

TAF ENVIRONMENTAL IMPACT ASSESSMENT

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Production to fill out the orange boxes
 Editorial to fill out the cyan boxes
 Work together to fill out the green boxes

PLEASE GIVE AS MUCH DETAILS AS POSSIBLE FOR ALL SECTIONS

Production	The Abundance Film
Shoot	Thakur Singh Powdyel
Location	Bhutan (various locations)
Filming dates	19th June - Arrival in Bhutan 20th - 24th June - Heather and Liane Quarantine 25th June - Rest day Heather + Liane 26th June - Recce and GVs day 27th - 29th June - Filming 30th June - contingency day / impact day 1st July - Depart Bhutan

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<p>(PC) Proposed route to location</p>	<p>Currently combined with our filming shoot in the Philippines. Crew will fly to Bangkok and then to Paro, Bhutan - there are no direct flights to Bhutan (with just two airlines operating) and there are no other options for UK travellers to enter Bhutan.</p>
<p>(AP) Description of shoot (include brief description of scenes to be shot, contributors names etc)</p>	<p>Bhutan is a small developing nation and still needs economic growth to prosper, but economic growth is not Bhutan's principle measure of success. A growing economy is just one of the factors that will bring Bhutan's people health, happiness and wellbeing. If a healthy environment is one of our measures of success, we will no longer be incentivised to destroy it.</p> <p>The shoot is guided & narrated by the former education minister, Thakur Singh Powdyel, who the audience will see telling the story of the origins of Gross National Happiness and the North Star to school children. The sequence will also show a spectrum of different people of Bhutan in their day-to-day lives - living in harmony with each other and the natural world. Furthermore, the audience will also see Powdyel exploring the forest and natural environments to illustrate the Bhutanese relationship with nature.</p>
<p>(PC) Crew required for the shoot - named roles and total number of crew</p>	<p>Director - Heather Clark Producer - Liane Aviram Director of Photography - Jigme Tenzing Assistant Camera - Adhi Sound - Thuji Yonten Fixer - Yonten Jamtsho and Sonam Loday Driver 1 - Tashi (YBM Car) Driver 2 - Sangay Phuntsho (YBM Car) Driver 3 - Tashi Gyeltshen (Mg Car) Trainee fixer - Kinzang Choden</p>
<p>(PC) Proposed production members travelling and reasons for selection</p>	<p>Heather Clark and Liane Aviram</p> <p>We have kept crew to a minimum, only flying two senior editorial members maximum to any location. With Bhutan, we have combined the filming with filming happening shortly before in the Philippines so that we aren't sending more people along a similar flight path.</p>

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(PC) Proposed local crew	Director of Photography - Jigme Tenzing Assistant Camera - Adhi Sound - Thuji Yonten Fixer - Yonten Jamtsho and Sonam Loday Driver 1 - Tashi (YBM Car) Driver 2 - Sangay Phuntsho (YBM Car) Driver 3 - Tashi Gyeltshen (Mg Car) Trainee fixer - Kinzang Choden
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PRE - PRODUCTION:

(AP) Is there available archive of this story? Or could archive minimise time required on location?	<p>Yes, we have sourced drone archive footage for this sequence. Which minimises the need for additional crew, the need for paperwork and permissions which saves time and emissions attached to that.</p>
(PC) Have you minimised the number of crew travelling from the UK - using local production talent as much as possible?	<p>Yes, we have kept crew to a minimum, only flying two senior editorial members maximum to any location. With Bhutan, we have combined the filming happening shortly before in the Philippines. This has minimised the carbon footprint by not sending different UK crew to Bhutan along a similar flight path.</p>
(PC) Are there any shoot share opportunities with other productions? Who have you contacted and how?	<p>We are not taking crew from UK and only taking minimal equipment and staying for a short shoot, so there is less reason for this.</p> <p>As we are only sending two UK crew (director and producer) and using local crew as well as hiring local kit, our focus here is more on the impact and making the carbon count rather than shoot sharing.</p>
(PC) Have you looked into alternative routes to the location? Check the flight decision tree.	<p>As Bhutan is outside of Europe, we need to fly and make the carbon count. Filming in Bhutan is currently combined with our filming in the Philippines. Crew will fly to Bangkok and then to Paro, Bhutan - there are no direct flights to Bhutan (with just two airlines operating) and there are no other options for UK travellers to enter Bhutan.</p>
(PC) Can you hire shoot equipment locally?	<p>We looked into using all local equipment however, the equipment that was available in Bhutan is not up to the standard needed for our specifications. Some equipment will be hired locally and the kit that has been hired has been used for the shoot in the</p>

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Philippines as well as Bhutan. This is making the most of the equipment that we have hired while also only taking the minimum that we need.

