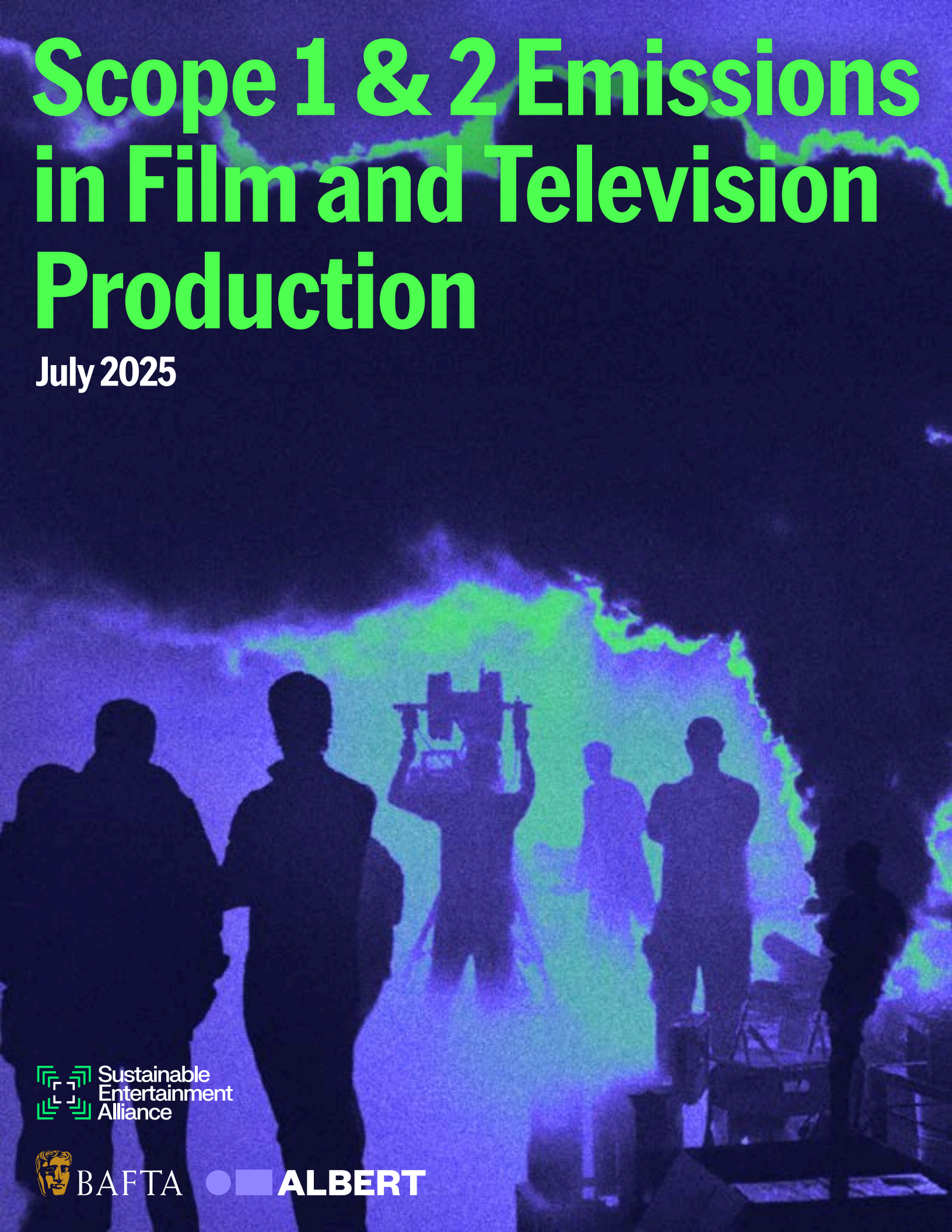
Scope 1 & 2 Emissions in Film and Television Production

July 2025



Sustainable Entertainment Alliance

BAFTA

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Contributors

This whitepaper was developed by members of the Sustainable Entertainment Alliance (SEA) and representatives from British Academy of Film and Television Arts (BAFTA) albert with support from ICF.

The SEA is a consortium of the world's leading studios, streamers, and industry leaders dedicated to advancing sustainability initiatives through advocacy, education, and innovation in order to reduce the entertainment industry's overall environmental impact. Members include A24, Amazon MGM Studios, Fox Corporation, NBCUniversal, Netflix, Paramount Global, Sony Pictures Entertainment, The Walt Disney Company, Village Roadshow Entertainment Group, and Warner Bros Discovery.

BAFTA albert is the leading screen industry organization for environmental sustainability. Founded in 2011, BAFTA albert supports the television (TV) and film industry to reduce the environmental impact of productions and to create content that supports a vision for a sustainable future. The BAFTA-owned, industry-backed organization offers online tools and training, events, practical guidance, and thought leadership to all screen industry professionals to help them identify and act upon opportunities on and off screen which can lead to effective climate action. Members include the BBC, Sky, Channel 4, ITV, Warner Bros Discovery, Netflix, Amazon MGM, Paramount UK, and PACT (the UK screen sector trade body for independent production and distribution companies).

ICF is a professional services and digital transformation firm with over 40 years of experience in energy, the environment, and climate change. ICF's 2,000 energy, climate, and sustainability professionals bring passion, expertise, and purpose to support some of the largest and most diversified global companies and build a more prosperous and resilient world for all.

Summary

This whitepaper provides guidance for determining and quantifying a TV show or film's Scope 1 and Scope 2 greenhouse gas (GHG) emissions to create a production GHG Declaration. The purpose of this whitepaper is to standardize production-related emissions accounting. A production GHG Declaration provides a product-level inventory of Scope 1, 2, and 3 emissions associated with a production.

GHG emissions generated from the three content creation phases (1) of a production for which an entity has control must be included in the production GHG Declaration. This is a production's minimum boundary. The whitepaper guidance is based on an operational control approach where an entity has operational control over a production if the entity or one of its subsidiaries has the full authority to introduce and implement its operating policies at the production.

(1) Pre-production, principal photography, and post-production.

Summary CONTINUED

The general parameters for production GHG Declaration emissions scope determinations are as follows:

- If an entity [2] owns an emissions-generating source, [3] or if an entity holds the operating license, lease, rental agreement, or other contract that conveys the operating license for an emissions source, those emissions are direct Scope 1 emissions.
- If an entity owns or holds the operating license, lease, rental agreement, or other contract that conveys the operating license for an asset that consumes grid-purchased electricity, [4] the emissions are indirect Scope 2 emissions.
- Remaining sources of emissions are indirect Scope 3 emissions, which are described more in SEA's Scope 3 Emissions in Film and Television Production Whitepaper.

These parameters provide a framework for scope determinations. However, productions are complex activities that often involve many organizations, shared use of commodities, and diverse procurements. Given these complexities, entities may at times find it useful to transfer ownership of emissions among organizations involved in the production using contractual or procurement instruments such as invoices. This would transfer emissions from indirect Scope 3 to direct Scope 1.

Data should be collected for each Scope 1 and 2 emissions source, following the data hierarchy. According to the data hierarchy, primary data is the most preferred type of data. If complete primary data is unavailable, the missing data may be extrapolated from available primary data. Secondary data should be used if no primary data is available. The most preferred type of secondary data is financial data converted into consumption data, followed by proxy data, and then externally sourced data. The data hierarchy is outlined in more detail in Section 3 Data Collection and Management. PAGE 29

To calculate emissions, data should be multiplied by emission factors and global warming potentials (GWPs). Emission factors allow emissions to be calculated from primary or secondary data. GWPs convert quantities of individual GHGs emitted into the common unit of carbon dioxide equivalent (CO_2e) to represent the gases' cumulative impact on trapping heat in earth's atmosphere.

Finally, a production's emissions should be summarized in a production GHG Declaration by scope and source. This whitepaper provides guidance for creating a production GHG Declaration. The production GHG declaration should include information such as the production name, entity name, reporting period, types of data and calculation methods used. A full list of requirements is listed in the Production GHG Declaration section. PAGE 7

[2] "Entity" is used throughout this whitepaper to refer to the company creating the production. This may be, for example, the studio, production company, or enterprise. For guidance on how emissions should be allocated for co-productions, see the Scope 3 Emissions in Film and Television Production Whitepaper section: Emissions Allocations for Co-Productions (page 30).

[3] "Emissions source" is also used throughout this whitepaper to simplify this term.

[4] While less common for productions, Scope 2 emissions may also occur indirectly as a result of grid-purchased steam, cooling, or heating. These sources should follow the same guidance as that of grid-purchased electricity for the remainder of this whitepaper.

Introduction

Contents

I. Purpose and Context

This whitepaper provides guidance for determining and quantifying a TV show or film's Scope 1 and 2 GHG emissions to create a production GHG Declaration.[5] This whitepaper builds on guidance for corporate GHG accounting from the World Resources Institute's (WRI) and World Business Council for Sustainable Development's (WBCSD) GHG Protocol.[6] It also complements the SEA's Scope 3 Emissions in Film and Television Production Whitepaper and is meant to be used in combination.[7]

"Entity" DEFINITION is used throughout this whitepaper to refer to the company creating the production.[8] This may be, for example, the studio, production company, or enterprise.

The intended users of the whitepaper include GHG practitioners and other professionals who have a general familiarity with GHG accounting principles and practices and who, in their professional capacity, support production companies, enterprises, and tool developers, among others.

[5] "Production GHG Declaration" is used throughout this whitepaper to refer to the production-level GHG inventory.

[6] "GHG Protocol" is used throughout this whitepaper to refer to this set of guidance documents. A full list of specific documents used to develop this whitepaper can be found in Appendix G: List of Resources (page 48).

[7] Refer to the Scope 3 Emissions in Film and Television Production Whitepaper to determine under which category Scope 3 emissions should be included.

[8] For simplicity, this whitepaper assumes that the entity responsible for the production also prepares the production GHG Declaration; however, in practice the entity that prepares and reports the production GHG Declaration may be separate from the one that is responsible for the production.

II. Production GHG Declaration

A production GHG Declaration DEFINITION provides a product-level inventory of Scope 1, 2, and 3 emissions associated with a production. For the purposes of preparing the GHG Declaration, this whitepaper considers a TV show or film production as a "product" that includes the following three content creation phases:

1. Pre-production
The pre-production phase of a production includes activities from when a production is greenlit up until the production begins principal photography.[9]

2. Principal photography
The principal photography phase of a production includes activities related to shooting the TV show or film that occur between the pre-production and post-production phases.[10]

3. Post-production
The post-production phase of a production includes activities following the completion of the principal photography phase but prior to the distribution of the film, such as sound and video editing and adding visual effects.[11]

DEFINITION ENTITY

"Entity" is used throughout this whitepaper to refer to the company creating the production. This may be, for example, the studio, production company, or enterprise.

