

Screen Auckland

New Zealand Screen Sector Emissions Study

Aotearoa | Screen Sector



July 2021

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This report was produced as a collaboration between Screen Auckland (the region’s film office and a division of Council-controlled organisation Auckland Unlimited) and Arup in June and July 2021. The project was commissioned by Screen Auckland. A series of stakeholder engagement activities and data analysis quantified a high-level estimation of the sector’s carbon emissions. The conclusions and insights drawn from this work were distilled into a summary and set of recommendations to support the industry in taking steps towards a more sustainable future. We would like to thank all contributors for their insight and advice.

For more information, please contact Jasmine Millet, Manager Screen Auckland, (jasmine.millet@aucklandnz.com) and Chris Mercer at Arup (chris-j.mercer@arup.com).

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Cover image

Luanne Gordon (Margaret Cullen) on location at the Onehunga property used to represent the exterior of the Bain family home.

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Foreword

Auckland is home to the majority of New Zealand's screen sector activity.

Worth \$1.1 billion (GDP) to the region's economy and employing 7,500 Aucklanders, the screen industry offers ongoing opportunities for highly skilled creative and technical work for the diverse communities that make up Tāmaki Makaurau.

But it is clear that if we want to continue to realise the benefits of this sector, and our position as a desirable place to create screen content, we must understand its climate impacts.

And, once we have understood those impacts, we must work together with all of the parts of the sector, to map out a transition to sustainability.

Inspired by the work being done by screen agencies internationally, and by the groundwork of our own local and central government in setting targets for emissions reduction, Auckland Unlimited, which includes regional film office Screen Auckland, is delighted to partner with Arup on this initial assessment.

Jasmine Millet

Screen Auckland Manager,
Auckland Unlimited

Thanks to all of the stakeholders who shared insights for this report. We look forward to continuing to deepen the partnership on this topic in the months ahead.

I am pleased that Auckland Unlimited's recent research into our economy of transitioning to a low-carbon economy paved the way for this work, and the expertise of its climate change specialists will continue to benefit the next steps.

Tēnā koutou, tēnā koutou

Tēnā koutou katoa

Executive summary

In 2020, the New Zealand Government declared a climate change emergency – acknowledging the need for urgent government action. A commitment to a carbon-neutral government by 2025 was a key step in a response to “one of the greatest challenges off our time” and the need for the country to “act with urgency”.

The *Aotearoa New Zealand Screen Sector Strategy 2030* identifies a key goal to refresh Aotearoa New Zealand’s screen sector environmental sustainability programme and create a social sustainability and wellbeing framework. This includes setting out the screen sector’s commitment to government expectations on reducing carbon emissions, waste minimisation and relevant health and safety obligations – and to measure how the screen sector will contribute to reaching government targets, with regard to national and international best-practice guidelines.

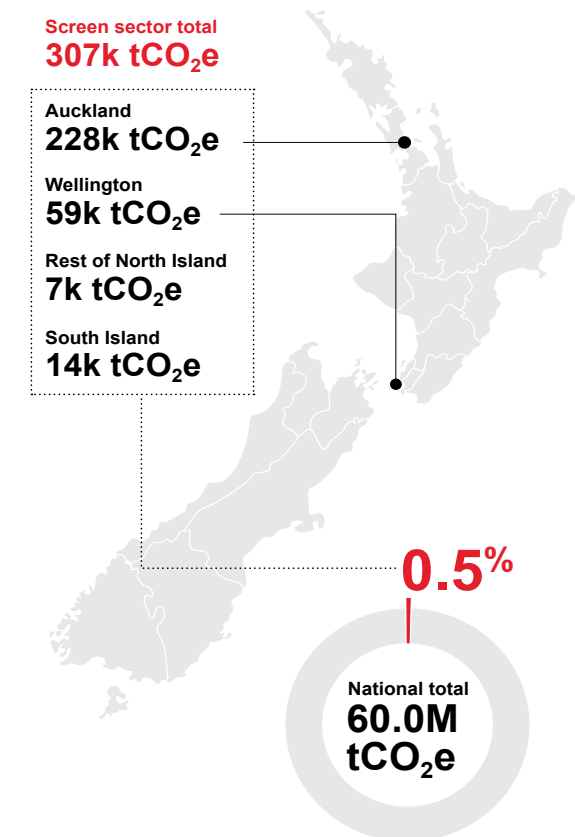
To help commence this journey, Screen Auckland commissioned Arup to estimate the carbon emissions of the New Zealand screen sector and lead a series of stakeholder engagement activities. This study has drawn insights on the opportunities and challenges the screen sector faces to transition towards low carbon sustainable practice. In addition the study provides a high-level estimate of the sector's carbon impact.

