

The Last Harevst

Pilot in Sustainable Short
Filmmaking



CARBON REPORT

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CARBON DATA ANALYST - KEN LYONS

The purpose of the role of Carbon Data Analyst was to **establish carbon emission baselines** for the production and identify the impacts of adaptations made on overall carbon emissions. To achieve this, the **Albert Carbon Calculator** was utilised. in its current form, has its limitations, it does allow for general baseline measurements to be calculated, guides its users through the complex landscape of sustainability within the industry, and supports the creation of carbon action plans.

THE APPROACH

From the outset, it was clear that all involved with this production had an enthusiasm and passion for sustainability. In light of this, the **Carbon Data Analyst had greater access to people and faced less obstacles** than may otherwise be the case. Despite this, it was apparent from early on, that even with the best intentions, many challenges existed with the core challenge being **time**.



CHALLENGES WITH TIME



- Ensure sustainability is **embedded** in the production from as early on as possible



- Ensure **adequate resources** are available



- Make the implementation and adherence to sustainable practices as **easy as possible**



- **Communicate** clearly and concisely what measures are being implemented, the requirements expected from each department, and most importantly, outlining why they are being implemented to ensure everyone gets on board



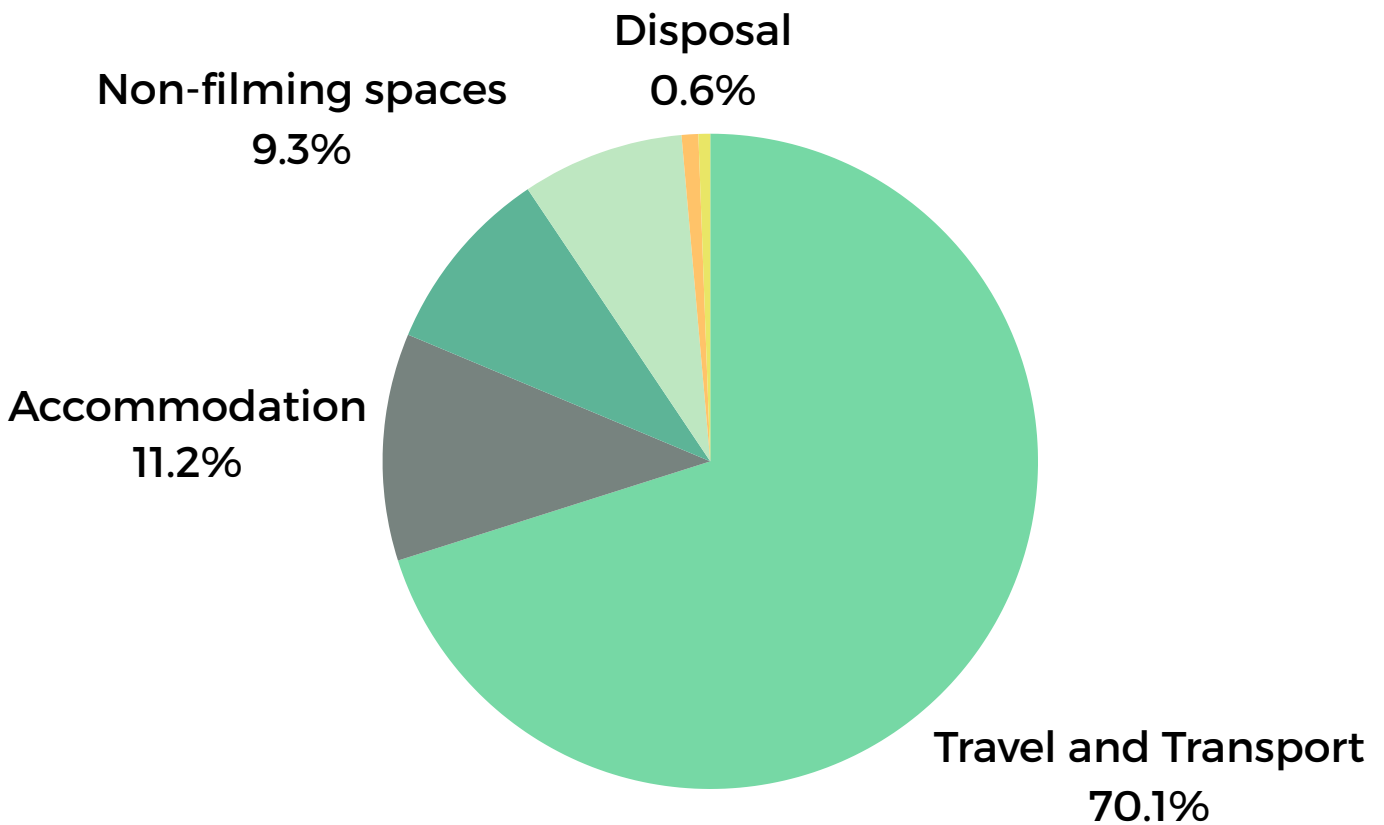
- Get **everyone involved** and solicit their ideas from the outset in order to create a sense of belonging.



