

Sustainable Innovation 2023

Accelerating Sustainability in the Creative Economy and Creative Industries

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Business School for the Creative Industries

University for the Creative Arts

Epsom, Surrey, UK

Vectar Sets: Can Paper-Based Materials Provide More Sustainable Set Building Solutions for Film and TV?

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This paper describes the initial findings from PhD research at Imagination (Lancaster University) into using paper-based materials for constructing sets for film and TV. This is conducted through Vectar Sets, a Manchester-based start-up that brings together the author's extensive experience as a paper artist with advanced manufacturing technology. The last two years of development and research has made it possible to offer paper-based sustainable sets that are indistinguishable from conventional wooden sets. Over the last year, these sets have been successfully used in programs for ITV, BBC, Channel 4, STV and RTL, and adverts for Simplisafe, Braun, Meta and Old Spice, among others.

It is widely recognised that film and TV production has a negative impact on the environment. Set construction plays a significant role in this and is a major contributor to waste generation. Design requirements, as well as financial and time constraints, often mean that sets will simply be scrapped and sent to landfill or biomass after a shoot.

Vectar Sets takes an innovative approach, constructing sets with engineered paper board. This has comparable strength to MDF, but can be printed and cut to make highly realistic sets. The board is significantly lighter than MDF or plywood and has a much lower carbon impact. It is also fully recyclable.

This research is being conducted as *research through practice*, including case studies and industry interviews. Initial findings suggest Vectar Sets can be successfully used in the demanding world of television and offer significant environmental, economic and social advantages:

- sets are more environmentally sustainable: the board is manufactured to extremely high environmental standards and cradle-to-gate carbon footprint is 90% lower than MDF; water-based glues are used, avoiding toxins such as formaldehyde; boards are printed with water-based inks; sets are reusable and fully recyclable at end of life, the high quality fibres increase the recycling value of the board.
- paper-based sets can offer economic advantages: paper boards and printing are cheaper than wood and paint; digital design and industrial manufacturing reduce time and cost; faster set-up with smaller crew reduces time and cost in the studio; sets are lighter, making multiple setups or removing walls easier, they also offer advantages on location, being easier to install or modify.
- Vectar Sets is pursuing social sustainability by providing training and support to use this system. The lighter sets are also more accessible (you don't need to be a body builder to move them!) and reduce the risk of injury. The use of industrial manufacturing makes local production possible, and by increasing green jobs, promotes a virtuous circle where increased sustainability awareness on sets improves all aspects of production.

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This paper will discuss the research undertaken so far, examining the sets produced and how they worked in practice, as well as examples comparing paper-based and wooden sets, providing an initial evaluation of the possible advantages of this approach.