Using aggregate spending data, coupled with a representative emissions intensity value, a high-level carbon footprint of 307k tCO₂e was calculated. This is 0.4% of New Zealand’s 2018 gross greenhouse gas emissions reported by Stats NZ of 78.9M tCO₂e¹. However if a consumption based emission approach is adopted across New Zealand, the Screen Sectors contribution results in 0.5% of New Zealand 2017 consumption based emissions of 60.0M tCO₂e reported by Stats NZ².

These initial estimates are designed to highlight the scale of emissions utilising published data, and it is recommended that further granularity is sought through improved data collection and the use of more detailed modelling approaches. Stakeholder interviews identified a broad range of opportunities including existing grassroots campaigns, the re-use of tested implementation frameworks, and successful on-location waste reduction strategies. However, there are challenges including the availability and standardisation of data, perceived financial costs, educational resources, tools to measure impact, and sector specific environmental sustainability commitments from government.

Overall, the stakeholder engagement identified a strong desire to create a sustainable screen sector and seek guidance and resources to make this transition. Broader stakeholder engagement and in-depth analysis of carbon emissions will lay the foundations to develop a roadmap for transitioning to a low carbon sector.

NZ Screen Sector Estimated Carbon Impact



¹ 'New Zealand Greenhouse Gas Emissions 2018, Stats NZ' <https://www.stats.govt.nz/indicators/new-zealands-greenhouse-gas-emissions>

² 'Greenhouse gas emissions (consumption-based): Year ended 2017, Stats NZ' <https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-consumption-based-year-ended-2017>

Setting the scene

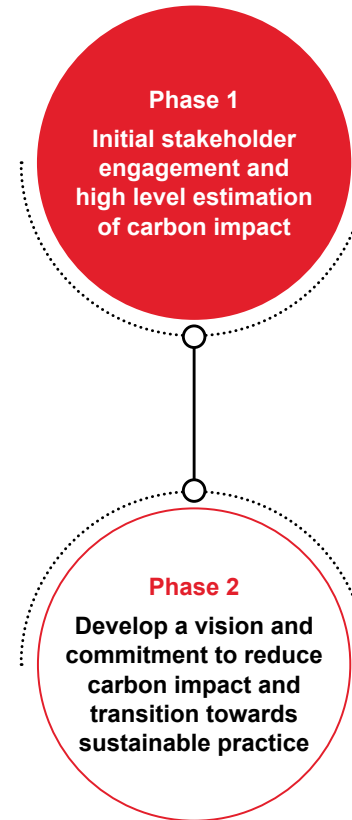
The world is facing significant impacts of climate change – caused by various human activities that cumulatively are pushing our planet past its nine global systematic boundaries. Industries globally are identifying and tackling their environmental impact with a particular focus on greenhouse gas emissions.

New Zealand's diverse unspoilt environments are a crucial factor in attracting screen productions and audiences. The screen sector needs to play its part in ensuring this continues responsibly. There is a growing international trend for production houses to adopt voluntary sustainability management and social responsibility standards. This is highlighted in the development of tools and frameworks such as the albert carbon accounting tools in the UK, PEAR (Production Environmental Accounting Report) tool in the US and frameworks such as the New Screen Deal. International studios such as Netflix, Amazon and Disney are setting emissions targets demonstrating a commitment to transition towards sustainable practices.

