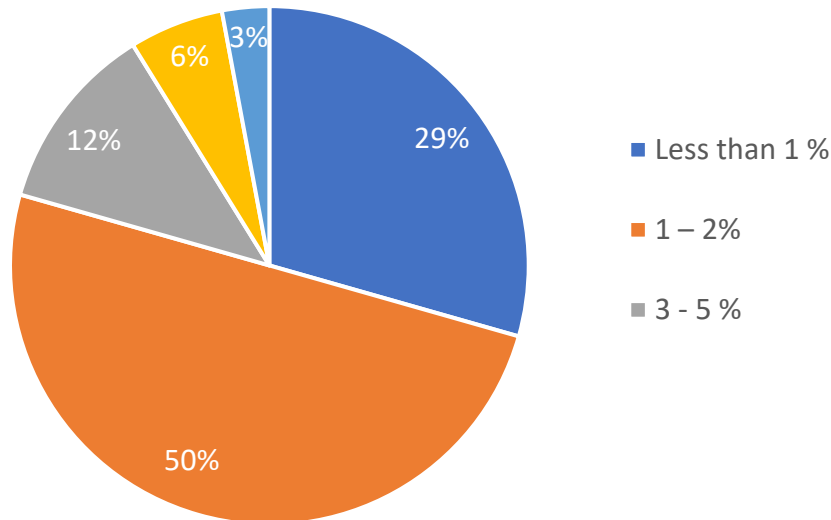
Figure 30. Transfer of COVID budget to sustainability department

Options added by the producers express that it is not up to them but to the broadcasters and the overall production budget.

For those who answered yes, how much of the COVID budget do they wish to transfer?

26. If yes, please state what percentage

**79% of the producers are ready to transfer between 1 and 2% of the COVID budget to the sustainability department.**



*Figure 31. Percentage of COVID budget, producers are willing transferring to sustainability department*

It is a very low share that does not allow the integration of complex and investment-intensive sustainable practices (please question 20).

This chapter helped us to understand the sustainable practices integrated into the productions with a comparison before and after COVID.

With the gradual disappearance of COVID, all sustainable practices will return, but in correlation with sustainability professionals, the current budgets allocated are not sufficient for more sustainable production.

A transfer of the COVID budget to the sustainability department is possible but producers are reluctant to give away a significant part.

In the next chapter we will discuss possible incentives to raise sustainability department resources.

### 3.5 Producer-Sustainability Policy

27. Which factors can encourage you to increase your budget allocation to the sustainability department? (Multiple answers).

Many factors can encourage further uptake of sustainability by the producers.

The preferred incentives are the establishment of a dedicated sustainability fund (63.6%), followed by the cost-efficiency of sustainable practices and a tightening of regulatory climate constraints at all levels: national/regional (47.3%) and European (45.5%).

At a lower level, producers highlight compliance with Net-Zero pledges from Broadcasters/SVODs (38,2%) and to keep-up with the competition (21,8%), please see figure below.

