Sustainable Energy Solutions – Innovating towards a Sustainable Future.

Film Industry Context

The film industry isn't the most obvious polluter but it is one of the biggest culprits. Academic research published in 2016 named the film and TV industry as the top polluter in Los Angeles, where the top studios are located. A large feature film produces an average of 3,370 metric tons of carbon emissions. The way in which films are made is traditionally resource hungry and wasteful. This is due to the fast-paced nature of the industry. Cast and crew availability, studio space and the cost of crew all contribute to an environment that doesn't allow for delays. As a result, multiples will be made of a prop in case any damage occurs, set will have to be taken down and destroyed overnight, stages are heated or air-conditioned hours in advance and cast are flown in private jets. However, awareness of climate change has changed a lot of attitudes within the industry, and as a result there has been a lot of work in recent years to improve the sustainability of the industry.

Filming that occurs on location, i.e. outside of the studios, can often take place in very remote locations without access to grid power. Power therefore needs to be generated for the shoot days, as well as any prep or wrap days around the shoot day. In the past, diesel generators have been the obvious choice for these scenarios. However, the emissions associated with diesel have meant that there has been a spotlight on other forms of renewable remote power.

The Challenge

Your challenge today sees you as the Sustainability Coordinator on a large motion picture filming in England. Your job is to work with other departments to reduce the environmental impact of the production. You can see that on the shoot schedule there are 3 shoot days taking place in the middle of the countryside without access to grid power. Think fields as far as the eye can see. The production has come to you to help with a solution for remote power to feed to Unit Base.

Unit Base is the area dedicated to the cast and their preparation. This is where their trailers are, where their personal chefs are, and where the makeup and costume trailers are. The power cannot fail over these 3 days. The production has only budgeted for a diesel generator to power the Unit Base.

An average Unit Base on a feature film of this size will pull approximately 200kVA. The Unit Base will be running at full power 3 hours before call time for cast to have breakfast and start on their hair and makeup. The shoot day is then 10 hours long, and then there will be 2 hours after wrap when the power will be needed. Overnight, the power demand can drop slightly as lights are switched off, heating/air conditioning is turned down and no one is cooking. However, the power supply needs to be able to power Unit Base 24/7 on full power because you never know what a shoot day can throw at you.

Your challenge is to find a sustainable source of remote power that can produce 200kVA of power 24/7 for 3 days with low or no emissions. It needs to be assembled in a day and

disassembled within a day. The average cost of a 200kVA is £800 per week to hire, plus the fuel it takes to run. The new source of power needs to be as close to this cost as possible. The new source of power also needs to be as quiet as possible, and consideration needs to be taken over the space it takes up and the impact it will have on the land it is placed on.

Reading list:

Intro to film production:
https://www.youtube.com/watch?v=puF9CkvmJt0

Albert - UK sustainable film production resources:
https://wearealbert.org

Sustainable Entertainment Alliance:
https://www.sustainableentertainmentalliance.org

Clean Mobile Power Initiative:
https://cleanmobilepowerinitiative.org

Clean Mobile Power Cohort:
https://www.third-derivative.org/blog/announcing-the-clean-mobile-power-cohort

Buchanan, C., 2016. *Carbon Footprint of Movie Production Location Choice: The Real Cost*. Degree of Master. Harvard Extension School.

The hidden impact of film and TV production:
https://ecologi.com/articles/blog/the-hidden-impact-of-film-and-tv-production