DEFINITION PRODUCTION GHG DECLARATION

"Production GHG Declaration" is used throughout this whitepaper to refer to the production-level GHG inventory.

II. Production GHG Declaration CONTINUED

Throughout this whitepaper, the term "production" is used to refer to the sum result of these three content creation phases. Thinking of a TV show production or film production as a "product" helps distinguish emissions attributed to TV show or film productions from emissions attributed to a TV or film entity's broader operations.

Production GHG Declarations should include at a minimum: 12

- Production details, such as the name of the production and entity (e.g., production company).
- Reporting period (start and end date) covering the emissions included in the GHG Declaration, which should include only the three content creation phases (pre-production, principal photography, and post-production). 13
- The entity that prepared the GHG Declaration.
- The emissions consolidation approach.
- The type(s) of data and the calculation method(s) used to prepare the GHG declaration.
- The production-specific Scope 1 and Scope 2 emissions associated with energy consumption and discharged fugitive emissions by emission source (e.g., generators, stages, production offices, etc.) from the perspective of the production studio, broken out by location-based and market-based calculations.
- The production-specific Scope 3 emissions by category, as outlined in the GHG Protocol, from the perspective of the production studio as required by the minimum boundary described in the Scope 3 Emissions in Film and Television Production Whitepaper.

SEE REFERENCE BELOW

9

The pre-production phase excludes activities associated with the development of the intellectual property (IP) that the TV show or film production is based on, such as the writing of the screenplay or teleplay. From an emissions standpoint, SEA and BAFTA albert members determined activities associated with the IP development to be low-to-no emissions-generating activities. For example, when an entity acquires the IP rights to a book to adapt it into a film, the emissions associated with the writing and publishing of the book are excluded from the film's upstream Scope 3 emissions.

10

In the UK, the principal photography phase may be referred to simply as the "production" phase.

11

In circumstances where post-production occurs well after the wrap date, entities may choose to approximate post-production emissions in order to prepare the GHG Declaration within a reasonable period following the wrap date.

REFERENCE APPENDIX A PAGE 38

Appendix A presents an example of a GHG Declaration for a film. This example is meant to be illustrative; it demonstrates the important components to include in a GHG Declaration even if the structure may vary among individual GHG Declarations.

III. Importance of Standardizing Methodologies Across the TV and Film Industry

Current State of the Industry

As of publishing this whitepaper, no known global, industry-wide guidance exists on how to account for Scope 1 and 2 emissions from the production of TV shows or films.

Entities involved in the creation of TV shows and films currently use a variety of resources to account for production-related Scope 1 and 2 emissions, including the GHG Protocol, a variety of calculators and tools, and internally developed policies, procedures, and methodologies. There is a lack of alignment and consistency across these resources. This whitepaper supports the standardization of production-related emissions accounting.

Current and emerging climate change disclosure regulations, such as the Corporate Sustainability Reporting Directive (CSRD) in the European Union (EU), the Streamlined Energy and Carbon Reporting (SECR) regulations in the United Kingdom (UK), and California Senate Bill No. 253 in the United States (US) place more scrutiny on corporate GHG accounting. Many companies in the TV and film industry are complying or preparing to comply with these regulations and have expressed the need for alignment on externally vetted methodologies.

Benefits of Standardizing Production-Related Emissions Accounting

Standardizing production-related emissions accounting offers several benefits, such as providing:

- Consistent methods for calculating production-level emissions.
- Common approaches for preparing transparent and comparable voluntary and required disclosures.
- Increased ability to conduct industry benchmarking and estimate industry averages and emissions intensities of production processes.
- Improved accuracy and consistency in emissions information needed by entities to help them balance their production portfolios, implement emissions reduction activities, and advance sustainability initiatives.
- Increased interoperability (the ability to compare and share) of emissions data among entities involved in productions, reducing the risk of double-counting or under-accounting emissions.

12

GHG Declarations may also include additional information that would be beneficial to a user of the GHG Declaration, such as fuel and electricity consumption in physical and/or energy units (e.g., GJs of gasoline consumed, kWhs of electricity consumed).

13

The start date of the reporting period should be the date that pre-production starts, also known as the date on which the production was greenlit (Greenlit Date in Figure 1, page 13). The end date of the reporting period should be the date that post-production ends, also known as the delivery date (Delivery Date in Figure 1).

IV. Whitepaper Methodology

SEA and BAFTA albert members reviewed guidance on defining boundaries and determining emissions scopes in order to determine the minimum boundary and scope of emissions for a production. Stakeholder perspectives were assessed through available information and resources provided by SEA and BAFTA albert members.

Future iterations of this whitepaper could include a more complete range of perspectives from stakeholders including film commissions, government agencies, industry consortiums, supplier companies, auditors, insurance companies, and the public. Additionally, boundary and scope determinations may be revised in future iterations of this whitepaper due to technological advances in the film industry, updates to existing GHG accounting standards, or the development of regulatory sector-specific guidance, among other factors.

Continued refinement of this whitepaper will ensure that a complete collection of feedback and insights are appropriately represented.

V. Limits of Use

This whitepaper is intended to support the scenarios identified as most common to productions. It is not intended to be prescriptive of how to account for emissions in every scenario that could occur during the production of a TV show or film.[14] Users are encouraged to apply the framework to scenarios that are not included to assess applicability and advanced understandings of opportunities to refine the framework for specific scenarios.

This whitepaper does not provide Scope 3 emissions accounting guidance. Scope 3 guidance is provided in the companion piece, the Scope 3 Emissions in Film and Television Production Whitepaper.

Lastly, this whitepaper does not provide guidance on how to reduce emissions from productions. Emission reduction strategies are dependent on many factors, such as production budgets, entity-wide sustainability goals, available technologies, and locations. That said, entities may use the results of production-level accounting to aid in setting emission reduction strategies.

14 For example, the whitepaper does not include explicit guidance for news and sports events, though the guidance can help inform GHG accounting considerations for those events.

1 Boundary Setting

Contents

I. Purpose

This section outlines determinations of a production's "minimum boundary", DEFINITION consolidation approach, and temporal boundary, DEFINITION all of which are important in setting the production GHG Declaration's overall boundary.

II. Defining the Minimum Boundary

For the purposes of the whitepaper, a production's "minimum boundary" refers to GHG emissions generated from the three content creation phases (pre-production, principal photography, and post-production) of a TV show or film production.

Figure 1 PAGE 13 presents an illustration of these different content creation phases, the terms for the start and end of each phase, and which phases are included in the reporting period for a production GHG declaration.

Emissions that occur during these phases must be included in the production's GHG declaration and classified as either Scope 1, 2, or 3 based on the consolidation approach and scope determination (see Section 2 Determining the Scope of Emission Sources). PAGE 15

DEFINITION MINIMUM BOUNDARY

For the purposes of the whitepaper, a production's "minimum boundary" refers to GHG emissions generated from the three content creation phases (pre-production, principal photography, and post-production) of a TV show or film production.

DEFINITION TEMPORAL BOUNDARY

A production's temporal boundary includes all years of the production across pre-production, principal photography, and post-production.

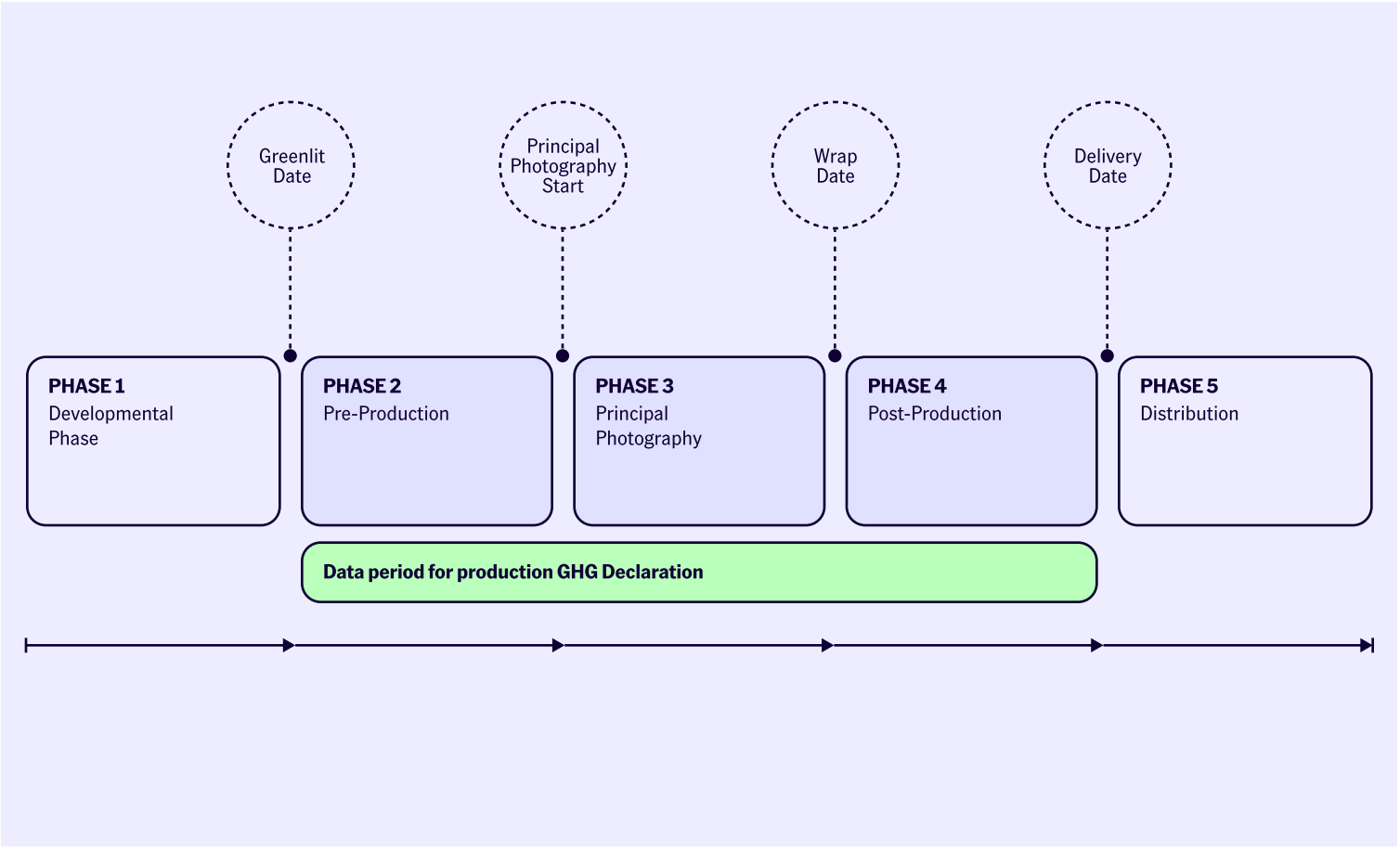
III. Defining the Temporal Boundary

A production's temporal boundary includes all years of the production across pre-production, principal photography, and post-production. For example, if pre-production starts in October 2023 and post-production ends in June 2024, emissions from that entire time period should be included in the production GHG Declaration. Most Scope 1 and 2 emissions are likely to occur during principal photography, rather than during pre-production or post-production. Additionally, post-production emissions may occur well after principal photography wraps.