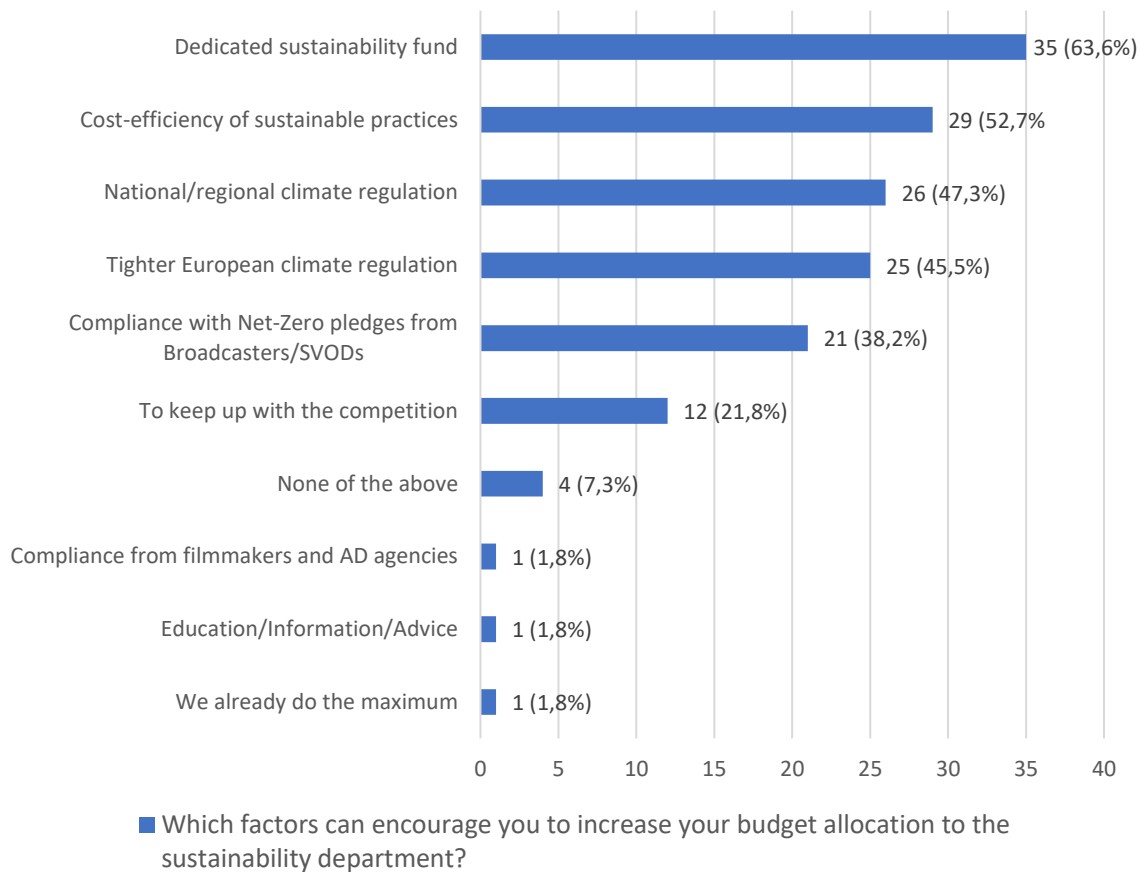


Figure 32. Incentives factors for producers to make them increase sustainability budget

#### ▫ **Dedicated sustainability fund**

The AV industry already benefits from public money thanks to support funds and tax reliefs. There is strong competition between European countries to attract more and more productions to their territory at the cost of increasing support expenditure. Is there still room for public spending?

Can a large part of aids be made conditional on a production's level of sustainability (e.g., GHG threshold by genre/production budget)?

Can the funds allocated to support production under COVID be redirected to support sustainability? (Please see question 28)

#### ▫ **Cost-efficiency of sustainable practices**

It was repeatedly stressed by producers in this questionnaire that sustainability practices save money, but for the moment the practices they refer to, are simple to implement and have a low upfront cost (please see question 20 & 22).

If more ambitious practices (in terms of impact reduction) are integrated, they will require investment. Furthermore, not all genres of production are equal. A feature film is a prototype for which investing massively does not bring economic benefits, whereas a continuing drama has an almost industrial dimension, therefore making it is easier to invest over time to reduce impacts.

One solution may lie in the pooling of sustainable production resources within production hubs to make green investments profitable and thus for every production in the hub to benefit from their cost efficiency.

#### ▫ **Tighter climate regulation**

The European climate law requires a -55% reduction in emissions by 2030 (compared to 1990) and climate neutrality by 2050<sup>35</sup>. In the UK, the Climate Change ACT aims for carbon neutrality by 2050<sup>36</sup>.

Consequently, the regulations are already in place, it is the verification procedures and penalties for non-compliance that are not yet instituted for the AV industry where carbon intensity is lower than the energy or air transport sectors. However, over time they will undoubtedly also be introduced for the AV industry, no doubt about this.