New Zealand must keep pace with this change because these standards are becoming a common feature of production agreements. Measuring and understanding the carbon emissions of this sector is essential in transition towards sustainable practices.

Screen Auckland recognises the challenges of advocating for action at a national scale in a creative sector faced with often conflicting priorities. It is a challenge for the screen sector to implement systemic change, while also charting a path that delivers for both growth in productions, transparency for studios and investors, as well as achieving sustainable development outcomes. In consultation with Screen Auckland, Arup proposes the following two phase approach.

During the first phase Arup calculated a high level 'top down' estimation of the sector's carbon emissions. This – in conjunction with stakeholder engagement – will identify opportunities to manage the New Zealand screen industry's carbon impact. The second phase will engage further with key stakeholders to develop a vision and industry-wide commitment to shared emissions targets for the New Zealand sector. The phase will develop a nuanced understanding of practical activities that will drive carbon emissions reduction, and data collection to measure and monitor the impact.

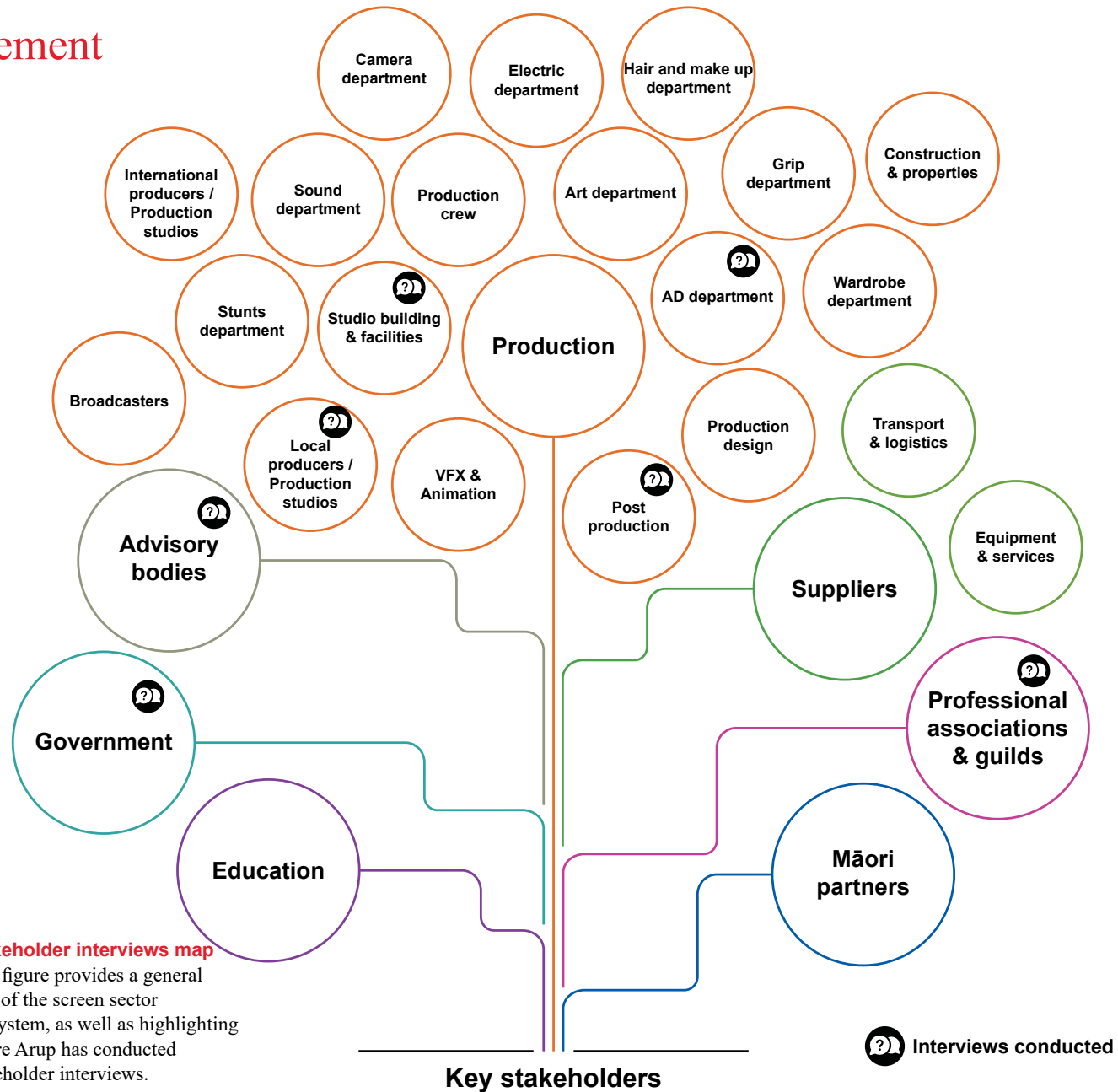


During the first phase, Arup explored how the screen sector operates via a series of stakeholder interviews, and drew out a high-level estimate of the industry's carbon impact based on financial data.

The second phase will work with the sector to develop a vision and industry wide commitment to shared emissions targets. It will identify areas for data-collection and reporting to better understand high and low impact areas, while providing insights and/or recommendations to transition to a more sustainable future.

Screen sector stakeholder engagement

Arup conducted 10 interviews with key stakeholders from across the screen sector including government agencies, professional associations and guilds, studios, production companies, producers and production managers. Interviews were loosely structured to explore interactions and relationships in the sector to better understand high carbon impact areas, availability of data to measure carbon impact, opportunities and challenges to improve sustainable film production.



Stakeholder interviews map
 This figure provides a general map of the screen sector ecosystem, as well as highlighting where Arup has conducted stakeholder interviews.

Insights we have drawn from stakeholder engagement

Opportunities

Build upon the broad desire within the sector to develop a nationally consistent carbon measurement/management framework, as well as guidelines with specific key performance indicators

Develop tools to accelerate consistent data collection and provide the capability for effective sustainable production planning