For consistency within the industry, entities are encouraged to finalize production GHG Declarations after the production delivery date (end of post-production) to ensure that data from all emissions sources that occurred during the making of the production can be collected. Entities are encouraged to establish a temporal boundary termination step aligned with the end of post-production, when post-production processes (e.g., sound, color, editing) are complete and the production is ready to be delivered to a distributor. At a minimum, entities should establish and apply a consistent termination step for their production GHG Declaration's temporal boundary. SEE REFERENCE PAGE 14

FIGURE 1

Phases of Production Development



IV. Determining the Consolidation Approach

Consolidation approaches establish defined boundaries for organizing emissions. The GHG Protocol provides the following consolidation approaches:

Operational control approach

An entity has operational control over a production if the entity or one of its subsidiaries has the full authority to introduce and implement its operating policies at the production.

Financial control approach

An entity has financial control over a production if the entity has the ability to direct the financial and operating policies of the production with a view to gaining economic benefits from the production.

Equity share approach

An entity accounts for GHG emissions from a production according to its share of equity in the production. The equity share reflects economic interest, which is the extent of rights an entity has to the risks and rewards flowing from a production.

This whitepaper applies an operational control approach, which is consistent with the consolidation approach most commonly used for entity-level reporting. In practice, production scope determinations are largely consistent whether an entity applies an operational control approach or financial control approach because the entity creating the production has the ability to both direct the production's operating policies and direct its expenditures.[15] For co-productions, the entities involved would need to use their contractual arrangements to determine which entity has the authority to implement operating policies for the production or for aspects of the production and account for the associated emissions.[16]

15 Where possible, entities should encourage other organizations that are affiliated with a production to apply an operational control approach to their own accounting of the production's emissions. As is the case generally with corporate GHG accounting, if other organizations apply different consolidations approaches (e.g., equity share), the two organizations risk double counting or omitting emissions.

16 See Chapter 3 of the GHG Protocol Corporate Standard for additional guidance regarding "joint ventures."

REFERENCE APPENDIX B PAGE 40

For additional discussion regarding the temporal boundary and entity-level reporting, see Appendix B: Relationship Between Entity-Level and Production-Level GHG Accounting.

2 Scope Determination of Emissions Sources

Contents

I. Purpose

This section provides a framework comprised of six steps SEE FIGURE 2 PAGE 19 for determining if an emissions source should be included in a production's GHG Declaration and for making a scope determination. The second half of the section then examines common sources of production-related Scope 1 and 2 emissions.

II. Determining the Minimum Boundary

STEP 1
Do the emissions result from activities that occur during pre-production, principal photography, or post-production?

The first step, as described above in Section 1 Boundary Setting, PAGE 11 is to determine if an emissions source falls within the production minimum boundary (i.e., it results from pre-production, principal photography, or post-production activities). If so, the emissions are included within the boundary.

III. Determining Ownership or Control Over Emissions

For those emissions sources that are included within the boundary, the entity should determine whether the resulting emissions are Scope 1, 2, or 3, beginning with whether the emissions are direct or indirect.

Direct GHG emissions
Scope 1 emissions from emissions sources that are used to support the production and are owned or controlled by the entity.

Indirect GHG emissions
Scope 2 or Scope 3 emissions that result from the activities of the production but occur at sources owned or controlled by another entity.

Whether or not emissions are direct or indirect hinges primarily on whether the entity has ownership or control over the emissions source. To determine whether they have ownership or control over each emissions source related to the production's content creation phases, entities should follow steps 2 through 6 of the framework.

STEP 2
Does the entity own the emissions source?

If so, the emissions source is a direct source of emissions (Scope 1). If the entity does not own the emissions source, the entity should move on to step 3.

STEP 3
Does the entity hold an operating license (a.k.a., have control over) the emissions source?

An entity has control over an emissions source (e.g., a vehicle or piece of equipment) if it holds the operating license for the source. If the entity holds the operating license, the emissions source is a direct source of emissions (Scope 1). If the entity does not hold the operating license (i.e., a different entity, such as a supplier, holds the operating license), the entity should move on to step 4.

STEP 4
Does the entity hold a lease, rental agreement, or contract to operate the emissions source?

If the entity does not hold the operating license, contractual instruments such as leases and rental agreements transfer the operating license (control) from a supplier to the reporting entity. In this case, the entity would claim the emissions source as a direct source of emissions (Scope 1).[17] If the entity does not have contractual instruments to transfer the operating license to Scope 1, the emissions source is an indirect source of emissions (Scope 2 or Scope 3), the entity should move on to step 5.

[17] GHG Protocol, Corporate Accounting and Reporting Standard. Page 30.

STEP 5
Is the emissions source a power plant that supplies grid-purchased electricity?

In the case of grid-purchased electricity, the emissions source will most often be a power plant which the entity does not have ownership or control over. In this case, the entity should move on to step 6. If the emissions source is not a power plant, it is an indirect Scope 3 source of emissions. For example, emissions from a stage's consumption of natural gas would be an indirect Scope 3 source of emissions when the entity does not own the stage or have control over it.

STEP 6
Is the electricity used by an asset that, while not itself an emissions source, satisfies the ownership or control conditions of step 2, 3, or 4?

This is the final step in the framework for determining the scope of emission sources that occur during a production. If the emissions source is a power plant which the entity does not have ownership or control over, the entity should evaluate whether it has ownership or control over the asset that consumes the electricity (e.g., a vehicle or facility). If the asset satisfies the ownership or control conditions of step 2, 3, or 4 (i.e., the entity has ownership or control over the asset), the emissions source (i.e., the power plant producing grid electricity) is an indirect Scope 2 source of emissions.

If the asset does not satisfy the ownership or control conditions step 2, 3, or 4, the emissions source (i.e., the power plant) is an indirect Scope 3 source of emissions.

Summary

These steps provide a framework for scope determinations; however, productions are complex activities. Involvement by many organizations that share commodities and have varied procurement arrangements can make attributing emissions challenging. Given these complexities, entities may at times find it useful to transfer ownership of emissions (e.g., from indirect Scope 3 to direct Scope 1) among organizations involved in the production using contractual or procurement instruments such as invoices.[18] Doing so may facilitate more accurate accounting or effective emissions management. For example, an entity may use invoices from fuel purchased for a vehicle to transfer emissions from the vehicle owner to the entity. In this scenario, the emissions would be transferred from the entity's Scope 3 emissions to their Scope 1 emissions. If an entity uses an invoice to transfer emissions, it should document this in the production GHG Declaration. SEE REFERENCE BELOW

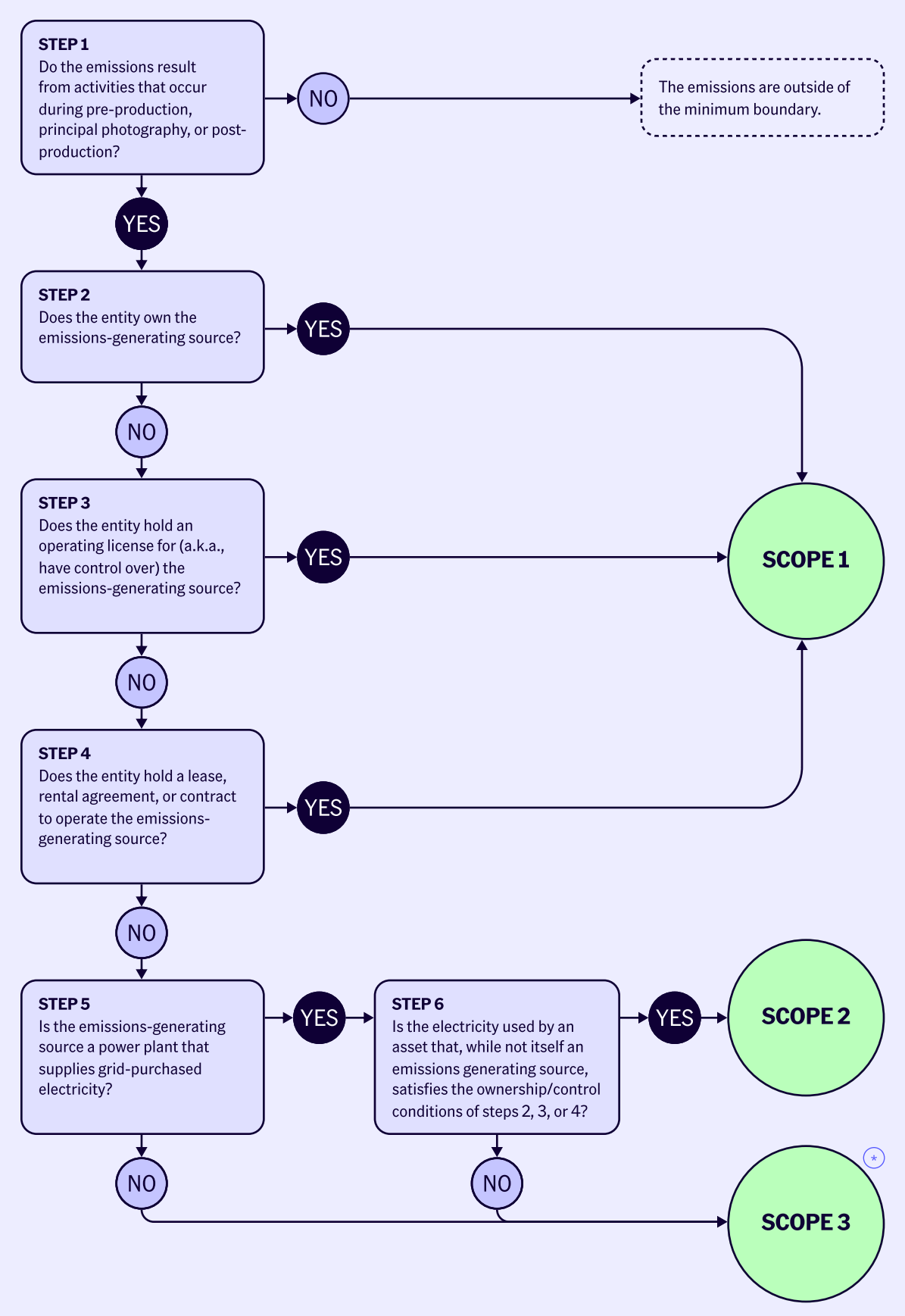
[18] According to the GHG Protocol, entities may "draw up contracts that specify how the ownership of emissions or the responsibility for managing emissions and associated risk is distributed between the parties." GHG Protocol, Corporate Accounting and Reporting Standard. Page 20.