#### ▫ **Compliance with Net-Zero pledges from Broadcasters/SVODs**

As the world is transitioning to a zero-carbon economy, more than 2,000 businesses are working with the Science Based Targets initiative (SBTi) to reduce their emissions in line with climate science<sup>37</sup>. Science-based targets provide a defined pathway for companies to reduce GHG emissions, to meet the goals of the Paris Agreement (limiting global warming to well-below 2°C) and future-proof business growth<sup>38</sup>.

Broadcasters and SVODs that have started this Net-zero approach include ITV<sup>39</sup>, Netflix<sup>40</sup>, BBC<sup>41</sup>, and SKY<sup>42</sup>.

This movement has consequences for productions. To meet their quantified commitments, broadcasters/SVODs will put increasing pressure, to make productions which align with their carbon reduction trajectories.

The critical question is how they will finance this increased sustainability of productions as highlighted in several comments from producers in this questionnaire.

**As a result, apart from climate regulation, there is uncertainty on how to implement these incentive factors.**

What do producers think of a transformation of COVID budgets from public funding into a dedicated sustainability fund

28. Can a redirection of COVID budgets into a dedicated sustainability fund incentivize your sustainability uptake?

Most of the producers (74%) are agree with such a transformation.

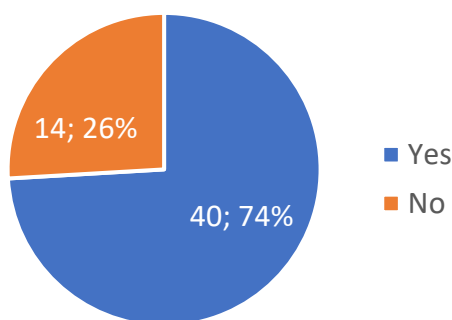


Figure 33. Redirection of COVID budgets into a dedicated sustainability fund to incentivize sustainability uptake

35. [European Climate Law](#)-European Commission, 2021.

36. [Climate Change Act 2008](#)-legislation. UK Public General Acts, 2008.

37. [Science-based targets initiative \(SBTi\), how it works?](#) -SBTi, 2022.

38. [Paris agreement, COP 21](#)-UNFCCC, 2015.

39. [Social purpose impact report](#)-ITV, 2020.

40. [Net Zero + Nature Commitment](#)-Netflix, 2021.

41. [BBC sets out path to Net Zero by 2030](#)-BBC, 2021.

Beyond the redirection of COVID public support to a sustainability fund, a comment added by a producer highlights the role of broadcasters/SVODs, in the redirection of their COVID support fund:

- “Significant funding was made available by broadcasters to help address the challenges associated with COVID.  
If broadcasters were able to redirect a portion of these funds to a sustainability fund it would have a PROFOUND impact.  
In the first instance, broadcasters should insist that a full-time sustainability officer is employed on every production (over a certain size) to ensure protocols are set and observed”.

