**Green Filmmaking in Ireland**

It’s been almost twenty years since COP1 in Berlin, the very first UN Conference of the Parties to address the ‘urgent’ problem of climate change. I was Lord Mayor of Dublin at the time and warned the conference that humankind had behaved like lazy students studying for our finals: it was possible to pass the exam only if we pulled up our socks and ‘crammed’. Well, we know what has happened since. Far from cramming, the students kept on partying and didn’t even sit the exam. This pattern of self deception and denial culminated in the debacle that was Copenhagen 2009. I spoke too at that UN conference, this time in my role as the Minister for the Environment of the Irish Government. Even now it’s difficult to describe the sense of overwhelming disappointment I felt when it became clear that no agreement could be reached. I sat in an annex room with Angela Merkel, Sarkozy and other EU leaders and Environment Ministers as the EU Commission President, Barroso explained how intractable differences had arisen between the United States and China. Now, over five years later we’re hoping that agreement can be reached in Paris next year, but it’s still not clear if the resulting CO2 emission cuts will be enough to save us from the worst effects of climate change.

So why has humanity left it so late in the face of so much scientific certainty? What has caused that sense of denial that effects individuals and States and has resulted in such political paralysis? These are the questions I continue to ask myself since leaving representative politics; and they are the same questions that inform my approach as a green filmmaker. Our collective complacency, I have always suspected, is based on the fact that CO2 is an invisible, odourless gas that poses no immediate threat. This has been confirmed by collaborative studies between neuroscientists and psychologists, which show that the human brain just isn’t wired to respond to large, slow-moving threats (Harmon, 2014). Magnetic resonance imaging, which allows us to see how the brain makes choices, shows one thing very clearly: for the human brain climate change simply does not compute. And if climate change doesn’t compute, where does that leave green filmmaking?

For some filmmakers, green filmmaking is a worthy, if slightly eccentric and cranky idea. For others, it is at best irrelevant, and, at worst, a distraction from the real business of filmmaking; there is, of course, a small number who embrace the idea fully. But they still constitute a small minority. For my part, having drifted into the world of documentary filmmaking, I quickly became interested in how the film world was approaching the problem of environmental sustainability. I have been a producer/director on a number of documentaries, where is was relatively easy to ensure best environmental practice. This year, however, I worked in Filmbase Dublin on two feature films, as a green production manager, which presented me with different set of challenges. I made a short film about the experience and submitted it to Strawberry Earth Foundation in Holland for their Green Filmmaking competition. We were delighted to be awarded First Prize.

The two feature films, *Light of Day* ( a horror mockumentary) and *Poison Pen* ( a romantic comedy), were not separate entries, but formed part of a single submission that sought to compare and contrast the respective efforts at greening film production. It represented a first in Irish feature film history: no productions in the past had ever attempted to achieve a high standard of environmental sustainability.

**Pre-production**

In hindsight, a particular weakness of our strategy was the lack of real planning and proper explanation at pre-production. It was a mistake to assume that everyone knew what was involved in sustainable filmmaking and that there would somehow be an immediate buy-in from all crew members and cast. The producers of both films would have welcomed more time spent familiarising themselves and crew members with what was entailed: ‘We could have benefited from an eco-production brief, as while some crew were conscious of the green aspect, not all were’ (Cronin, 2014).

Preproduction has been identified by Kai Locher from Strawberry Earth as a crucial part of the process:

The transition towards greater sustainability demands a different approach to the whole production process. You have to think of this issue very early on. Many films complete their financing right before principal photography starts. That means the whole production is immediately under a great deal of pressure. This is not an environment in which you can make sustainable choices. (Locher, 2014 )

Part of the problem stemmed from the fact that I was sensitive to the pressure that all crew members were under in such low budget productions and anxious not to overburden them with details that could have been interpreted as a distraction. Any briefings I gave were short and to the point and designed to assure the crew that Green production would be a help and not a hindrance. As Green production manager I had no interaction with the cast at pre-production. This was partly due to the fact that many of the actors were not in place until very late on, but I also felt that asking professional actors, who were giving their services for free, to take on board an entirely new concept might be off-putting.