REFERENCE CATERING STOVES PAGE 25

Refer to the case study in the Catering Stoves section for more information about what this emissions ownership transfer may look like.

FIGURE 2

Emissions Scope Determination Framework



NOTE ON SOURCES

Sources of emissions that satisfy Scope 1 determinations for steps 2 through 4 primarily pertain to on-site fuel combustion (e.g. a facility boiler). Electricity use at facilities that satisfy steps 2 through 4 are Scope 2 because the emissions occur upstream at a power plant. This situation is addressed in steps 5 and 6.

(*)

Emissions determined to be Scope 3 can be transferred to the entity's Scope 1 or 2 using contractual instruments in cases where this facilitates more accurate accounting or effective management of these emissions.

IV. Common Production-Related Emissions Sources

All Scope 1 and 2 emissions must be included in the production GHG Declaration. The following sections describe common sources of production-related Scope 1 and 2 emissions: [19]

1. **Emissions associated with energy consumed by facilities,**
2. **Emissions associated with energy consumed by vehicles,**
3. **Emissions associated with energy consumed by sources other than facilities and vehicles, and**
4. **Fugitive emissions associated with intentional discharges.**

SEE REFERENCES BELOW

1 Emissions Associated with Energy Consumed by Facilities

Facilities attributed to a production might include stages, filming/shooting locations, working warehouses, and production offices. Facilities may directly consume fuels such as natural gas, diesel, and propane. Facilities may also consume electricity. When an entity has ownership or control over a facility, or portion of a facility, [20] emissions from the direct combustion of fuels at that facility should be included in the production's Scope 1 emissions and emissions from the generation of grid-purchased electricity consumed by that facility should be included in the production's Scope 2 emissions.

Production Offices and Stages

DESCRIPTION

Production offices and stages are used during the pre-production and principal photography content creation phases. Typically, the entity has ownership or control over production offices and stages (i.e., the entity has the operating license, lease, or rental agreement).

SCOPE DETERMINATION

The emissions from the direct combustion of fuels at production offices and stages should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the production offices and stages should be included as Scope 2 emissions.

Hotel Rooms SEE CASE STUDY PAGE 21

DESCRIPTION

Entities may rent hotel rooms to be used as production offices when filming in remote places or in areas where office rentals may not be available. Typically, there is a short-term contract set up between the hotel and the entity for use of the hotel space.

[19] Note that Scope 1 and 2 can include rented facilities and vehicles per the steps outlined in the scope determination decision tree (Figure 2, page 19).

[20] For example, when a production rents a school gymnasium to film in, but the production is not using the rest of the school's facilities.

REFERENCE APPENDIX C PAGE 42

The information in the following sections is also summarized in the table in Appendix C: Common Production-Related Emissions Sources Table.

REFERENCE APPENDIX D PAGE 43

For information on exclusions to the "minimum boundary", refer to Appendix D: Emissions Outside the Minimum Boundary.

Productions typically treat rented hotel rooms similarly to other leased or rented spaces, in that the entity has operational control over both.

SCOPE DETERMINATION

The emissions from the direct combustion of fuels at production offices and stages should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the production offices and stages should be included as Scope 2 emissions.

Alternatively, an entity may account for emissions from rented hotels under Scope 3 Category 8: Upstream Leased Assets. For example, an entity may do this if doing so aligns with its scope determination approach for other leased or rented spaces (i.e., the entity does not have operational control over either) or for consistency with the hotel's consolidation approach (i.e., the hotel accounts for the space's emissions as Scope 1 and 2).

If hotel rooms are booked as a place for crew and talent to stay when out of town (i.e., temporary place of residence), the entity typically does not have ownership or control over the hotel rooms (i.e., the entity does not have the operating license, lease, or rental agreement). These emissions from the direct combustion of fuels by the hotel rooms and from the generation of grid-purchased electricity consumed by the hotel rooms should be included as Scope 3 Category 6: Business travel.

Working Warehouses

DESCRIPTION

Working warehouses often involve activities that consume energy, such as creating costumes, constructing sets, and using computers. They may also be used to store production-related assets while the production is in progress. Working warehouses are typically rented by and paid for by the entity, meaning that the entity has control over them.

SCOPE DETERMINATION

The emissions from the direct combustion of fuels at the working warehouse should be included as Scope 1 emissions and the emissions associated with the generation of grid-purchased electricity consumed by the working warehouse should be included as Scope 2 emissions.

NOTE ON CASE STUDIES

All case studies in this section are fictional but based on common industry scenarios.

CASE STUDY

Hotel Rooms Used as Production Offices

Novel Production Company is filming a TV show on-location and books five hotel rooms for two months to be used as production offices. The hotel rooms consume grid-purchased electricity and natural gas. Novel Production Company sets up a contract with the hotel to book these rooms. Consistent with its approach for leased spaces, Novel Production Company considers its contract for the hotel space as transferring operational control. Therefore, Novel Production Company includes the emissions from the direct combustion of fuel consumed by the hotel rooms in the TV show's Production GHG Declaration as Scope 1 emissions and those from electricity as Scope 2.

Construction – Facility Energy

DESCRIPTION

Energy may be consumed for construction purposes, such as building pieces of a set for a specific production. If the construction work uses energy directly from the facility (e.g., plugs their equipment into an electricity outlet), the entity typically maintains ownership or control over the facility without transferring control to the construction company.

SCOPE DETERMINATION

The emissions from the direct combustion of fuels at that facility (for the purposes of construction) should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the facility (for the purposes of construction) should be included as Scope 2 emissions. [21]

2 Emissions Associated with Energy Consumed by Vehicles

Vehicles associated with a production, such as cars, trucks, buses, planes, helicopters, boats, and forklifts, may be used for a variety of purposes, such as completing production-related errands, transporting cast and crew, or principal photography (e.g., camera cars, stunt vehicles). Vehicles may directly consume fuels such as gasoline [22] or diesel. Vehicles may also consume electricity (i.e., electric vehicles, plug-in hybrid electric vehicles). When an entity has ownership or control over a vehicle's emissions from the direct combustion of fuels by the vehicle should be included in the production's Scope 1 emissions and emissions from the generation of grid-purchased electricity consumed by the vehicle should be included in the production's Scope 2 emissions.

Crew-Owned Vehicles

DESCRIPTION

According to industry input, productions may not have a fleet of entity-owned vehicles or rental vehicles assigned to them and instead may use crew-owned vehicles for production-related purposes, such as running production-related errands. The entity does not have ownership or control over these types of vehicles (i.e., the entity does not have the operating license, lease, or rental agreement).

SCOPE DETERMINATION

The emissions from the direct combustion of fuels by the crew-owned vehicles and from the generation of grid-purchased electricity consumed by the crew-owned vehicles should be included as Scope 3 Category 6: Business Travel.

Vehicles Rented by the Production

DESCRIPTION

Productions may also rent vehicles for production-related purposes, such as running production-related errands. According to industry input, the entity is likely to have control over these vehicles (i.e., the entity has the operating license, lease, or rental agreement).

21 Productions may also use third-party construction companies (suppliers). These construction companies provide a service and should be accounted for under Scope 3 where possible—particularly if the companies supply their own generators, vehicles, and other equipment (See the Construction – Equipment or Asset Energy section, page 24).

22 Also known as "petrol".

SCOPE DETERMINATION

The emissions from the direct combustion of fuels by the vehicles should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the vehicles should be included as Scope 2 emissions.

Vehicles Used to Transport Goods

DESCRIPTION

Vehicles may be used to transport goods for a production, such as equipment and set pieces. Sometimes, these vehicles contain goods for multiple productions.

SCOPE DETERMINATION

When the entity has ownership or control over these vehicles (i.e., the entity has the operating license, lease, or rental agreement), the emissions from the direct combustion of fuels by the vehicles should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the vehicles should be included as Scope 2 emissions.

When suppliers that transport goods have ownership or control over these vehicles (i.e., the suppliers use the vehicles as part of the service they provide to the entity), the emissions should be included as Scope 3 Category 4: Upstream Transportation and Distribution emissions. Only emissions related to the production in question should be included in the production GHG Declaration (i.e., emissions should be apportioned).

Helicopters, Jets, and Boats

DESCRIPTION

Helicopters, jets, or boats are used on-screen (e.g., for stunts such as high-speed chase scenes) or to transport sets. Sometimes, the entity has control over these vehicles (i.e., the entity has the operating license, lease, or rental agreement). Other times, the entity does not have control over these vehicles and they are part of a purchased service.

SCOPE DETERMINATION

When the entity has control over the helicopter, jet, or boat, the emissions from the direct combustion of fuels consumed by the vehicles should be included as Scope 1 emissions and the emissions from the generation of grid-purchased electricity consumed by the vehicles should be included as Scope 2 emissions.

When the entity does not have control over the helicopter, jet, or boat, the emissions from the direct combustion of fuels and from the generation of grid-purchased electricity consumed by the vehicles should be included as Scope 3 Category 1: Purchased Goods and Services.

3 Emissions Associated with Energy Consumed by Sources Other Than Facilities and Vehicles

Apart from facilities and vehicles, there may be other sources associated with productions that generate emissions associated with the

consumption of energy. Such sources may include the use of generators, portable heating and/or air conditioning units, and special effects (e.g., pyrotechnics). These other sources may directly consume fuels and electricity. When the entity has ownership or control over them, emissions from the direct combustion of fuels by these sources should be included in the production's Scope 1 emissions and emissions from the generation of grid-purchased electricity consumed by these sources should be included in the production's Scope 2 emissions.

Care should be taken to avoid double-counting emissions between facilities or vehicles and other sources. For example, if an emissions source consumes grid-purchased electricity directly from a facility, facility-level emissions will likely include the emissions from that source. Therefore, emissions from that source's grid-purchased electricity consumption should not be separately calculated and added to the total.

Construction – Equipment or Asset Energy

DESCRIPTION

Energy may be consumed for construction purposes, such as building pieces of a set for a specific production. If the construction work uses energy from equipment or assets other than the facility, the entity may not have ownership or control over that equipment or those assets (i.e., the entity may not have the operating license, lease, or rental agreement).

SCOPE DETERMINATION

The emissions associated with the construction should be included as Scope 3 Category 1: Purchased Goods and Services emissions. This may include, for example, third-party construction companies (suppliers) that supply their own generators and other equipment.