Tie government screen incentive funding with a commitment to data collection and carbon reporting

The Government to reinstate Statistics NZ data collection of the screen sector to improve baseline data to measure carbon impact

Utilise the data from the New Zealand Screen Production Grant (NZSPG) for a more granular analysis of the industry's carbon impact

Build upon the foundations of successful cross-sector collaborations to develop and adopt workplace guidelines (eg. ScreenSafe) to develop a sector wide sustainability framework and guideline

Strengthen New Zealand's reputation as an international screen destination through the implementation of a dedicated, industry informed sustainability framework

Challenges

Without a clear screen sector specific direction from government, dedicated resources and strong cross sector collaboration, the screen industry is unlikely to transition to more sustainable practices with any sense of urgency

There is a lack of education and tools for screen professionals to transition towards sustainable practices

Sections of the sector perceive a transition towards sustainable practice as difficult and costly

The nature of the sector is project based and therefore sustainability initiatives are developed for the life cycle of a production rather than more broadly across the sector

There is limited access to offshore production companies' data making it challenging to quantify their impact

What we heard from stakeholder engagement

Demystify, educate and joining the dots are the keys.


We need to be able to measure [carbon emissions] easily, at a glance.

“ Ensure everyone has knowledge. To put everyone on the right path, the right direction. ”

People want to do it because they believe in [sustainable practice].

The industry wants change, it just doesn't know how.

...if we respond early, we can define how it affects our industry.



Key high environmental impact areas
identified from stakeholder engagement

flights

identified the desire to measure the impact of international and domestic flights required for film and TV production

ground transport

highlighted the volume of ground transport required for cast and crew

generators

a desire for alternative energy sources to replace the large number of diesel generators required for location shooting

waste

concern for waste across multiple departments and different phases of a production's lifecycle

set construction

concern regarding the impact from the types of construction material and the quantity of waste

Screen sector carbon impact

For the sector to implement a low carbon transition plan to net zero in line with the wider decarbonisation agenda in New Zealand, understanding the scale of current emissions is key. As part of this work, we have produced the first estimate for the sector's GHG emissions using reported expenditure data and a representative emissions factor – derived from Arup's in-house emissions calculation platform.