- The nature of the industry sees a lot of last minute changes and this impacts the sustainability of production; utilisation of increased amounts of materials leading to higher consumption and disposal rates, additional transportation requirements, increased food consumption and waste, and a slow-down in momentum with sustainable practices. **Planning for the unexpected** is essential to offer alternate options last minute.

THE FIGURES - EMISSIONS

- Travel and Transport
- Accommodation
- Non-filming spaces
- Materials
- Post Production
- Disposal



TOTAL TONNES OF CO₂E -
6.07 (EQUIVALENT TO THE
EMISSIONS OF APPROX. 2
ROUNDTrip FLIGHTS FROM
LONDON TO HONG KONG
IN ECONOMY CLASS

*Berners-Lee, 2010, London, 'How
Bad Are Bananas'*

DETAILED DATA - ENERGY

The Carbon Data Analyst was unable to secure metre readings from Bellurgan House post-shoot and the emissions associated with filming spaces could not be accurately calculated as a result. A number of energy adaptations were introduced across the production:

- Collaboration with **Native Events** who provided expert consultation on how to provide energy across the shoot include:
 - Solar Batteries
 - Energy Meter Readings across all departments
 - On site support across all shoot days

Recommendations

- Advise in advance what is required of each stakeholder. In this instance, had Bellurgan House been advised of the need to capture metre readings in advance, they would have been able to capture this information
- An intentional approach is required when it comes to implementing sustainable energy adaptations and tracking energy use on productions
- An energy expert needs to be on-site full-time to oversee energy consumption, monitoring and to support the crew on a daily basis.



native
events

ENERGY PARTNERS



DETAILED DATA - TRANSPORT

Travel and Transport is the biggest contributor to this production's carbon emissions with **4.25 tonnes of CO₂e** or 70.02% of total emissions. The industry average is 50%. The reasons for this above average contributions are:

- Successful and extensive adaptations made in other areas of the production.
- The inability to adequately calculate emissions associated with filming spaces and set design.

Transport Adaptations made within this production include:

Adaptations made on this production:

- Use of car-pooling where feasible
- Use of public transport where feasible
- Choice of set location
- Choice of accommodation locations
- For transportation of costumes by taxis when needed, electric and hybrid vehicles were used where possible.

The impact of adaptations made within travel and transport were significant. For example, as a result of car-pooling, a total of 0.89415 tonnes of CO₂e was avoided, which represents a **21.04% saving on total emissions** within travel and transport.



"The implementation of, and adherence to, sustainability practices should lead to cost savings"

Ken Lyons

TRANSPORT ADAPTATIONS

For productions wishing to make additional reductions in their transport emissions:

- Use of electric and/or hybrid vehicles where feasible more widely – If this production utilised electric transportation throughout, the estimated carbon savings would be 2.99 tonnes of CO₂e or a 70.35% saving on emissions within travel and transportation (excluding public transport kilometres)
- Alternative fuels such as biodiesel for generators and vehicles
- Consideration to be given to the number of recces required
- Consideration to be given to location and number of castings required
- Consideration to be given to location and number of rehearsals required
- Efficient use of transportation available vis a vis deliveries and pick-ups, and last- minute errands



DETAILED DATA - SPACE

Accommodation accounted for 0.68 tonnes of CO₂e or 11.20% of total emissions. The premise for accommodation selection for The Last Harvest was minimising distance to be travelled to set, which included on set accommodation. This supported a reduction in emissions associated with travel and transport.

Recommendations

- Utilising accommodation that embraces sustainability and has the lowest carbon footprint possible
- Ensuring no accommodation booked goes unutilised
- Assessing options holistically - taking into consideration their impact on transport and travel emissions, health and wellbeing of cast and crew, and logistics

Non-Filming Spaces accounted for 0.5627 tonnes of CO₂e or 9.27% of total emissions. These calculations included emissions associated with the hosting of Zoom meetings, which amounted to 0.06 tonnes of CO₂e.

Recommendations

- Appropriate use of Zoom for meetings online
- Societally, as homes and offices switch to green energy supplies, there will be an automatic positive impact on overall emissions associated with non-filming spaces.