If the construction work uses energy directly from the facility, refer to the Construction – Facility Energy section above. PAGE 22

CASE STUDY

Renting Generators and Services that Involve Generators

Lighthouse Cinematics is filming some scenes for a feature film on-location at night with high-power lights. The lights require the use of diesel generators, which Lighthouse Cinematics rents from a supplier company. Lighthouse Cinematics has a rental agreement with the supplier company that conveys the operating license over the generators. Therefore, Lighthouse Cinematics has operational control over the generators, and includes the emissions from the direct combustion of diesel by the generators in the feature film's Production GHG Declaration as Scope 1 emissions.

Lighthouse Cinematics also hires a heavy-equipment supplier company to provide and operate a crane used to film some scenes for the feature film. The crane is powered by a diesel generator. The crane and the generator are both provided by the heavy-equipment supplier company as a service for supporting the film's set operations. Lighthouse Cinematics does not have operational control over the generator, and includes the emissions from the direct combustion of diesel by the generator in the feature film's Production GHG Declaration as Scope 3 Category 1: Purchased Goods and Services emissions.

Generators

SEE CASE STUDY PAGE 24

DESCRIPTION

Energy may be consumed by mobile generators that are brought to filming locations. In these situations, it is important to consider whether the entity has ownership or control over the generator itself, which is the emissions source.

SCOPE DETERMINATION

If the entity has ownership or control over the generator (i.e., the entity has the operating license, lease, or rental agreement), the emissions from the direct combustion of fuels by the generator should be included as Scope 1 emissions. An example of this may be a generator rented by an entity and used on a filming location to power set lights operated by the production crew.

If the generator is used by a supplier as part of a purchased service, the entity likely does not have ownership or control over the generator (i.e., the entity does not have the operating license, lease, or rental agreement). In these situations, the emissions associated with the generator should be included as Scope 3 Category 1: Purchased Goods and Services emissions.

Catering Stoves

SEE CASE STUDY BELOW

DESCRIPTION

Energy may be consumed by stoves used in catering. Similar to generators described above, it is important to consider whether the entity has ownership or control over the stove itself, which is the emissions source.

SCOPE DETERMINATION

If the entity has ownership or control over the catering stove (i.e., the entity has the operating license, lease, or rental agreement), the emissions from the direct combustion of fuels by the stove should be included as Scope 1 emissions and the emissions from the generation of grid-

CASE STUDY

Transferring Catering Emissions through Itemized Invoices

Mango Hill Studios is filming a TV show and hires a catering company to provide meals for the cast and crew. The catering company brings a propane stove to keep the food hot. The agreement between Mango Hill Studios and the catering company is for the catering services, not the stoves themselves. Therefore, Mango Hill Studios does not have operational control over the stoves, and would include the emissions from the direct combustion of propane by the stoves in the TV show's Production GHG Declaration as Scope 3 Category 1: Purchased Goods and Services emissions.

However, Mango Hill Studios decides that they want to take ownership over the emissions from the direct combustion of propane by the stoves. Mango Hill Studios and the catering company discuss this option and decide that emissions may be transferred from the catering company to Mango Hill Studios, because invoices from the catering company are itemized to show individual costs of food, labor, and propane. Effectively, Mango Hill Studios uses the sale of fuel as justification for transferring the emissions, even though Mango Hill Studios does not hold the operating license for the stoves. Mango Hill Studios includes the emissions from the direct combustion of propane by the stoves in the TV show's Production GHG Declaration as Scope 1 emissions. It documents the rationale behind this decision in the Production GHG Declaration.

purchased electricity consumed by the stove should be included as Scope 2.

If the stove is used by a catering company as part of a purchased catering service, the entity likely does not have ownership or control over it (i.e., the entity does not have the operating license, lease, or rental agreement). In these situations, the emissions associated with the stove should be included as Scope 3 Category 1: Purchased Goods and Services emissions.

4 Fugitive Emissions Associated with Intentional Discharges

Fugitive emissions can come from accidental leaks (i.e., "leaked fugitive emissions") or intentional discharges (i.e., "discharged fugitive emissions"). Discharged fugitive emissions occur when equipment is used that intentionally discharges or expels GHGs (e.g., fire suppression equipment or aerosol spray paint cans).[23] When the entity has ownership or control over the equipment (i.e., the entity has the operating license, lease, or rental agreement), discharged fugitive emissions should be included in the production's Scope 1 emissions.[24]

Leaked fugitive emissions from facilities, vehicles, or other sources are considered to be outside of the minimum boundary. Refer to the Fugitive Emissions Associated with Accidental Leaks section for more information. PAGE 43

[23] A production is not typically responsible for installing, servicing, or disposing of this type of equipment.

[24] Reporting entities may wish to make determinations as to whether or not discharged emissions are significant enough to be included within the production GHG Declaration aligned with considerations of de minimis activities described in Appendix D: Emissions Outside the Minimum Boundary (page 43).

V. Additional Guidance for Scope 2 Electricity

On-Site Renewable Electricity

Facilities, vehicles, and other energy-consuming assets associated with a production may consume electricity generated from renewable, on-site sources. If productions consume renewable electricity generated on-site, that production can claim zero emissions for that electricity consumption, as long as the entity retains the energy attribute certificates (EACs) and applies them to the production.

EACs and Green Tariffs

EACs are a type of contractual instrument that represents information about the energy generated, without representing the energy itself. Examples include renewable energy certificates (RECs) and Renewable Energy Guarantees of Origin (REGOs). Certificates are typically produced for one unit of generation (i.e., a Megawatt-hour of electricity) and are purchased by an entity, which is required to retire and remove them from the market in order to claim them. EACs can then be used to claim renewable energy attributes.

Green tariffs are an example of a supplier or utility emission rate that is distinct from the "standard" offering. There are often renewables or other low-carbon energy sources involved in green tariffs, supported by EACs or other contracts.

Productions, or facilities used by productions, can purchase EACs and/or can purchase electricity from utility companies at a lower emission rate. In these circumstances a production should obtain documentation that substantiates a claim to the electricity's renewable energy attributes. In the production GHG Declaration, Scope 2 emissions should be reported under a location-based method (without contractual instruments such as EACs or green tariffs) and under a market-based method (with contractual instruments such as EACs or green tariffs). EACs enable entities to claim zero emissions in their market-based Scope 2 emissions for the amount of electricity for which EACs are purchased. Green tariffs enable entities to use a lower emission factor when calculating emissions from grid-purchased electricity consumption.

Carbon Credits SEE CASE STUDY BELOW

Carbon credits, sometimes called offsets, represent a quantity of GHG emissions reduced or avoided through a certified project. Unlike EACs, carbon credits do not convey information about direct energy generation emissions occurring at the point of production. Carbon credits to offset a production's emissions cannot be applied when quantifying a production's Scope 1, 2, and 3 emissions. Productions, or facilities used by productions, can purchase carbon credits to offset production emissions. In these circumstances a production should obtain documentation that substantiates the purchase. If an entity chooses to purchase carbon credits, any disclosure of the use of credits to offset emissions included within the production GHG Declaration must be reported separately from the Scope 1, 2, and 3 emissions.

CASE STUDY

Leasing Space from Another Production Company that Purchases RECs

To film a feature film, Moonshot Media leases a sound stage located in a facility owned by another production company, Gray Griffin Enterprise. The facility is powered by grid-purchased electricity and natural gas. Because Moonshot Media has a lease for the sound stage, it has operational control over the sound stage, and includes the emissions from the direct combustion of natural gas at the sound stage in the feature film's Production GHG Declaration as Scope 1 emissions, and includes the emissions from the genration of grid-purchased electricity consumed by the sound stage in the feature film's Production GHG Declaration as Scope 2 location-based emissions. Natural gas and electricity consumption data are only available at the facility-level, so Moonshot Media apportions facility-level data by the square footage and length of time that, as specified by the lease, it used the sound stage to film the feature film.

The owner of the facility, Gray Griffin Enterprise, has purchased RECs to offset the grid-purchased electricity consumed by the sound stage leased to Moonshot Media for the feature film. Gray Griffin Enterprise provides documentation to Moonshot Media that it has procured RECs. This enables Moonshot Media to apply the renewable energy attributes to its electricity consumption at the sound stage, under the Scope 2 market-based method. Both the location-based and market-based emissions are included in the feature film's Production GHG Declaration.

VI. Uncommon Scenarios

A wide range of emissions sources are considered in the sections above, however these sections do not encompass all possible scenarios that could occur during the content creation process for a TV show or film. The guidance presented in this whitepaper should be used to evaluate additional scenarios and best efforts made to ensure those evaluations remain aligned with the guidance.

3 Data Collection and Management

Contents

I. Purpose

This section outlines the data hierarchy that should be followed when collecting data to calculate emissions for all Scope 1 and 2 emissions sources within a production's minimum boundary. This section also discusses allocation methods, data collection best practices, and improving data collection over time.

II. Data Hierarchy

The following sections present a data hierarchy that entities should use when selecting data to calculate emissions from productions, which is aligned with the GHG Protocol. In general, production GHG Declarations should source data that is relevant, complete, consistent, transparent, and accurate.

Relevant
Data reflects production emissions in ways that serve decision-making needs of users.

Complete
Data covers all emission sources and activities within the production minimum boundary.

Consistent
Data uses consistent methodologies to allow for meaningful performance tracking of emissions over time and includes documentation of any changes to the data, boundary, methods, or other relevant factors in the time series.

Transparent
Data maintains a clear audit trail, has been analyzed in a factual and coherent manner, and includes documentation of any relevant assumptions, calculation methodologies, and data sources used.

Accurate
Data quantifies emissions accurately, without systematic over- or under-estimations, and has uncertainties that have been reduced as far as practical.

Data that meet these criteria may require higher levels of effort to collect and require more engagement with stakeholders in the production's value chain. Data compilers should seek to increase adherence to the above principles over time using the following hierarchy.

1 Primary Data (Most Preferred)

Primary data is defined as activity data from emissions sources related to a production. When combined with an emission factor, primary data can be used to directly calculate emissions. Examples may include:

- Gallons or liters [25] of fuel consumed by an emissions source.
- Kilowatt-hours consumed by an emissions activity.
- Miles or kilometers traveled by an emissions source.

This data is often available on bills, such as invoices for electricity consumption or receipts for purchased fuels. When primary data is not complete, it may be extrapolated as described below.

a Complete Data

The most preferred type of primary data is a complete representation of an emissions source for the entire length of time the source is in a production's minimum boundary. For example, 6 months of data on gallons or liters of fuel consumed by an emissions source that is in a production's minimum boundary for 6 months (e.g., a production stage or vehicle rented for 6 months).

b Extrapolated Data

If complete data is unavailable, the missing data may be extrapolated from available primary data. This involves using partial data to extrapolate data for the entire length of time an emissions source is in a production's minimum boundary. For example, if only 3 months of fuel consumption data are available for a 6-month production period, the data for the missing months can be extrapolated using the data (e.g., monthly averages) from the available months.