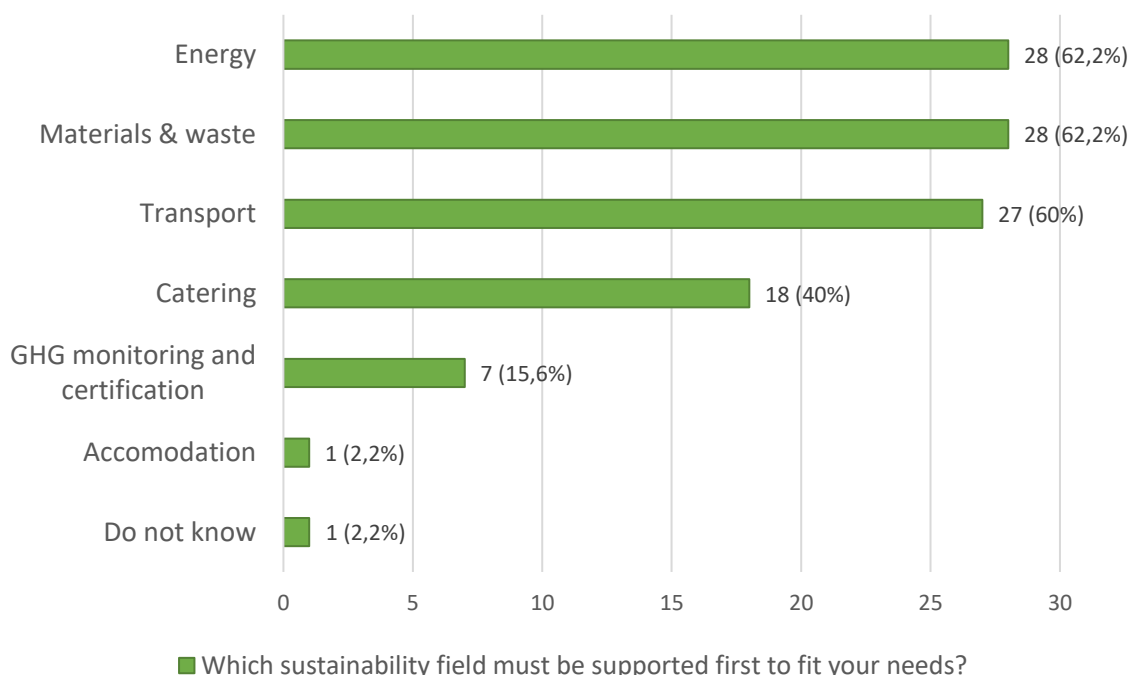
**Therefore, both public and private COVID support funds can potentially be redirected into a sustainability fund to incentivise producers.**

In which areas can these funds intervene?

29. If yes, which sustainability field must be supported first to fit your needs? (Multiple answers)

**Priority areas for sustainability support according to producers are the ones that need significant investment** especially energy (62,2%), transport (60%) and at a lesser degree (of investment), materials & waste (62,2%).

On the other hand, **only 15.6% considered that GHG monitoring and certification are a priority**, even though it is the first step in implementing a plan to decarbonise/reduce the environmental impacts of production.



*Figure 34. Priority areas for sustainability support*

These priority needs concerning areas of sustainability requiring investment is consistent with the type of sustainable practices (simple and low cost) integrated for now into the productions (prior and since COVID), please see question 20 & 22.

Moreover, this is in line with the statements of the sustainability professionals who stressed that **without additional means (resources, skills, and time), the integration of sustainability would stagnate** (please see 2.2.6).

**Therefore, for a wider uptake of sustainability amongst productions, the financing issue, its source (public/private) and its form is still an acute issue.**

Is there a need to create another vehicle where this incentive can be channelled through the existing forms of production support?

30. In what form should this incentive be given? (Multiple answers)

Producers consider that, to implement greater sustainability in their productions, the source and form of funding should be from public funds.