*Poison Pen* signalled their intent by moving into their production office in the Green Building in Temple Bar (Wiggington, 2002). At one of the first preproduction meetings, the producers and directors also announced that all scripts would be digitally communicated and that i-Pads and other mobile devices would be used instead of paper; all waste would be recycled and there would no paper or plastics cups on set. An added incentive was undoubtedly the fact that one of the owners of a key location on the film, Mr Ian Lumley, was himself a well-known conservationist who insisted on the highest environmental standards (Gormley, 2014).

Given the very tight budgetary constraints, the purchasing of carbon offsets to achieve carbon neutrality, was never an option for either production. In any case, many environmentalists have misgivings about this common Hollywood practice. To paraphrase the actor Ed Begley Jr, buying carbon offsets while driving around in Hummers is a bit like binge drinking on the weekends and then writing a cheque for Alcoholics Anonymous.(Begley, 2014)

**Costume and Props**

Most of the guides and literature on Green film production advise the props and wardrobe departments to use second hand and recycled materials (Honthaner, 2010). On *Light of Da*y and *Poison Pen* those responsible ensured that this was the case. It’s an area where *Light of Day* excelled. Jacinta Owens, who looked after wardrobe, was enthusiastic about the Green filmmaking project:

Approx. 351 costume items were worn. Of the 351, 27 (8%) were bought new, 17 (5%) were bought from second hand outlets and 307 (87%) were borrowed/hired/actor's own clothing. In pre-production, I created look-and-feel mood boards online and emailed them rather than printing or creating hard copy. During production, myself and the costume assistant used our iPad and smartphone to access the call sheets and script and to make continuity related notes. We also took photos digitally and used Dropbox to share them with the script supervisor for cross reference. We did scribble hard copy notes in a notepad (which was made with 100% recyclable solvent free paper sourced from sustainable European forests in association with the Tree Council of Ireland). Although one hired item had to be dry cleaned, the other costume items laundered by myself were done so using an Eco cycle at 40 degrees. Most items belonged to the actors so I can't speak for their laundry processes. (Owens, 2014)

There was a similar attention to detail from the costume section of *Poison Pen* where ‘many of the costumes were bought second hand from a variety of used stores, or borrowed from my own private costume wardrobe, or actors own. When washed, I used a 30 degree eco wash, and hung to dry.’ (Foley, 2014)

Again, the very low budget on *Poison Pen* necessitated the re-use of old props:

All of the furniture was rented from ‘Historic Interiors’ which rents out old furniture from all periods. The rest of my props were either flowers or printing or I used what was available to me on location. The only things we bought new were the glasses and containers for the white buffet and white rug and I got the white bean bags made. Anything else was borrowed from people within the crew ie. record player and books. (Ryan, 2014)

Andrew Hanley from *Light of Day* gave details of their approach:

All of the props on Light of Day were second hand with the exception of the following items: ‘Vampire Fangs,Fake Blood (ingredients),The Relic (parts + labour),Graphic Novel Cover, Dusk Deoderant Canisters, Dusk Deoderant Labels, Contact Lenses (x6)’ (Hanley, 2014)

**Catering**

The *Poison Pen* producers insisted on every member of the crew having their own plastic beaker with their name stamped on it. There were no plastic or paper cups. They also ensured that ordinary cutlery was used and washed afterwards; biodegradable paper plates were used at meal times. *Light of Day,* by contrast, did not go to such lengths.

The producers of both films were invited to sample the food in Cornucopia, Dublin’s foremost Vegetarian restaurant. All of them liked the food, but *Light of Day* opted for another caterer, even though the per-head costs were higher by a euro per head. Cornucopia offered breakfast and a main meal for seven euros per head. *Poison Pen* chose to go with Cornucopia, supplementing it with sandwiches and meals out when there were a number of locations on the one day. However, the fact that they moved location more frequently and were sometimes a long way from the city centre meant that they only used Cornucopia for about one week of a three week shoot.