2 Secondary Data

Secondary data is defined as data that can be used to estimate activity data from emissions sources related to a production in lieu of primary data. Similar to primary data, secondary data can be used to directly calculate emissions when combined with an emission factor.

Secondary data should be representative of the emissions source of interest in terms of reflecting the actual technologies used, the actual time (i.e., year) or age of the emissions source, the actual geographical location (i.e., country or site) of the emissions source, and the type of production of interest (i.e., genre, number of episodes, and length of film or episodes).

There are three types of secondary data outlined below, in order of preference.

25 Also spelled "litres".

a Financial Data Converted into Consumption Data

In combination with the average cost per amount of energy, financial data can be used to calculate the amount of energy consumed by an emissions source. This is the most preferred type of secondary data. For example, if the cost of fuel spent on gasoline consumed by vehicles is converted to liters of gasoline consumed using the cost per liter, the resulting data on liters of gasoline consumed is considered secondary data.

b Proxy Data

Proxy data is defined as data that comes from another emissions source in the production's or entity's control, such as a similar vehicle's mileage being driven for the same production or a similar production's facility-level grid-purchased electricity consumption. Proxy data can be used "as-is" or can be extrapolated, scaled up, or otherwise customized to best represent an emissions source.

In most cases, it is preferred to customize the proxy data to best represent an emissions source, as long as there is enough information to do so. For example, if the grid-purchased electricity consumption and square footage of a facility used to film a similar production is known, the entity should determine the average grid-purchased electricity consumption per square foot and multiply that by the square footage of the facility used to film the production of interest. This would yield more accurate results than using a similar production's grid-purchased electricity consumption "as-is".

c Externally Sourced Data

If proxy data is not available, the entity can use externally sourced data from sources such as industry associations or databases (e.g., BAFTA albert).[26] When industry-specific datasets are unavailable, entities may need to use non-industry-specific datasets such as those from the US Energy Information Administration (EIA) Commercial Buildings Energy Consumption Survey (CBECS) or the Chartered Institution of Building Services Engineers (CIBSE). Externally sourced datasets vary in their resolution, applicability, and the accuracy of emission estimates they inform. For example, some datasets allow users to estimate activity data, which can be used to estimate emissions while others may allow users to approximate emissions directly.

An example of using an externally sourced dataset is estimating the number of miles or kilometers traveled by a vehicle using the vehicle's average fuel economy from a database. Another example is estimating a facility's electricity consumption by multiplying the facility's square footage by an industry-average value for kilowatt-hours consumed per square foot.

26 The SEA Carbon Emissions of Film and Television Production report provides industry benchmarks for select activities such as air travel and utilities (i.e., energy consumption), which may be used to inform emissions estimations. However, additional work may be needed to develop benchmarks at resolutions sufficient to support production GHG Declarations.

III. Data Collection Best Practices

Data collection practices and procedures should focus on transparency and accountability in order to ensure a clear audit trail. They should be replicable and documented so that the same types of data can be collected across productions.

It is recommended that working relationships with data providers are established and maintained so that data providers understand the types of data required for production-level GHG accounting and how their participation by providing data contributes to the entity's overall sustainability and auditing goals. Engaging data providers early on in the production creation process will allow data providers time to gather the necessary data and for those responsible for preparing the production GHG Declaration to review the data and ask follow-up questions to the data holders.

Entities may also explore externally developed GHG accounting software tools that may be useful for preparing a production GHG Declaration and are aligned with the guidance on this whitepaper.

IV. Improving Data Collection Over Time

When beginning their practice of preparing production GHG Declarations, entities may not have immediate access to data that is highest up the hierarchy. If entities are not currently using data that is highest up the data hierarchy, they should develop a plan to work towards improving data availability and quality while meeting sustainability and auditing requirements.

By improving the quality of the data used for production GHG Declarations, entities will have the ability to make more informed decisions on sustainability practices in order to reduce the emissions attributed to their productions.

V. Data Collection Challenges

Given the realities of data availability for a specific production, it may not be possible to allocate production emissions between Scope 1, 2, and 3 in perfect alignment with this guidance. As the GHG accounting practices at TV and film entities mature, effort should be made to align data management practices with this guidance.

Allocation is a practice to partition data among various outputs when the data does not have a level of disaggregation that allows for production emissions to be calculated. For example, when a single facility is used to produce multiple productions but energy consumption data is not available per production, the energy consumed by the overall facility should be partitioned among each specific production in accordance with that production's use of the facility.

Entities should avoid or minimize allocation if possible because it adds uncertainty to emissions estimates. Entities can do this by collecting data at the most disaggregated level possible through the use of sub-metering, requesting monthly invoices instead of annual invoices, and striving to keep as detailed records as possible of fuel and electricity consumption. The methodology and assumptions used to allocate emissions between different parties or end users should always be clearly stated in any documentation that accompanies a production GHG Declaration.

If allocation is needed, the following sections provide general guidance on how to allocate data in scenarios identified as most common by industry leaders. The most appropriate methods to allocate data are typically unique to a production and the type of data available. Therefore, the following sections do not present specific recommendations. For all scenarios, productions should provide explanations for all allocation decisions.

Additional guidance on allocation methods is available in the GHG Protocol.

Allocating Data Among Different End-Uses

When fuel is purchased in bulk and used in different end-uses, sometimes the related data does not contain enough detail to know how much fuel was used for each end-use. For example, diesel may be purchased in bulk and used to fuel both vehicles and generators. As another example, electricity may be used in a facility as well as electric vehicle chargers based in the facility. Allocation may be necessary if an entity would like to partition a production's use of the fuel (and the resulting emissions) into different scopes based on end use. In these scenarios, entities should try to estimate the allocation using other verifiable data, such as fuel economies, to estimate vehicle fuel consumption. Entities may also estimate the allocation using proportions of each end-use based on expert opinion (i.e., 50% for each end-use). If entities cannot estimate the allocation, they may classify all consumption as the end-use used most often or as direct Scope 1 emissions (if fuel consumption) or indirect Scope 2 emissions (if grid-purchased electricity consumption), depending on their discretion.

Allocating Data Among Multiple Productions Using the Same Space

When multiple productions are filmed in the same space, sometimes the related data on facility energy consumption does not contain enough detail to know how much of the energy was consumed by a specific production. For example, one production may operate a space for the first two weeks of a month, and a second production may operate that same space for the last two weeks of a month. As another example, two productions may operate a space simultaneously, but the space may lack sub-metering. If data on the facility energy

consumption is only available monthly in the first example, or only available for the overall space in the second example, productions will need to allocate the data.

In these scenarios, entities should estimate the allocation using the percentage of total days and square footage operated by the production of interest. If an entity operated a space for 50% of the month, and data on the facility energy consumption is only available monthly, then 50% of the annual energy consumption should be allocated to the production. If an entity operated 50% of the square footage of a space, and data on the facility energy consumption is only available for the overall space, then 50% of the overall space's energy consumption should be allocated to the production.[27]

Allocating Data Among Different Fuel Types

When productions consume energy that has the potential to be sourced from fossil fuels as well as renewable sources, sometimes the related data on energy consumption does not contain enough detail to know how much of the energy was sourced from renewable sources. For example, diesel may in actuality be a blend of biodiesel. As another example, electricity may be partially generated from solar panels. In these scenarios, entities must obtain documentation supporting claims of renewable energy. If no such documentation can be obtained (e.g., difficulties communicating with landlord or data providers), the entity must assume all fuel consumption is sourced from fossil fuels and all electricity consumption is sourced from the local grid (i.e., the entity must apply regional grid emission factors to all electricity consumption).

27 If primary data on energy consumption is not available, such as when it is included as part of the rent, energy consumption should be estimated following the steps outlined in the Data Hierarchy section (page 30).

4 Calculation Methods

Contents

I. Purpose

Emissions calculations guidance for Scope 1 and 2 emission sources are provided in this section and will cover the types of emission sources likely to be common to most productions. Additional emissions sources may exist that are not explicitly covered by this guidance, in which case best efforts should be made to adapt this guidance to those situations.

II. Emission Factors

Emission factors allow emissions to be calculated from primary or secondary data. They may be available specific to the emissions source or utility, though if not, more generic or general emission factors are often available. Scope 1 emission factors typically allow for emissions to be calculated from fuel consumption data. Scope 2 emission factors typically allow for emissions to be calculated from grid-purchased electricity consumption data.

Emission factors should be chosen according to similar criteria used in choosing data. The most preferred emission factors are relevant, complete, consistent, transparent, and accurate. The sources of emission factors and decisions involved in choosing emission factors should be documented alongside the production GHG Declaration.

III. Global Warming Potentials (GWPs)

GHGs have different effectiveness at absorbing heat in the atmosphere. When quantifying GHG emissions, it is best practice to convert quantities of individual GHGs emitted into the common unit of CO_2e to represent the gases' cumulative impact on trapping heat in earth's atmosphere. GWPs are periodically updated due to improvements in the scientific community's understanding of how GHGs affect the atmosphere. Updates to GWPs are published by the Intergovernmental Panel on Climate Change (IPCC) in their periodic Assessment Reports.

Production GHG Declarations should use the same GWPs used in entity-wide GHG reporting. The GWP used to calculate a production's emissions should be documented in the production GHG Declaration.

IV. Calculations

Calculations typically follow the same basic formula:

Data x Emission Factors x GWP = Emissions

As explained in the data hierarchy above, the data can be primary data or secondary data (financial data converted into consumption data, proxy data, or externally sourced data). The emission factor depends on the type of data. Refer to Appendix E: Example Calculations PAGE 44 for more detailed example calculations.

Appendix A GHG Declaration

Figure 3 BELOW presents an example of a GHG Declaration for a film. This example is meant to be illustrative; it demonstrates the important components to include in a GHG Declaration even if the structure varies among individual GHG Declarations. Important components to include are listed in the Production GHG Declaration section. PAGE 7

FIGURE 3

Example GHG Declaration for a Film

Production Greenhouse Gas (GHG) Declaration	
Production Name	Film A
Production Studio	Studio A
Production Years (Reporting Period)	April 1, 2017 – October 1, 2018
GHG Declaration Prepared By	Studio A
Emissions Consolidation Approach	Operational Control Approach
Global Warming Potential	Fifth Assessment Report (AR5)

Production Emissions Summary	**Location-Based Emissions ($MT CO_2e$)***	**Market-Based Emissions ($MT CO_2e$)***	**Data Type**	**Calculation Method**
Total Production Emissions	**1,375**	**1,355**		
Scope 1 Emissions	**300**	**300**		
Facilities	**110**	**110**		
Natural Gas	100	100	Secondary Data - Externally Sourced	Estimated consumption using square feet and US EIA CBECS average intensities.
Diesel	10	10	Primary Data	Actual consumption obtained.
Vehicles	**50**	**50**		
Gasoline	50	50	Secondary Data - Financial Data Converted	Estimated consumption using dollars spent and average cost of gasoline.
Generators	**140**	**140**		
Diesel	140	140	Primary Data	Actual consumption obtained.