DETAILED DATA - MATERIALS

Materials accounted for 0.485 tonnes of CO₂e or 7.99% of total emissions. Materials cover food, costume and set design. Food accounted for 0.4642 tonnes of CO₂e or 7.38% of total emissions and accounted for the majority of emissions associated with materials. We can estimate that by having **one meat free day on this shoot, a saving of 0.15 tonnes of CO₂e was achieved** or a 2.5% saving on overall emissions.

Recommendations

- Partnering with catering teams that strive to achieve a zero waste kitchen, adhere to the principle of locally sourced ingredients, and opt for a predominantly vegetarian menu
- Ensure that catering items used are either crockery that can be washed and reused or genuinely compostable
- Every effort is made to ensure food waste and compostable items are disposed of correctly and are destined for composting



DETAILED DATA - COSTUME

The sustainably minded costume department ensured that **only 5.5% of costumes used were purchased new** - a total of 6 items out of 108. All other items were either rented or second-hand. This resulted in an exceptionally sustainable costume department with their work contributing just 0.0229 tonnes of CO₂e.

Adaptations:

- Early discussion and design conversations that integrated an environmental approach including a discussion of what materials would survive into the future: how fabrics, mending and dying processes etc.
- Budget allocated for additional wages to support the sustainable sourcing, use, and disposal of costumes
- Support given to the costume hire industry in Ireland ensuring as broad a selection of costume is available for hire in an efficient manner
- Support the work being done by Circular Costume Ireland.



“They (ALBERT) were just so impressed and excited to hear of the costume department and set department on this production... so few new materials purchased.”

Ken Lyons

DETAILED DATA - SET

As a result of collecting data regarding set design by monetary spend, we were unable to calculate the emissions associated with this department as Albert requires such data entries to be done by weight. Therefore it is essential to ensure the specific requirements of Albert are known and communicated in advance.

Adaptations:

- Site visits to source, assess and design according to what was available at Bellurgan House.
- Disposal of organic materials in a biomass machine
- Using Olio as a platform to ensure items used on set get a new life post-production. This included metal crockery, lanterns, plastic sheeting (used to redo a polytunnel), and food and vegetables
- Many items were purchased second-hand and many of these were purchased from charity shops. This included bedlinen, homewares, pedal sowing machine, a chair, and sleeping bags Many items were donated to charity shops including pillows, duvet, and sleeping bags
- Plants purchased were composted
- Yoga mats to landfill due to damage
- Other items went to recycling where another use could not be found for them, for example, printed graphics
- 50 candles purchased for the production all found new homes
- Fabrics and cable ties purchased have been reused
- Paints and nails used from existing inventory.



DETAILED DATA - OTHER

HAIR AND MAKEUP

This department made sustainable adaptations including

- Utilisation of make-up that was otherwise destined for waste including test products from Space NK.
- Use of face towels, bamboo cotton buds, mascara brush, and biodegradable wipes to reduce the number of single-use items used and ensuring that those that were single-use items were non-plastic.

DISPOSAL OF MATERIAL

Waste accounted for 0.035 tonnes of CO₂e or 0.58% of total emissions. The waste segregation system implemented on the set: waste went to composting, recycling, and landfill. Had all waste accounted for in this report gone to landfill, a total of 0.22 tonnes of CO₂e would have been emitted. **0.19 tonnes of CO₂e were saved.**

- Significant planning is required to ensure the full lifecycle of all materials used is taken into consideration from the outset and a plan put in place for their use and ultimate disposal
- Ensure waste segregation is made as easy as possible for all on set to do
- Ensure the necessary waste management infrastructure is in place.



KEY LEARNINGS

The successful process behind The Last Harvest depended on core commitment to adaptation across all departments, clear communication including to:

- Ensure communication is timely and concise including the issuing of a Green Memo
- Brief everyone as far in advance on what is expected of them / what they will need to do to ensure that sustainability measures are not just implemented but are adhered to consistently and that the required data is collected accordingly
- Ensure adequate resources are available from as far out as possible and that sustainability is embedded in all departments
- Collect as much data as possible during pre-production to allow for a carbon emissions estimate to be established, which can be used to inform the creation of a carbon action plan
- Minimise the amount of data that is outstanding after production has ended
- Involve everyone so they have a sense of ownership
- Communicate the impact the adaptations made have on the carbon emissions associated with the production. For example, rather than only share the carbon savings





ATHRACH



CRACKING LIGHT
PRODUCTIONS

Creative
Communities



Rialtas Áitiúil Éireann
Local Government Ireland



Clár Éire Ildánach
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Programme