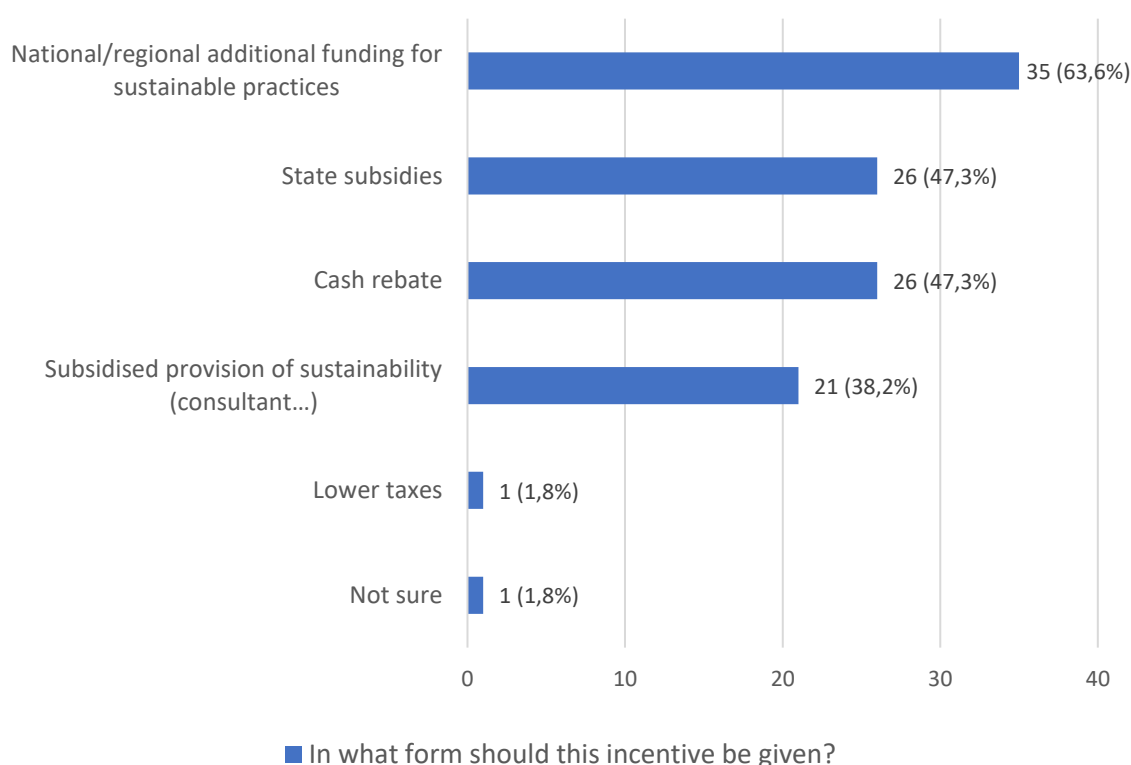


Figure 35. Incentives forms to increase sustainability uptake

**The preferred form of incentive is additional funding at national and regional level, so producers favour structures (film agencies fund) that they know well and are used to interacting with.**

The others are state subsidies and **cash rebate (film commission)**, which are also well-known by the producers.

Another key point is the subsidised provision of sustainability (consultant, green runner...), as it really can have a meaningful impact on sustainability uptake.

**According to the producers, they do not seem to consider that a new form of support dedicated to sustainability should be created, but rather integrate sustainability incentives within existing forms and structures i.e., film agencies.**

**On the other hand, private financing by broadcasters/SVODs does not seem to be envisaged.**

**Producers are in a subordinate position and must cope with strong pressure to reduce production costs**, as was stressed repeatedly in this questionnaire.

Did the producer's survey confirm or refute the assumptions we made?

### 3.6 Confirmation or denial of our hypotheses

At the end of this three-layered evaluation i.e., the literacy review, the interviews with sustainability professionals and a questionnaire for producers, **our core hypothesis is:**





"Despite policy support mechanisms (recovery & guarantee funds), COVID-19 constraints (health protocol) and consequences (economic & operational) have diverted productions from sustainability (resources allocated & practices)".
















**While it has been partially confirmed, that COVID has diverted productions from sustainability, it didn't last. Additionally, and, new practices have emerged (e.g., waste stream for PPE...) to mitigate the negative impacts of the safety measures and as the pandemic finished, all the sustainability practices resumed.**











**The COVID crisis had an unexpected effect, prompting consideration of further sustainability integration into production (including well-being of workers) while at the same time highlighting the main obstacle to achieving this (lack of resources) compared to the unprecedented resources allocated to deal with COVID.**



Most of our secondary hypotheses were confirmed, but there are still some uncertainties due to the insufficient sample size, please see table below.

*Table 16. Secondary hypotheses confirmation or denial*

Secondary hypotheses	Confirmation	Denial	Incertitude
1. Producers are the key role to interview for findings.			
2. The impacts on production(s) were/are economic, sanitary, and environmental.			
3. Each field impact e.g., environmental is sub divided e.g., GHG emissions, Circular economy etc.			
4. The impacts of COVID on the productions was differentiated according to 3 phases: -Phase 1 March 2020–Autumn 2020 Initial impact, -Phase 2 Autumn 2020–Spring/Summer 2021 Normalised impacts, -Phase 3 Summer–March 2022 Long-Term Impacts.			