All other equipment will be hired locally, except for the Eye Direct, first-aid kit and DIT kit. There are only 4x additional excess baggage cases on the flights.

(AP) What equipment will you need to take from the UK, with details of weight, inc. cases?

1 x Macbook Pro 16 inch (2019) and charger
5 x SanDisk Extreme SDD 4TB drives
1 x Lacie Rugged Mini 2 TB
2 x Lexar Card Reader with USB-C cable
10 x Spare USB-C cables
1 x EyeDirect mark II
Spare EyeDirect glass and mirror kit

Camera

RED Komodo 6K S35 camera
6 x BP955 C300MKI batteries
1 x double BP955 charger
15mm camera rails and mounting plate
RED Mutiny timecode / genlock module
KipperTie Adapta RF/PL for Komodo
KipperTie Revolva RF/EF for Komodo
KipperTie Revolva RF/PL for Komodo and V-Raptor
Wooden camera RED Komodo V-lock plate
Mutiny battery IO V-mount for RED Komodo

Monitoring and playback

Small HD Indie 7 monitor
Power for the Indie 7 monitor

Data Storage

Angelbird 512GB CFast 2.0 card
2 x SanDisk CFast card reader

Sound

Beachtek DXA-RED preamp
Sennheiser MKE 400 microphone

Power and batteries

DJI RS 2 BG30 grip battery
IDX 2-way fast charger
IDX Endura Duo-150

Grip equipment

DJI RS 2 handheld gimbal
Magic ring
DJI RS 2 focus motor
Flexible SDI cables approx. 40-80 cm long

Consumables

AAA 1.5v batteries

First Aid Kit

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The DIT equipment and first aid kit will be able to fit into one additional bag and then one additional peli case for the Eye Direct. These make 2 additional bags (alongside Heather and Liane's personal suitcases). The Camera equipment makes 2 additional bags. The total weight of these excess bags and personal bags are as follows:

Baggage weight:

16.5, 16.6, 21.2, 6, 14.4, 8.2

Heather and Liane have minimised their personal baggage weight by having an opportunity to hire local clothing while on location in Bhutan.

(AP) Have you considered whether a contributor could travel and be filmed in the UK? Are they able to travel? Would this work editorially?

The sequence is about Bhutan and the people of Bhutan and therefore the story doesn't work editorially if the contributor travelled to the UK.

(AP & PC) Other environmental factors to consider

INTERNATIONAL TRAVEL

DOMESTIC TRAVEL - Due to the above flight information, we have to make our airport transfers as environmentally friendly as possible. There are electric vehicle options in Bhutan, and we will use these wherever possible - the only hindrance may be size of vehicle whilst complying with our Covid protocols. We should use electric vehicle(s) or public transport to transfer Heather and Liane from London and combine the journey into one vehicle if possible.

For crew travelling within Bhutan, we should aim to combine the transport or encourage local transport where possible, once again using electric vehicles. As crew are confirmed, we should check where exactly they are based, how far that is from the filming location, and opt to have them stay nearby if that is better than them travelling each day.

ACCOMMODATION - AirBnB tends to be far more environmentally friendly than hotels and so we will look for AirBnB options nearby to our filming location, which will reduce mileage impact too.

There currently is a mandatory 5 day quarantine in a specific hotel where there are no alternative options.

We have booked into a local hotel as has more sustainable practices than local Airbnbs that we could find. Most of the food served in the hotel is vegetarian.

LOCATION(S) - As we are filming outdoors, we hope to use rechargeable battery powered lights wherever possible. There isn't a need for a generator on this shoot.

CATERING - All crew will strive to eat meat free wherever possible.

WASTE - Local recycling projects?

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ADDITIONAL SUGGESTIONS FROM FIXER

VEHICLES - We plan for vehicles to be electric. We are checking that the source of power for the recharge points being used is renewable.

LOCAL CREW TRANSPORT - A plan is being drawn up for the collection of local crew by electric vehicle to reduce the carbon footprint of their daily commutes to locations.

LUNCH BOXES - We are researching which vegetarian cafe can provide metal lunch boxes that are collectable on route to locations for all 9 of the crew.

LOCAL TRAINING - The local crew are interested in the Impact Assessment and so we are exploring possibilities for them to be given an Albert training session during the lead up to the shoot.

DIGITAL RELEASE - The National Film Commission requires the final edit. This will be shared with a digital link rather than on DVDs.

LATERAL FLOWS - The shoot will require at least 65 lateral flow kits. It hasn't been possible to get these from Bhutan so they were bought in the Philippines and brought the shortest distance - rather than bringing them from the UK.