When considering how to reduce a sector's full impact on climate change, consumption-based emissions will account for the total climate impact accumulated around the world of a good or service, allocated to the place where an end-product is used or consumed. Consumption-based GHG accounting is an alternative to the production-based approach with GHG emissions reported by consumption category rather than GHG emission source category.

This estimate is a high-level, order-of-magnitude estimate designed to inform on the scale of emissions. It can be refined following more granular data collection and the model development planned across subsequent stages of this work programme.

Calculation method

Using aggregate spending data for the industry from the most recent Screen Industry Survey issued by Stats New Zealand⁶, together with a representative emissions intensity dataset gathered from an in-house Input-Output model, we have produced a high level estimate of the emissions arising from the screen sector in New Zealand in 2017.

The emissions intensity value provided by the in-house model was derived from a previous release of the Global Trade Analysis Project (GTAP) dataset providing an intensity value for 2011. The intensity in 2017 was forecasted based on projected decarbonisation trends for major industries as published by the International Energy Agency (IEA). This emissions intensity includes both direct emissions arising from activities within the sector (on-site combustion, emissions from fleet vehicles etc.) and indirect emissions embodied in the goods and services procured by the sector.

Therefore, this estimate covers Scope 1, Scope 2, and Scope 3 (including travel) emissions as defined by the greenhouse gas protocol⁷.

³ 'Greenhouse gas emission (consumption-based): Year ended 2017, Stats NZ' <https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-consumption-based-year-ended-2017>

⁴ 'Screen Industry Survey 2017/18, Stats NZ' <https://www.stats.govt.nz/information-releases/screen-industry-201718>

⁵ Ibid.

⁶ Ibid.

⁷ <https://ghgprotocol.org/corporate-standard>

\$3.3 billion

gross screen sector revenue (2017)⁴

16,200 people

employed by the sector (2017)⁵

307k tonnes

of carbon dioxide equivalent (2017)

0.5% Screen sector total
307k tCO₂e

NZ national consumption based emissions³
60.0M tCO₂e



- Auckland 228k tCO₂e**
- Wellington 59k tCO₂e**
- Rest of North Island 7k tCO₂e**
- South Island 14k tCO₂e**