5. The relevant productions to be studied are those that took place during the 3 phases.			
6. The impact magnitude was/is different depending on the country.			
7. The impact magnitude was/is different for coproduction.			
8. Production genres were/are unevenly impacted.			
9. Production steps were/are unevenly impacted.			
10. Production(s) has been slowed down by several months or even cancelled in some critical cases.			
11. Production(s) has been stopped multiple times.			
12. There is a gap between the perceived impact and the operational reality.			
13. The damaging effects were/are numerous and multi-dimensional.			
14. The magnitude of the damaging effects varies depending on production(s) country, genres, and budget.			
15. COVID has generated additional costs			
16. Production(s) uses/used health protocol guidance from various sources.			
17. The difficulty to implement health protocol measures varies depending on production(s) country, genres, and budget.			
18. Some productions benefited/benefit from recovery/insurance funds.			
19. The effectiveness of recovery/insurance funds is questionable depending on production(s) country, genres, and budget.			
20. The recovery/insurance funds can be improved to better			

serve the needs of production(s).			
21. For the production(s) that did/do not have sustainable practices, COVID was/is not a trigger.			
22. For the production(s) that did/do not have sustainable practices, even if health risk becomes lower, they won't adopt sustainability practices.			
23. For production(s) that did have sustainable practices was/is a disincentive.			
24. For production(s) that did have sustainable practices the lowering health risk will make them resume their sustainability practices.			
25. The abandonment of sustainable practices was an adjustment parameter on the budget and operational sides.			
26. Not all practices were/are abandoned, for those that remained they could be/are applied totally or partially.			
27. There is a difference in the abandonment/retention of sustainable practices depending on production(s) country, genres, budget, and production method (stage/location based or both).			
28. There is a difference in the abandonment/retention of sustainable practices on set/office depending on production(s) country, genres, and budget.			
29. In the future, if BAU there won't be a progress in sustainability uptake.			
30. Tighten climate regulation, compliance with Net-Zero pledges from broadcasters/SVODs, cost-efficiency and dedicated policy			

can drive the sustainability practices uptake.			
31. A sustainability fund and/or a redirection of COVID funds can be a solution to spark/extend the uptake of sustainability practices.			
32. For this sustainability fund, the producer's assessment of the resources needed, and favoured fields of sustainability focus may vary from country to country.			

Paradoxically, the COVID crisis is potentially the trigger for greater uptake of sustainability in AV industry' productions.

## Conclusion-COVID crisis a chance for sustainability uptake?

A global summit to chart an end to the Covid-19 crisis and plan for future upheavals occurred the May 12, 2022<sup>42</sup>. This ends a 2-year crisis which had profound health, economic, social, and environmental consequences.

COVID has disrupted the CCIs in terms of both GDP and employment. In 2020, the estimated US \$750bn decline in global CCIs' GVA corresponds to upwards of 10 million job losses in the CCIs across the world.

This fall has been strengthened by the intrinsic characteristics of the CCIs, notably the precariousness of employment.

Within the AV industry, there has been a very strong mobilisation of Governments and film agencies to support production (recovery/guarantee funds). This made it possible to preserve a good part of the activity but at the price of a production slowdown, a working conditions deterioration, additional costs, and the exit of a share of the workforce. The AV industry will take a long time to recover.

However, in some countries e.g., Slovakia, Poland, productions have not received recovery/guaranteed financial support.

In terms of sustainability integration on productions, while the overall footprint of the sector has decreased, mainly due to travel restrictions (air flights), the COVID crisis temporarily disrupted sustainable practices due to safety measures. However, as the pandemic fades away, the sustainable practices implemented prior to COVID have or will return among productions.