WATER BOTTLES - All crew members will bring their own water bottles for daily water consumption. These will be refilled from a large 20 litre bottle available in the crew vehicle.

HOTEL LAUNDRY - The hotel will know not to undertake any laundry unless requested by Heather or Liane.

LOCAL CLOTHING - Heather and Liane will have an opportunity to borrow a local traditional kira to wear during their time in Bhutan. This will cut down on the clothing that they need to fly with.

GREEN MEMO - The local crew will be invited to contribute ways in which to make the shoot as sustainable as possible.

INSPIRING SUPPLIERS - All local suppliers will be given our green memo and asked to share ideas and evidence to further support the sustainability of this project. Suppliers will be requested to minimise paper usage and waste for this booking and hopefully they will continue this practice beyond the shoot.

COST EVALUATION - Our fixers will provide a cost comparison of the sustainable options that we have opted for over the likely costs otherwise. We will factor in the carbon

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offsetting difference to see what impact on our budget our sustainable practises have had.

EDUCATION FOR WOMEN - Currently there are no or very few female fixers in Bhutan. In order to encourage women in this role, our partners are paying for a trainee female fixer to work shadow during this project.

DIGITAL RELEASE FORMS - In order to reduce paper waste, we will be providing digital release forms for our on screen contributors.

IMPACT DAY - We have scheduled to have an impact day. On this day we intend to use the skills of our local and foreign team for the benefit of local NGOs and change makers.

AUDIENCE & INDUSTRY COMMUNICATIONS - All of our sustainable practises will be shared via social media and other means to inspire other productions to scale up their own impact.

Other environmental factors to consider: (PC/ AP work together here)

Weather

Planning to shoot at the end of June and the rainy season will have started. Does not usually last the whole day though - scattered showers.

CARBON EMISSIONS

(PC TO COMPLETE THIS SECTION)

Transport to airports etc. Via a large diesel van.	Distance (https://www.distance.to/)	Carbon footprint Total tonnes CO2e
London Heathrow to Bristol	109 miles	0.007
London Heathrow to Hackney	21 miles	0.001
	Shoot Total:	0.008
Outline any steps taken to reduce impact with domestic travel		

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<p>Train transfers or electric vehicles should be used instead of large diesel van. These alternatives will be considered and actioned when planning the shoot.</p>		
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Air Travel – Pre shoot Estimates

List of Flights required	Distance (https://www.distance.to/)	Carbon footprint Total tonnes CO2e LINK HERE TO CALCULATE
Bangkok to Paro (as 3 people to allow for excess baggage)	1,179.21 mi	0.9
Paro to Bangkok(as 3 people to allow for excess baggage)	1,179.21 mi	0.9
Bangkok to London Via Doha (as 3 people to allow for excess baggage)	21046km	6.18
	Shoot Total:	7.98
<p>Outline any steps taken to limit number of flights</p> <p>Minimal excess baggage taken on the flight - only taking 1 additional bags (hiring local Bhutanese equipment) Flying economy</p>		

Transport on Location – Pre shoot estimates

Transport on location	Distance	Carbon footprint Total tonnes CO2e (1 mile = 0.000404kg)
3x electric vehicles used during the shoot which are hydro powered		0
From Paro airport to Quarantine hotel via government transfer	5.5km	0.001
Travelling around to additional locations	60 Miles	0

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	Shoot Total:	0.001
Outline any steps taken to limit number of journeys/reduce carbon impact		
Electric vehicles used on this shoot.		

Power – Pre shoot estimates

List of power sources on location:	Amount of fuel used	Carbon footprint Total tonnes CO2e
Rechargeable batteries used		N/A
Cameras		N/A
Thimphu College	Estimated	0.047
Thakur's home	Estimated	0.047
	Shoot Total:	0.095
Outline any steps taken to reduce carbon impact		
No need for Generator on this shoot.		

Accommodation – Pre shoot Estimates

Based on 0.091 Tonne per night in hotel in Southern Asia

Accommodation used	No of crew	Carbon footprint Total tonnes CO2e
6x nights Quarantine for 2x people for - Paro	2	1.092 (total)
Thimphu 2x people for 6x nights	2	1.092 (total)
	Shoot Total:	2.184
Outline any steps taken to reduce carbon impact		

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Catering – Pre shoot Estimates

Based on 0.006 pp per day

Catering options	No of crew	Carbon footprint Total tonnes CO2e
4 x travel / Rest days	2	0.048
5 days in Quarantine	2	0.06
1 Recce Day	4	0.024
4 x shoot days	6	0.144
	Shoot Total:	0.276
Outline any steps taken to reduce carbon impact		