Scope 2 Emissions	**400**	**380**		
Facilities	**350**	**330**		
Grid-Purchased Electricity	350	330	Primary Data	Actual consumption obtained. RECs were purchased to cover Building A (20 MT CO_2e).
Vehicles	**50**	**50**		
Grid-Purchased Electricity	50	50	Secondary Data - Proxy	Proxied electricity consumption of vehicles in similar production.
Scope 3 Minimum Boundary Emissions	**675**	**675**		
Category 1: Purchased Goods and Services	500	500	Financial Data	Dollars spent per industry.
Category 3: Fuel- and Energy-Related Activities	30	30	Multiple	See Scope 1 and 2 comments above.
Category 4: Upstream Transportation and Distribution	10	10	Primary Data	Actual consumption obtained from supplier.
Category 5: Waste Generated in Operations	5	5	Secondary Data - Proxy	Proxied waste generation of similar production.
Category 6: Business Travel	90	90	Primary Data	Estimated consumption using miles traveled per travel mode.
Category 7: Employee Commuting	40	40	Primary Data	Actual miles traveled per travel mode obtained.
Scope 3 Optional Emissions				Not relevant
Category 2: Capital Goods				Not relevant
Category 8: Upstream Leased Assets				Not relevant
Category 9: Downstream Transportation and Distribution				Not relevant
Category 10: Processing of Sold Products				Not relevant
Category 11: Use of Sold Products				Not relevant
Category 12: End-of-Life of Sold Products				Not relevant
Category 13: Downstream Leased Assets				Not relevant
Category 14: Franchises				Not relevant
Category 15: Investments				Not relevant

* The GHG Protocol Scope 2 Guidance provides two calculation methods for Scope 2 emissions and requires dual reporting of both methods. The location-based method reflects the average emissions intensity of grids on which energy consumption occurs, while the market-based method reflects emissions from electricity that companies have purposefully chosen in the form of contractual instruments (including direct contracts, certificates, or supplier-specific information). Emissions from the two methods may be the same if there is no contractual purchase of electricity or due to lack of data on market-based emission factors.

Appendix B Relationship Between Entity-Level and Production-Level GHG Accounting

Relationship Considerations

Entity-level (e.g., enterprise-level) GHG emissions inventories and production-level GHG inventories are complementary efforts that account for many of the same sources of emissions but have different reporting purposes. An entity-level GHG emissions inventory accounts for the annual Scope 1, 2, and 3 emissions from the organizational perspective of the entire entity, while a production-level inventory accounts for a subset of emissions specific to the production. GHG accounting methodologies should be consistent between entity-level inventories and production GHG Declarations, to the extent possible. This includes the consolidation approach followed, GWPs utilized, emission factors applied, and allocation to Scope 1, 2, or 3.[28]

Typically, Scope 1, 2, and 3 emissions from a production are encompassed within the Scope 1, 2, and 3 emissions of the entity creating the production. However, not all entity-related emissions are production-related emissions, as an entity has broader operations that do not always directly relate to a specific production. For example, when emissions from an entity's administrative office building are not tied to a specific production, grid-purchased electricity use from that office building should be included in an entity-level Scope 1 and 2 inventory, but not in the production GHG Declaration (i.e., production-specific Scope 1 and 2 inventory). As another example, emissions from a storage warehouse not tied to a specific production should be included in an entity-level Scope 1 and 2 inventory, but not in the production GHG Declaration.

For guidance on the following topics related to guidance on how to apply production GHG Declarations to entity-wide GHG inventories, see the Scope 3 Emissions in Film and Television Production Whitepaper section: Who should account for the emissions, in what year, and in which scope? (page 16):

- Incorporating production GHG Declaration emissions into entity-wide inventories across multiple years and entities
- Allocation of a production's emissions when entities use different emissions consolidation approaches

Additional Temporal Boundary Considerations

Entity-level GHG accounting occurs annually and includes all emissions generated in a 12-month period (typically calendar year or fiscal year). However, productions may take more than 12 months to complete or may be completed across multiple years.

When developing an entity-level GHG inventory, production-related emissions should be accounted for in the calendar year or fiscal year they occur. For example, if a production took place from October 2023 through June 2024, only grid-purchased electricity consumption that occurred from October 2023 through December 2023 for that production should be included in the entity's 2023 calendar year inventory, and only grid-purchased electricity consumption that occurred from January 2024 through

28 Publicly or commercially available GHG accounting tools and software may use different methodologies and/or emissions factors than those used elsewhere by the reporting entity. Where possible, efforts should be made to identify and resolve these differences.

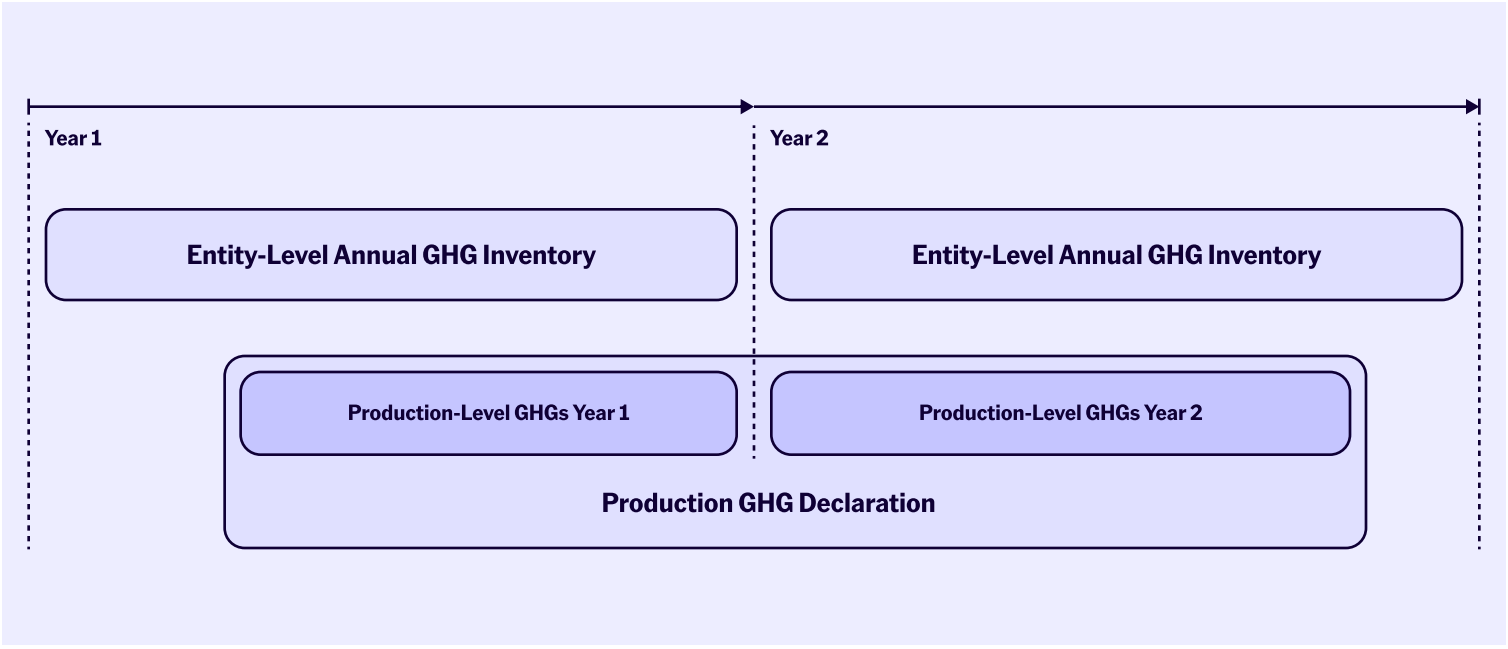
June 2024 for that production should be included in the entity's 2024 calendar year inventory, assuming that entity reports emissions by calendar year. If that entity reports emissions by fiscal year starting on April 1st and ending on March 31st, only grid-purchased electricity consumption that occurred from October 2023 through March 2024 for that production should be included in the entity's 2023 fiscal year inventory, and only grid-purchased electricity consumption that occurred from April 2024 through June 2024 for that production should be included in the entity's 2024 fiscal year inventory.

However, when developing the production GHG Declaration for a production that takes more than 12 months to complete or that is completed across multiple years, the emissions from all years of the production should be accounted for in the production GHG Declaration. For example, if a production took place from October 2023 through June 2024, grid-purchased electricity emissions from that entire time period should be included in the production GHG Declaration. The period of time covered by the data must be indicated in the production GHG Declaration. Figure 4 BELOW presents an illustration of this temporal relationship.

If disaggregating by calendar year or fiscal year is not possible for production-level data, all emissions attributed to the production should be included in the entity-level inventory in the calendar year or fiscal year that the post-production phase of the production concludes.

FIGURE 4

Temporal Relationship Between Production-Level Emissions and Entity-Level Emissions



Appendix C Common Production-Related Emissions Sources Table

Figure 5 BELOW summarizes the scope determinations for common production-related emissions sources from the Common Production-Related Emissions Sources section above. PAGE 20

FIGURE 5

Common Production-Related Emissions Sources and Scopes

Emissions Source	Description of Ownership and Control	Emissions Scope
Catering Stoves	Stove is part of a service offered by suppliers, so entity does not have control over stove.	Scope 3
	Entity has operating license, lease, or rental agreement, so has control over stove.	Scope 1 and 2
Construction - Equipment or Asset Energy Used	Entity does not have ownership or control over equipment or asset.	Scope 3
Construction - Facility Energy Used	Entity has ownership or control over facility.	Scope 1 and 2
Crew-Owned Vehicles	Entity does not have ownership or control over vehicles.	Scope 3
Generators	Generator is part of a service offered by suppliers, so entity does not have control over generator.	Scope 3
	Entity has operating license, lease, or rental agreement, so has control over generator.	Scope 1 and 2
Helicopters, Jets, and Boats	Entity has operating license, lease, or rental agreement, so has control over vehicle.	Scope 1 and 2
	Vehicle is part of a service offered by suppliers, so entity does not have control over vehicle.	Scope 3
Hotel Rooms Booked as Temporary Place of Residence	Entity does not have ownership or control over room.	Scope 3
Hotel Rooms Used as Production Offices	Entity has short-term contract to use room, so entity has control over room.	Scope 1 and 2
Intentional Discharges	Entity has ownership or control over equipment.	Scope 1
Production Offices and Stages	Entity has ownership or control over office or stage.	Scope 1 and 2
Vehicles Rented by Production	Entity rents vehicle and has an operating license, lease, or rental agreement, so has control over vehicle.	Scope 1 and 2
Vehicles Used to Transport Goods	Entity has operating license, lease, or rental agreement, so has control over vehicle.	Scope 1 and 2
	Suppliers have ownership or control over vehicle, so entity does not have control over vehicle.	Scope 3
Working Warehouses	Entity rents and pays for warehouses, so has control over warehouse.	Scope 1 and 2

Appendix D Emissions Outside the Minimum Boundary

Scope 1, 2, and 3 emissions sources that fall outside the production—that is they fall outside of the operating policies of the production—are outside of the minimum boundary.