Nevertheless, these practices are insufficient to ensure the decarbonisation of productions as the most common one is "promotion of personal water flasks". There is no or little financial margin to help avoid fossil fuel use for transport or electricity production with generators. There is also a real issue of electrification of filming locations, as grid connection is the least deployed sustainable practice (before or after COVID), due to a lack of infrastructure.

There is a contradiction between the ambitious regulatory climate objectives and the Net-Zero commitments of broadcasters/SVODs on the one hand, and the weak means allocated to sustainability on the other.

Sustainability professionals are quite frustrated as COVID budget have been allocated very quickly, whereas the sustainability department budget has remained weak for years.

One solution may be to transfer all or part of the COVID funds to the sustainability department, as a Sustainability Consultant pointed out: " I want to create skills transfer and transfer of funds from COVID department".

In the matter of public funding, film agencies (fund and commissions) are well positioned to administer these incentives, which can be added to existing schemes, within the eligible expenses (film fund) or cash rebate (film commission) e.g., to finance a green runner on set.

Besides direct support for productions to improve sustainability uptake, a public investment effort must be launched, for the adapted electrification (electrical cabinet delivering sufficient power) at filming locations, as Film London has done in the framework of the Green Screen project: the Grid Project<sup>43</sup>.

Indeed, film and TV productions will be able to power their shoots with green energy straight from the electrical grid. Launched by Film London, this pilot project will provide grid access at key locations throughout the city. The Grid Project cabinets will eventually be installed at Victoria Park / Tower Hamlets, North Horse Ride / Westminster and Battersea Park / Wandsworth. Where productions can plug into the grid via an electrical cabinet instead of using diesel generators.

At the level of private funds, broadcasters/SVODs can earmark part of the COVID funds, to help productions meet their climate targets.

In this way, the support effort will be shared between the public and private sectors, without jeopardising the fragile economy of the productions.

Furthermore, as a matter of European solidarity, it would be wise to provide special support to countries with lower capacity, i.e., those that did not receive support during the COVID episode and/or for the implementation of sustainability.

This dilemma of vital climate targets being imposed without funding provision will affect many economic sectors' adaptation. This lack of planning will severely limit the possibilities of achieving the GHG reduction targets and ultimately climate neutrality.

According to the International Energy Agency (IEA) "emissions have fallen by 5.8% in 2020, or almost 2 Gt CO<sub>2</sub>, the largest ever decline; in 2021 CO<sub>2</sub> emissions rebounded and grew by 4.8% as demand for coal, oil and gas bounced back with the economy.

The Covid crisis demonstrated that significant resources could be mobilised, and that policy mix should and can be more supportive to help decarbonization of AV industry, as well as other sectors otherwise "Business As Usual" (BAU) will prevail.

Policy mix should consider this bottleneck to support the decarbonization of the AV industry and other sectors.

---

42. [US announces global Covid summit May 12](#)-France24, 2022.

43. [Greenlight for the Grid Project-Green Film Shooting](#), 2021.