ALL OPTIONS - Consumables (inc kit consumables, props, paper) – Pre shoot Estimates

Consumables used	Estimated usage	Carbon footprint Total tonnes CO2e
Batteries	Rechargeable	N/A
Paper	0.5 reem	Very small
Water bottles	10	very small
Camera Tape	1 roll	very small
	Shoot Total:	0.01
Outline any steps taken to reduce carbon impact		
Give crew rechargeable batteries		

TOTAL ESTIMATED CARBON EMISSIONS

Carbon Footprint:

Usage	Pre shoot estimated carbon emissions (tonnes CO2e)
Domestic Transport	0.008
Flights	7.98

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Location Transport	0.001
Location Power	0.095
Accommodation	2.184
Catering	0.276
Consumables	0.01
Total:	10.554

MAKING THE CARBON COUNT

(AP TO COMPLETE)

After estimating the carbon emissions from the shoot, consider how you will 'make the carbon count'.

Some of the considerations could be:

How are we using the material shot? For what purpose?

Are we giving back to the communities we are visiting? How?

Are there continuing elements of the story whereby leaving a camera and training someone can negate the requirement for extending the shoot / returning?

Can we allow local community members to shadow the crew?

Can we offer the crew the opportunity to stay there on holiday at the end of it?

How are we celebrating and sharing achievements from the shoot?

Please list how we can make the carbon count on this shoot.

- **We're working with a local DOP, crew and fixers - giving them exposure to a global audience.**
- **We're shooting additional footage with the contributor for his own mission to promote sustainable ('green') teaching in Bhutanese schools. These are the 8 pillars: Natural, Social, Cultural, Intellectual, Academic, Aesthetic, Spiritual and Moral. These locations will include but not exclusive to: River/Forest settings, Farming / gardening together, wearing traditional clothes, library settings, school settings, painting, prayer flags.**
- **We're showcasing an alternative way of valuing the environment and communities and we're hoping that the sequence will inspire the audience to reflect on their values and question the system that is currently in place.**
- **We have Kinzang, a local woman guide who is joining the shoot as a trainee fixer.**

Green Deliverables:

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Each shoot will be appointed with a 'green hero'. They will be the point person who collects all the data on the ground (Green Momentos) so that the production management team can accurately log the carbon emissions generated from each shoot. These are great for us to give to Albert and film festivals as evidence and will be great on our social media.

Name of green hero for shoot:	Heather Clark / Kinzang Choden
List of green deliverables:	<ul style="list-style-type: none"> - Evidence of meat free meals - Evidence of plastic free choices - Evidence of positive local impact - Evidence of refillable water choices - Evidence of recycling / waste management on shoot - Evidence of rechargeable batteries used by local crew - Evidence of minimal paper - using digital release forms, digital callsheet etc.

SIGNING OFF

Assessment discussed with (list all team members):

Georgia Hall (Production)
 Freddie Foot (Production)
 Tegan Pearce (Production)
 Heather Clark (Editorial)
 Liane Aviram (Editorial)
 Karina Moreton (Fixer)

Date of Initial discussion: 30th May

Final approval:

Signed by Ana Taboada - Producer 23rd June

POST SHOOT DEBRIEF

Final shoot carbon to offset		
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Usage	ACTUAL carbon emissions (tonnes CO2e)
Domestic transport	0
Flights - International	4.74 Tons (Note - by flying 2 crew from UK rather than a camera team of 6, we saved 9.48 tons of CO2 on this shoot)
Flights - Excess baggage	1.304 (Note - by flying minimal equipment from the UK, we saved 5.216 Tons of CO2 on this shoot)
Location transport	0
Location power	0
Accommodation	0.0555
Catering	0.2
Consumables	0.003
TOTAL	6.2816

Final Shoot Carbon to offset:

Local Carbon offset options:

offsetting options were offered by the fixer but we decided to go with [Supercritical](#) to ensure that all our carbon is Net Zero at the end of the production

Debrief - what worked, what didn't work:

What worked:

- ★ **All Electric Vehicles** on the shoot! took photos so can send as evidence
- ★ **Rechargeable batteries** - all recharged using hydro power
- ★ **Completely Meat free** - no slaughter month in Bhutan so didn't consume any meat at all and ate traditional local meals
- ★ **Refillable water bottles** for the whole crew - we had 5 L containers that refilled from
- ★ **Minimal plastic** - ate lots of local fruit but still had some snacks that had plastic packaging.
- ★ **Local female fixer** - before our shoot, there were no trained female fixers in Bhutan so it was great to have her along and she was great. Fantastic to have another pair of hands and support local women.
- ★ **Local crew** - they were absolutely fantastic, such a significant impact for them and we realised that our brilliant DOP was even more brilliant when we got there as he is currently nominated for an Oscar for his recent film! **Really the biggest part of the impact and biggest thing to take away from the shoot is the brilliant use of the local crew.**
- ★ **Minimal paper** - some printing had to be done as some people we not so trust worthy of the digital signing so had to print 22 release forms for the football team - 2 pages each (44) - around 50 pages in total but the majority was done on the ipad.
- ★ **Hotel** does good recycling - 16kg of CO2 per night. The average is 40kg around the world - that low score is good around the country.
- ★ **Impact filming** - Filmed prayer for Bhutan and the 8 pillars of education which are really important to him. A short promotional video and pieces for green schools - he talks about different approaches for sustainability for education. He does a lot of talks and

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travels around the world promoting green education so he plans to use this footage for that purpose and potentially could send it to universities and to use in his global network - if he can't attend an event or a talk in person.

- Decided to bring back the footage to the UK because like we all know there isn't a huge film industry in Bhutan and H+L decided to bring it back as Thakur was unlikely to be able to edit it by himself. H+L going to edit it together themselves and do it between them.
- Going to deliver an edited video for him - need to factor in that - a month subscription for them to edit it and then work out a way to send it back to him digitally.
- We are a personal prayer for Bhutan and the 8 pillars. Not sure where his Prayer for Bhutan is going - he does a lot of talks and travels around the world to do green education so that's why the 8 pillars were really important. The prayer for Bhutan for more personal.
- How would we measure the impact of his impact with what he does with the videos that we give him?

★ Thoughts from fixer - essentially, she always has huge guilt for sending a crew and using loads of vehicles and foreign crew to a shoot. She puts things in the budget for carbon offsetting but more often than not that's the only way to get the conversation going. Works a lot with Silverback who are Albert ambassadors and they are getting better - that's why she was so excited about the production and made it a big part of the project. Covid meant that people took more of a risk by using local crews and that helped to establish local crews more but that is something that everyone should be doing more.

What didn't work:

🤔 They have now sourced a local drone operator - we didn't need it as looking into the archive

🤔 **Waste management** - Double check this with Sonam / Yonten. Didn't really see any recycling bins while there.


🤔 **Borrowed Clothing:** Heather and Liane borrowed some kiras and wore them for one evening but it was so hot so wasn't so comfortable to wear all the time while hiking to locations but was appreciated by the locals.


How could we improve for next time:


🌈 We made the right decision to take the camera with us but we could have potentially hired the equipment from India for Higher spec cameras if we had have more time to organise. It is possible to import / export in India. That's what the DOP does which also minimises the carbon of bringing kit from the UK.


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 Recommending to the hotel that they could reduce their LPG use.

 In hindsight - would have been good to have the last day to see parts of the country while filming and then rest and enjoy the country after wards.

 If there is a platform for the end of the film - social campaign to see how many bhutanese engage in the platform - not just in the viewing country - the places that we've filmed have also got involved in.

 Count Us In - can measure what nationality people are who take action - not just engages not just the viewing public but also the people who were involved in making the film - wouldn't be too hard to connect. Lots of influential people in Bhutan - would be a nice rounding up - not just taking and consuming the film but letting them benefit from it as well.

 How would we measure the impact of his impact with what he does with the videos that we give him?

 We should look into doing screenings of the film in Bhutan. hoping to stay in touch with them.

Key things to discuss in debrief :

Green momentos
thinking about sustainability on shoot
eating meat free / vegetarian
hiring local crew
hiring local equipment
ban on single use plastic
minimal paper printing
waste management
rechargeable batteries
refillable bottles for whole crew
impact day

Offset completed/Date:

To be completed at the end of the production by [Supercritical](#). All emissions will be added together from the whole production to ensure a Net Zero Carbon outcome for this shoot and entire film.

Cost of offset:

Roughly aim to spend £150 per Tonne of CO2
6.2816

Est cost for Carbon Capture - £942.24

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(Include equivalencies results from inputting into calculator here:
<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>)

GREEN MOMENTOS



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Working with local crew had huge benefits for saving money, saving carbon emissions and creating better editorial insights. They also brought incredible amounts of energy and happiness to the shoot.

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Eating local, meat free food that is plastic free - came wrapped in cloth!

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Refilling reusable water bottles from large water container instead of single use plastic bottles on location



Using refillable water stations whenever available



Borrowing traditional Kiras for the shoot. These turned out not to be so practical for wearing while filming as the skirts were so long but a great idea.



Sharing food with the co-creator in his home. All meat free