De Minimis Emissions

This whitepaper does not define explicit thresholds of de minimis activities (i.e., activities left out of the boundary due to their estimated impact being below a certain proportion of the total production GHG impact). The GHG Protocol cautions against use of de minimis and instead encourages entities to conduct complete inventories that, at a minimum, identify and document exclusions from which verifiers can make relevancy determinations.[29] Entities should identify emissions that are excluded in consultation with internal stakeholders (e.g., finance or legal departments) and document rationale for assurers and auditors. One example of this, as identified by SEA and BAFTA albert members, is to define a minimum threshold for the length of time a short-term lease must be held to be included in a production GHG Declaration.

Emissions Associated with Development Rights

Upstream emissions of a production attributed to development rights to create new content, such as spending on intellectual property (IP) rights by the reporting entity, are outside of the production's minimum boundary. Activities associated with the development of IP on which a TV show or film is based occur prior to the pre-production phase of a production, so are therefore outside of the minimum boundary. For example, when an entity acquires the IP rights to a book to adapt it into a film, the entity is not required to include emissions attributed to the writing and publishing of the book in the film's upstream emissions.

Emissions Associated with Long-Term Asset Storage

Emissions related to long-term storage of production-related assets and related to TV show and film content distribution are outside of the production's minimum boundary, as these activities occur after the conclusion of the post-production phase.

Emissions Associated Only with Entity's Broader Operations

Emissions attributed to an entity's broader operations (i.e., not attributed to a specific production) are also outside of the minimum boundary. An example of this may be an entity-level office not used on behalf of any one production.

Fugitive Emissions Associated with Accidental Leaks

Fugitive emissions can come from accidental leaks (i.e., "leaked fugitive emissions") or intentional discharges (i.e., "discharged fugitive emissions"). Leaked fugitive emissions from facilities, vehicles, or other sources often occur when equipment (e.g., an HVAC system) is installed, serviced, disposed of, or damaged. These emissions are considered to be outside of the minimum boundary because they are more closely associated with an entity's broader operations (e.g., ongoing maintenance) than with the activities of an individual production. A production is not typically responsible for installing, servicing, or disposing of the equipment.

29 Entities may document information relevant to a production GHG Declaration in a variety of ways that best suits them, such as word files, excel files, or software tools.

Appendix E Example Calculations

The following sections depict examples of Scope 1 and 2 emissions calculations.

FIGURE 6

Energy Consumption Emissions

1. Primary Data

Primary Data for Fuel Consumption

Emissions	= Primary Data × Emission Factors × GWP
Natural Gas (GJ)	= [100,000 CCF natural gas × 0.1093 GJ/1 CCF]
Emissions (kg CO_2e)	= [10,930 GJ natural gas × 50.49 kg CO_2/GJ] + [10,930 GJ natural gas × 0.0045 kg CH_4/GJ × 28 GWP_{CH4}] + [10,930 GJ natural gas × 0.00009 kg N_2O/GJ × 265 GWP_{N2O}]
Emissions (kg CO_2e)	= [551,856 kg CO_2e] + [1,377 kg CO_2e] + [261 kg CO_2e]
Emissions (MT CO_2e)	= [553,494 kg CO_2e] × [1 MT CO_2e/1,000 kg CO_2e]
Emissions (MT CO_2e)	**= 553 MT CO_2e**

Primary Data for Grid-Purchased Electricity Consumption

Emissions	= Primary Data × Location-Based Emission Factors × GWP
Emissions (kg CO_2e)	= [3,000,000 kWh Electricity × 0.198 kg CO_2/kWh] + [3,000,000 kWh Electricity × 0.0000113 kg CH_4/kWh × 28 GWP_{CH4}] + [3,000,000 kWh Electricity × 0.0000014 kg CO_2/kWh × 265 GWP_{N2O}]
Emissions (kg CO_2e)	= [594,190 kg CO_2e] + [953 kg CO_2e] + [1,082 kg CO_2e]
Emissions (MT CO_2e)	= [596,224 kg CO_2e] × [1 MT CO_2e/1000 kg CO_2e]
Emissions (MT CO_2e)	**= 596 MT CO_2e**

2a. Financial Data Converted into Consumption Data

Secondary Data: Financial Data Converted into Consumption Data for Grid-Purchased Electricity Consumption

Emissions	= Secondary Data × Location-Based Emission Factors × GWP
Electricity (kWh)	= [2,000 USD$ × 1 kWh/0.15 USD$]
Emissions (kg CO_2e)	= [13,333 kWh Electricity × 0.198 kg CO_2/kWh] + [13,333 kWh Electricity × 0.0000113 kg CH_4/kWh × 28 GWP_{CH4}] + [13,333 kWh Electricity × 0.0000014 kg CO_2/kWh × 265 GWP_{N2O}]
Emissions (kg CO_2e)	= [2,641 CO_2e] + [4 kg CO_2e] + [5 kg CO_2e]
Emissions (MT CO_2e)	= [2,650 kg CO_2e] × [1 MT CO_2e/1000 kg CO_2e]
Emissions (MT CO_2e)	**= 3 MT CO_2e**

2b. Proxy Data

Secondary Data: Proxy Data for Fuel Consumption

Emissions	= Proxy Data × Emission Factors × GWP
Natural Gas (GJ)	= [60,000 square feet facility of interest × 400,000 CCF natural gas/ 150,000 square feet proxy facility × 0.1093 GJ/1 CCF] = [160,000 CCF natural gas × 0.1093 GJ/1 CCF]
Emissions (kg CO_2e)	= [17,488 GJ natural gas × 50.49 kg CO_2/GJ] + [17,488 GJ natural gas × 0.0045 kg CH_4/GJ × 28 GWP_{CH4}] + [17,488 GJ natural gas × 0.00009 kg N_2O/GJ × 265 GWP_{N2O}]
Emissions (kg CO_2e)	= [882,969 kg CO_2e] + [2,203 kg CO_2e] + [417 kg CO_2e]
Emissions (MT CO_2e)	= [885,590 kg CO_2e] × [1 MT CO_2e/1,000 kg CO_2e]
Emissions (MT CO_2e)	**= 886 MT CO_2e**

2c. Externally Sourced Data

Secondary Data: Externally Sourced Data for Fuel Consumption

Emissions	= Externally Sourced Data × Emission Factors × GWP
Natural Gas (GJ)	= [60,000 square feet facility of interest × 21.3 CCF natural gas/square feet office facility from US EIA CBECS × 0.1093 GJ/1 CCF] = [1,278,000 CCF natural gas × 0.1093 GJ/1 CCF]
Emissions (kg CO_2e)	= [139,685 GJ natural gas × 50.49 kg CO_2/GJ] + [139,685 GJ natural gas × 0.0045 kg CH_4/GJ × 28 GWP_{CH4}] + [139,685 GJ natural gas × 0.00009 kg N_2O/GJ × 265 GWP_{N2O}]
Emissions (kg CO_2e)	= [7,052,716 kg CO_2e] + [17,600 kg CO_2e] + [3,331 kg CO_2e]
Emissions (MT CO_2e)	= [7,073,648 kg CO_2e] × [1 MT CO_2e/1,000 kg CO_2e]
Emissions (MT CO_2e)	**= 7,074 MT CO_2e**

FIGURE 7

Discharged Fugitive Emissions

1. Primary Data

Primary Data for Discharged Fugitive Emissions

Emissions	= Discharged GHG × GWP
Discharged GHG (MT)	=[10 kg HFC-125] × [1 MT HFC-125/1000 kg HFC-125]
Emissions (MT CO_2e)	= [0.01 MT HFC-125 × 3,170 $GWP_{HFC-125}$]
Emissions (MT CO_2e)	**= 732 MT CO_2e**

Appendix F Acronym List

AR5	Fifth Assessment Report
BAFTA	British Academy of Film and Television Arts
CBECS	Commercial Buildings Energy Consumption Survey
CCF	One Hundred Cubic Feet
CIBSE	Chartered Institution of Building Services Engineers
CH_4	Methane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CSRD	Corporate Sustainability Reporting Directive
GHG	Greenhouse Gas
EAC	Energy Attribute Certificate
EIA	Energy Information Administration
EU	European Union
GJ	Gigajoule
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
IP	Intellectual Property
IPCC	Intergovernmental Panel on Climate Change
Kg	Kilogram
kWh	Kilowatt-hour
MT	Metric Ton
N_2O	Nitrous Oxide
REC	Renewable Energy Certificate
REGO	Renewable Energy Guarantee of Origin
SEA	Sustainable Entertainment Alliance
SECR	Streamlined Energy and Carbon Reporting
TV	Television
UK	United Kingdom
US	United States
USD	United States Dollar
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

Appendix G List of Resources

The following resources were used to develop this whitepaper:

California Legislative Information, "Senate Bill No. 253" (2023). Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB253.

European Commission, "Corporate sustainability reporting". Available at: https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

SEA, "Scope 3 Emissions in Film and Television Production Whitepaper" (2024). Available at https://greenproductionguide.com/wp-content/uploads/2024/03/Sustainable-Production-Alliance_Scope-3-Whitepaper.pdf.

UK Government, "Guidance: Environmental reporting guidelines: including Streamlined Energy and Carbon Reporting requirements" (2019). Available at: https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance.

World Resources Institute and World Business Council for Sustainable Development, "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (2015). Available at: https://ghgprotocol.org/corporate-standard.

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World Resources Institute and World Business Council for Sustainable Development, "The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions" (2011). Available at: https://ghgprotocol.org/corporate-value-chain-scope-3-standard.

World Resources Institute and World Business Council for Sustainable Development, "Product Life Cycle Accounting and Reporting Standard" (2011). Available at: https://ghgprotocol.org/product-standard.

Sustainable Entertainment Alliance

BAFTA ALBERT