Cornucopia sources most of its food locally and tries where possible to use organic produce (Cornucopia, 2014). It is exclusively vegetarian and vegan and not just because of animal welfare concerns. The consumption and production of meat is now a major contributor to climate change due the methane emissions from cattle herds and the use of fertilisers for grass. It has been estimated that meat eaters will have to cut their consumption by 50% if we are to avoid the worst consequences of climate change (Goldenberg, 2012).

Most people on the *Poison Pen* set claimed they were happy with the standard of food. One advantage often referred to was the slow release of energy of the food and the fact that one didn’t get the urge to nap in the afternoon that often follows a heavy meal with meat. On the other hand there were some jokes about the perceived lack of variety. Some of the crew were overheard commenting that they had ‘a choice between muesli with milk or milk with muesli.’

**Transport**

Reliable transport of equipment and actors is essential for any film production. Transport is responsible for about a quarter of EU greenhouse gas emissions, with over two thirds of this coming from road transport. Fortunately, in the case of both the Filmbase productions, the locations were nearly all in Dublin, ensuring that transport requirements were kept to a minimum. *Light of Day* had one main location in an old disused factory, with some additional shooting required in Irish Lights, a city centre location. *Poison Pen* did have about 17 locations in Dublin, mostly hotels, but additional footage had to be shot in London. This meant that a small crew had to fly to London, with some of the key actors, to shoot some B roll. Flying contributes most to an individual’s carbon footprint, so the crew used ferry and train to get to London from Dublin.

Both *Light of Day* and *Poison Pen* used transit vans for their productions. Efforts to secure an electric van from Renault (who had offered one free of charge) were unsuccessful because of insurance difficulties. At least three people, including the Manager of Filmbase and one of the directors attempted to add the commercial vehicle - a Renault Kangoo - to their own insurance, but the costs quoted were prohibitively expensive. *Poison Pen* had more luck when dealing directly with the ESB (Electricity Supply Board) who offered an electric Nissan Leaf for the entire production. The Leaf emits no Greenhouse gases or pollution at source and was used mainly to collect actors on the morning of each shoot and to transport them to and from locations. The car was very comfortable, but there were some initial difficulties relating to the charging of the vehicle. In Dublin there are only a limited number of charge points. Overall, the producers of *Posion Pen* were very pleased with the performance of the car. It became a ‘talking point’ with actors and helped to ease the cast into the concept of green film production (Cronin, 2014).

**Waste Managemen**t

Waste management on a low budget film set relates very often to catering and food waste. The plan was to source segregate all waste. Panda Waste agreed to assist the production, providing a three bin system to both productions. The brown bin was for food waste, the green for all recyclables and the black bin for other waste that was deemed not be recyclable. I met Brian McCabe, the MD of Panda, in advance to discuss the most suitable system for a film production. He confirmed that Panda did not landfill any of its residual waste, concentrating instead on the production of RDF (Refuse derived fuel) for use in cement kilns. This helped to reduce the carbon footprint of the energy intensive cement industry (McCabe, 2014).

During one of the pre-production meetings, one of the directors from *Poison Pen* expressed concern about recycling procedures in place. Would crew members not be confused and perhaps put things in the wrong bins? At the time her concerns seemed overstated and misplaced. The three bin system appeared to be idiot-proof, one that most householders would be familiar with. Unfortunately, she proved to be right. Most of the crew were not householders and were not familiar with the system. It turned out to be a chaotic exercise on both sets, with waste being indiscriminately thrown into all three bins. In the end, *Light of Day*, were simply using the three containers as ordinary waste bins (Hope Burke, 2014). Any attempt at recycling had all but disappeared.

Introducing a recycling regime onto the sets of Poison Pen, a production with many locations, was always going to be more challenging. However, the producers and production manager approached the task with more enthusiasm than their counterparts on the other film. At times it was not possible to lift the bins upstairs in specific locations and space did not permit the use of the bins. Instead three bin liners were used with makeshift signs used to indicate what waste should go where. Again this resulted sometimes in poor waste segregation. Smaller containers, which were properly marked, would have been better.