Screen sector emissions by geographic location

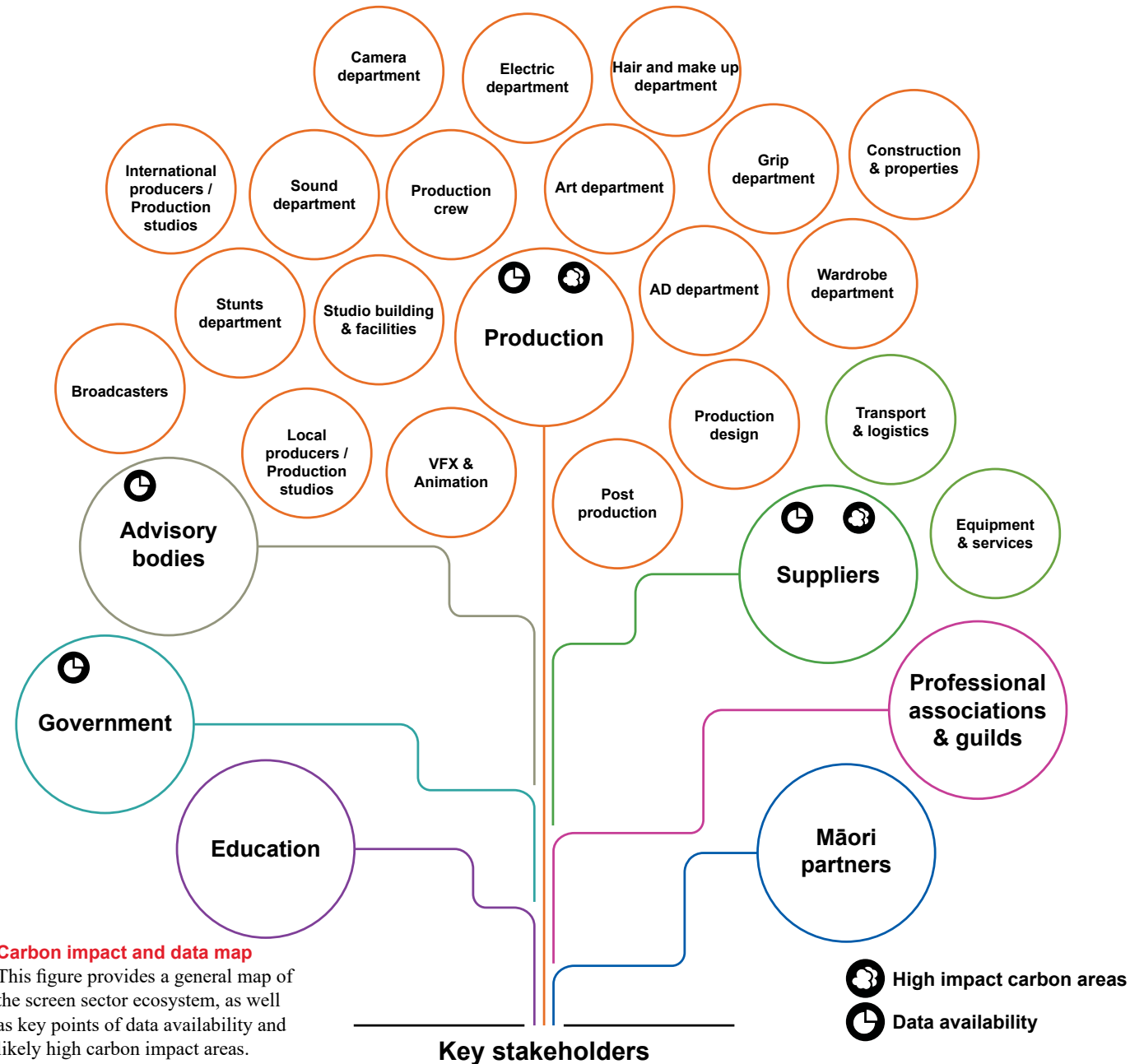
Assumptions and limitations

We sourced reliable and available data including from Statistics NZ from which we applied a carbon emissions factor to derive a high level screen sector carbon emissions estimate.

The emissions intensity factor used is for the wider “Communications” sector, which is comprised of the following subsectors:

- Postal and courier activities
- Publishing activities
- Motion picture, video and television programme production, sound recording and music publishing activities
- Programming and broadcasting activities
- Telecommunications
- Computer programming, consultancy and related activities
- Information service activities

The uncertainties inherent in this approach result in a high-level, order of magnitude estimate for the screen sectors footprint. It is recommended that this is further refined with detailed data sets and modelling approaches though the implementation of a clear reporting framework for future emission calculations.



Next steps

- Socialise this report within the New Zealand screen sector as a discussion paper, to engage and raise awareness of the sector's carbon impact
- Understand the gap analysis in data availability/ collection/analysis and quantum of effort required to shift the sector towards a zero-carbon pathway
- Undertake further stakeholder engagement and data collection to inform a more detailed carbon analysis using an input-output model
- Convene virtual workshops with representatives across the New Zealand screen sector to engage in deeper discussion on measuring and reducing carbon impact, within the context of NZ Climate Change Commission advice
- Develop a 'fit for purpose' New Zealand screen sector carbon model
- Develop a carbon emissions reduction framework to achieve New Zealand's net zero carbon target for 2050



Contact

Jasmine Millet

Screen Auckland Manager

t +64 21 0233 8176

e jasmine.millet@aucklandnz.com

Level 7, 167b Victoria St West, Auckland 1010
New Zealand

Chris Mercer

Senior Consultant

t +61 2 9320 9719

e chris-j.mercer@arup.com

Level 5, 151 Clarence St, Sydney 2000
Australia

arup.com