## References

1. [COVID-19: a comparison to the 1918 influenza and how we can defeat it](#)-Liang & al, 2020.
2. [NOAA: Carbon Dioxide Peaks Near 420 ppm at Mauna Loa Observatory](#)-Cooperative Institute for Research in Environmental Sciences (CIRES), 2021.
3. [WHO Coronavirus \(COVID-19\) Dashboard](#)-World Health Organisation, 2022.
4. [COVID-19 to slash global economic output by \\$8.5 trillion over next two years](#)-UN department of Economic and Social affairs, 2020.
5. [The territorial impact of COVID-19: Managing the crisis and recovery across levels of government](#)-OECD, 2021.
6. [Recovery plan for Europe](#)-European Commission, 2020-2022.
7. [Global Energy Review CO2 emissions](#)-IEA, 2021.
7. [Global Energy Review CO2 emissions](#)-IEA, 2021.
8. [The Sectoral Impact of the COVID-19 Crisis. An Unprecedented and Atypical Crisis](#)-European Commission, 2021. P.5,10,12
9. [NACE Rev.2 Statistical classification of economic activities in the European Community](#)-Eurostat, European Commission, 2008.
10. [Coronavirus response](#)-How the EU responds to the coronavirus outbreak in support of the cultural and creative sectors- European Commission, 2021.
11. [Next generationEU](#)-European Commission, 2021.
12. [Disruption and Resilience : UNESCO reports reveal new data on impact of COVID-19 on culture](#)-UNESCO, 2021.
13. [Complete guide to GDPR compliance](#)-GDPR.EU, European Commission, 2019.
14. [GDPR checklist for data controllers on culture](#)-GDPR.EU, European Commission, 2019.
15. [Covid-19 and the global cultural and creative sector, what have we learned so far](#)- Anthony Sargent CBE - Centre for Cultural Value, 2021.
16. [Cultural and creative industries in the face of COVID-19: an economic impact outlook](#)- Naylor, Richard, Todd, Jonathan, Moretto, Marta, Traverso, Rossella-UNESCO, June 2021.
17. [ANALYSIS: COVID-19's Impacts on Arts and Culture](#)-Argonne National Laboratory (US), 2021.
18. [WHO Director-General's opening remarks at the media briefing on COVID-19](#) -WHO, 11 March 2020.
19. [The European audiovisual industry in the time of COVID-19](#) p.37-European Audiovisual Observatory,2020.
20. [COVID final tracker](#)-European Audiovisual Observatory, 2020.
21. [Film & TV Production Restart Scheme](#)-Department for Digital, Culture, Media & Sport, 2020.
22. [Netflix, Acción Cultural Española, la Academia de Cine y el ICAA suman fuerzas para crear una línea urgente de ayuda asistencial a los profesionales del sector audiovisual más afectados por la COVID-19](#)-Ministerio de Cultura y Deporte (Spain), 2020.
23. [Subsidie aanvragen](#)-VAF, 2022.
24. [Svenska Filminstitutet vidtar särskilda åtgärder för svensk filmbransch](#)-SFI, 2020.
25. [COVID 19 - Informations du CNC](#)-CNC, 2021.
26. [BFI sets out support for UK industry impacted by COVID-19 crisis](#)-BFI, 2020.
27. [Good practices for filming - Restart small crews](#)-Screen Brussels, 2020.
28. [Guidelines on Basic Safety Rules for Risk Protection Against Contagion of SARS-COV-2 During Filming](#)-National Cinema Center (Romania), 2020.
29. [Working Safely During COVID-19 in Film and High-end TV Drama Production](#)-British Film Commission (BFC), 2022.
30. [Culture in Crisis Impacts of Covid-19 on the UK cultural sector and where we go from here](#)-UKKRI & University of Leeds, 2022.
31. [The impact of COVID-19 on the global creative industry \(advertising\)](#)-Genero, 2020.
32. [About Albert](#) (website)-British Academy of Film and Television Arts (BAFTA)-Albert, 2022.
33. [2020-21 Annual Review-Albert](#)-British Academy of Film and Television Arts (BAFTA)-Albert, 2021.
34. [Green Screen-COVID survey](#) -Green Screen Interreg project, 2022.
35. [European Climate Law](#)-European Commission, 2021.
36. [Climate Change Act 2008](#)-legislation. UK Public General Acts, 2008.
37. [Science-based targets initiative \(SBTI\), how it works?](#) -SBTI, 2022.
38. [Paris agreement, COP 21](#)-UNFCCC, 2015.

- 39. [Social purpose impact report](#)-ITV, 2020.
  - 40. [Net Zero + Nature Commitment](#)-Netflix, 2021.
  - 41. [BBC sets out path to Net Zero by 2030](#)-BBC, 2021.
  - 42. [US announces global Covid summit May 12](#)-France24, 2022.
  - 43. [Greenlight for the Grid Project-Green Film Shooting](#), 2021.
- 

# Green Screen

## Interreg Europe



European Union  
European Regional  
Development Fund