While the Costume Department of *Light of Day* displayed a real commitment to ‘paperless’ film production, it proved to be inconvenient for the rest of the crew and cast. *Poison Pen*, however, did make the conversion to digital with only some exceptions. Some of the actors preferred a paper script, and the continuity lady insisted that she could only work with the actual script in her hand in order to make notes.

**Energy use and Electricity**

Besides transport, most energy use in a film production (which results in carbon emissions) is required for equipment and lighting systems. Mains electricity is often used, and where this is not available, a generator can be used. Fortunately, *Poison Pen* had a series of locations where direct mains electricity was available. This meant that in some cases, where there was sufficient notice, the electricity supplier could be switched to Airtricity who supply one hundred per cent renewable energy for certain commercial accounts. Only two of the locations fell into this category.

*Light of Day*, on the other hand, was almost entirely dependent on a diesel generator. All of my attempts to find a supplier of bio-diesel proved fruitless. Some brands of bio-diesel, made from plant oil, are considered to be renewables, and are often used for generators on ‘green’ American sets. I was informed by Teagasc that many Irish suppliers had been ‘mothballed’ since the introduction of the Biofuel Obligation Scheme in January 2011, resulting in a lack of supply (Caslin, 2014).

The actual equipment lists for both films are far too extensive to include here, but for lighting they used not just Kino flo and LED panels, which are not that energy intensive, but also ‘2k, 1k x 2, 750w x3, 500w x3, 300w x3’ incandescent lights’ (Connolly, 2014). In relation to lighting the DoP, Penny-Merelle Gray on *Poison Pen* was not convinced about the merits of LED lighting:

Basically because there are lots of different bulbs used to create one LED panel, you get weird colour temperatures off them; they are not the same as the tungsten or daylight colour temperatures which are the standard settings on most cameras.” (Victory, 2014)

She says a camera team could compensate for this effect by using colour gels but that the light itself is still noticeably softer than what comes from conventional lights. This is because the quality of light they give is softer and more dispersed; different from the direct lighting offered by conventional tungsten bulbs

**Conclusion and Recommendations**

The SEAI (Sustainable Energy Authority of Ireland) calculated the CO2 emissions for each of the films and concluded that *Poison Pen* performed better than *Light of Day.* This was mostly due to the fact the *Light of Day* had to use a diesel generator for much of the shoot.

The concept of Green Filmmaking is entirely new in Ireland. Our efforts suggest that with more preparation, better explanation, and – most importantly – financial incentives, it will gain acceptance in the Irish film community (Cronin, 2014). Anything that’s good for the bottom line or alleviates costs in any way will prove attractive to filmmakers.

Electricity and Energy use: The Irish Film Board should have a list of locations that have 100 per cent renewable power. Airtricity have stated that they will look at co-operating with the film industry on this issue (McGovern, 2014). The Film Board should also provide the energy ratings for all film equipment.

Waste Management: There should be verbal reminders every day to cast and crew about how the recycling works, with clear instructions on how the system works. It would also make sense to carry a reminder on the call sheets. The recycling bins should be clearly labelled as should bin liners if they are used instead on a temporary basis. It would make sense to use smaller containers for smaller locations. Panda Waste have indicated that in future they would be happy to work with film productions to recycle the waste generated on set. (McCabe, 2014)

Pre-production: A longer lead in time makes it far easier to plan locations which have renewable energy and to liaise with Waste Company re recycling. It also means that greater care can be taken explaining what is actually involved in Green filmmaking. In other words, good preparation in pre-production is absolute must if you wish to ‘green’ your production. It can’t be seen as an add on, but integrated fully into all aspects of the production.

**Biography**

John Gormley was a Green Party elected representative from 1991 until 2011. During this time he served as Dublin’s Lord Mayor and as the Irish Minister for the Environment. Since then he has worked a producer/director with Grenstem Films, Dublin. He holds a MSc in Digital Feature Film Production from Staffordshire University/ Filmbase.

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